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Mexico is reaching universal health coverage in 2012. A national health insurance programme called *Seguro Popular*, introduced in 2003, is providing access to a package of comprehensive health services with financial protection for more than 50 million Mexicans previously excluded from insurance. Universal coverage in Mexico is synonymous with social protection of health. This report analyses the road to universal coverage along three dimensions of protection: against health risks, for patients through quality assurance of health care, and against the financial consequences of disease and injury. We present a conceptual discussion of the transition from labour-based social security to social protection of health, which implies access to effective health care as a universal right based on citizenship, the ethical basis of the Mexican reform. We discuss the conditions that prompted the reform, as well as its design and inception, and we describe the 9-year, evidence-driven implementation process, including updates and improvements to the original programme. The core of the report concentrates on the effects and impacts of the reform, based on analysis of all published and publically available scientific literature and new data. Evidence indicates that *Seguro Popular* is improving access to health services and reducing the prevalence of catastrophic and impoverishing health expenditures, especially for the poor. Recent studies also show improvement in effective coverage. This research then addresses persistent challenges, including the need to translate financial resources into more effective, equitable and responsive health services. A next generation of reforms will be required and these include systemic measures to complete the reorganisation of the health system by functions. The paper concludes with a discussion of the implications of the Mexican quest to achieve universal health coverage and its relevance for other low-income and middle-income countries.

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Introduction

A central topic in the global agenda is universal health coverage. WHO has defined universal coverage as access of all people to comprehensive health services at affordable cost and without financial hardship through protection against catastrophic health expenditures.[1]

Universal health coverage is a quest with three stages: (1) universal enrolment, a term closely associated with legal coverage, entitles all people to benefit from health services funded by publicly organised insurance; (2) coverage that is universal implies regular access to a comprehensive package of health services with financial protection for all; and (3) universal effective coverage guarantees to all on an equal basis, the maximum attainable health results from an appropriate package of high-quality services that also prevents financial shocks by reducing out-of-pocket payments.[2,3]

These stages tend to be progressive but with an important degree of overlap. As enrolment proceeds to include the entire population, the package of covered health services expands, thus increasing the level of financial protection. Simultaneously, quality improves as the system adjusts to meet new demands. In fact, the 2010 World Health Report highlights the tradeoffs between three essential dimensions of universality of coverage: who (enrolment), which services, and what proportion of direct costs (financial protection).[1]

Mexico has advanced significantly in the quest for universal coverage—particularly on the first two stages—as a result of the 2003 health reform that legislated the System of Social Protection in Health (SSPH) and Constitutional reform implemented in 1983. The third stage is a continuous challenge. As for all countries, quality of care is a moving target for Mexico.

In 2012, after 9 years of implementation, the country reached a major milestone in universal coverage. As of April, 52·6 million Mexicans, previously uninsured, were incorporated into the SSPH and the budgetary allocation for universal coverage was achieved.[4] The implementation experience is relevant for other countries undergoing similar reforms.

The most prominent component of SSPH is *Seguro Popular*. This public insurance scheme offers universal access to a comprehensive package of personal health services with financial protection, thus guaranteeing the effective exercise of the right to health protection. This right is recognised in the Mexican Constitution of 1983, yet had been denied to the majority of the population.

The vision of the reform was to reorganise the health system by functions, improve equity and efficiency, and achieve effective universal coverage. The stewardship function is the ultimate responsibility of a strengthened Ministry of Health. Financing is done by a new public insurance scheme that supersedes the existing employment-based social insurance mechanisms limited to salaried workers. Lastly, services are delivered by a plurality of accredited providers, public and private.[5–7] This vision has been partly implemented, yet continuous challenges point to the need for new reforms.

The initial steps of the reform were discussed in a 2006 *Lancet* Series.[8–14] With only 3 years of experience, this Series focused on the initial challenges and lessons

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of broad reform. Since then, implementation across two governmental administrations has produced substantial advances in the pursuit of universal coverage. At the same time, expansions in enrolment and covered services exposed unforseen hurdles and unmet needs.

This report analyses the road to universal health coverage in Mexico, including present challenges, future policy proposals, and worldwide implications. The first part is a conceptual discussion of the transition from labour-market-based social security, to social protection of health, the universal right of access to effective health care based on the sole requirement of citizenship for inclusion.[2] Part two describes the design and initial phase of the health reform in Mexico, the creation of the SSPH, and the conditions that prompted the reform. Part three describes the implementation process with a focus on how evidence prompted policy dynamism, and hence improvements on the initial reform design. Part four concentrates on the effects of the reform, on the basis of the analysis of all published and publicly available documentation on *Seguro Popular*. Part five addresses the successes and challenges of implementation of SSPH. The next section discusses the future generation of reforms—the measures needed to reorganise by functions and better integrate the major institutional segments of the Mexican health system to increase efficiency and guarantee universal access and egalitarian exercise of the right to social protection of health. This report concludes with a discussion of lessons learned from the Mexican quest to achieve universal coverage and their worldwide relevance.

Universal health coverage and social protection of health

If health is to be a truly universal right, it is essential to decouple access to insurance from formal, salaried employment, and to adopt a comprehensive notion of social protection of health. A comprehensive approach has three major dimensions: (1) protection against health risks through surveillance, preventive, and regulatory activities; (2) protection of patients through quality assurance of health care; (3) and financial protection against the economic consequences of disease and injury.[15,16]

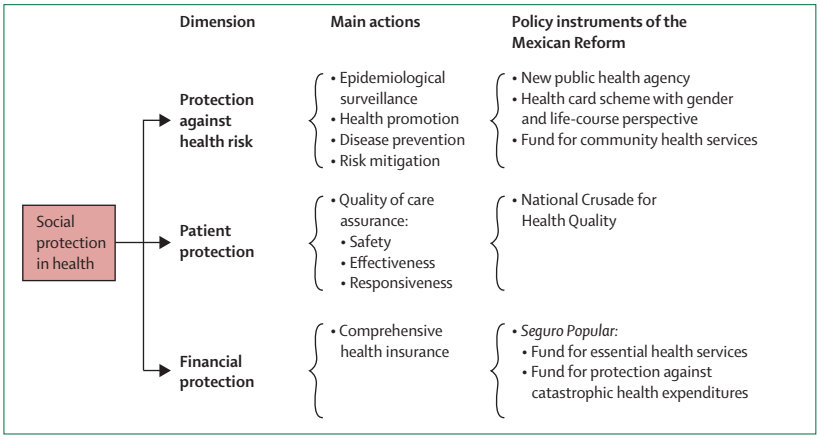


Figure 1: **Dimensions of social protection in health**

The essential responsibility of the State is the protection of its citizens against threats or downside risk: natural disasters, environmental degradation, insecurity, and violations of the physical integrity and rights of individuals.[17] This encompasses physical, environmental, legal, and civil protection.

Social protection is an additional dimension of this essential responsibility, which the International Labour Office defines as "the protection which society provides for its members through a series of public measures".[18] The ultimate purpose of social protection is to expand human capabilities, which allow citizens to fully enjoy their economic, social, and cultural rights.[19] Expansion of these capabilities increases the freedom of individuals, strengthens social cohesion, and promotes overall individual and population-wide wellbeing.[20]

Yet, in many countries, the right to health care is an employment benefit, restricted to the salaried workforce. Although traditional social security is a major component of social protection and provides access to health care and other programmes aimed at protecting family income, access is restricted. Thus, conceiving social protection as an employment benefit has major limitations both in terms of attainment of universal coverage and for expansion of other social benefits. These limitations are particularly severe in countries where a large share of the population are non-salaried, independent workers or do not participate in the labour market.[21]

A growing global movement for universal coverage is advocating for the transformation of health care into a universal right, which entails a transition from traditional social insurance as an employment benefit to universal social protection of health, a right of citizenship. Translation of this social right into practice implies a continuous strengthening of health systems to enable them to offer effective universal coverage.

In Mexico, institutional transformation was enabled by establishing the SSPH through health reform. Universal health coverage is synonymous with universal social protection of health and includes a comprehensive package of personal and non-personal health services spanning promotion, prevention, treatment, and rehabilitation. Social protection is distinguished from traditional employment-based social security because it is not dependent on labour market participation.

The Mexican health reform: design and execution

The 2003 reform established a system encompassing all three dimensions—risk, patient, and finance—embedded in the concept of social protection of health. Specifically, public health interventions, institutions and dedicated financing are providing protection against

health risks; system-wide initiatives that enhance patient safety, effectiveness, and responsiveness are protecting the quality of health care; and *Seguro Popular* is continually expanding protection against the financial shocks of disease and disability (figure 1).

Origins and precursors of the reform

Until the beginning of the present century, the Mexican health system, like most in Latin America, was segmented and unequal.[22] Table 1 and panel 1 describe the basic characteristics of Mexico and its health system. The insured population received health care from well financed, vertically-integrated, federal institutions, whereas the uninsured relied on underfunded, state-decentralised institutions.[25] Every public institution was responsible for stewardship, financing, and service delivery only for its particular population. At the same time, many families relied on the poorly regulated, costly private sector. Households—even those with social security—paid for a substantial proportion of their health care directly, at point of service and out of pocket, exposing families to impoverishing expenditures.[26]

As is the case in many countries, regular access to health care with financial protection was offered only to salaried workers and their families, through social security mechanisms. The wealthier, formal private sector received care from the Mexican Institute for Social Security (IMSS) and the federal public workers from the Institute for Social Security and Services for Civil Servants (ISSSTE).[26]

The non-salaried population (self-employed workers, the underemployed, the unemployed, those out of the labour market permanently or temporarily along with their families) typically accessed health services through the state Ministry of Health on a public assistance basis. Health care for this population was funded from uncertain, residual budget allocations that did not have explicit entitlements. Care was not comprehensive, and families paid out-of-pocket, especially for basic services and medicines.

The decentralisation of services by the federal Ministry of Health—between 1985 and 2000—devolved to the states the responsibility of health service delivery for the uninsured population. However, rules to guide the

	2000	2004	2008	2010
Demographic				
Total population (millions)	98·4	103·0	106·7	112·3
Population aged younger than 5 years (% of total)	11·6%	10·5%	9·8%	9·4%
Population aged 65 years or older (% of total)	4·7%	5·1%	5·6%	6·2%
Life expectancy at birth (years)	74·0	74·5	75·1	75·4
Fertility rate (livebirths per woman)	2·4	2·2	2·1	2·1
Population residing in rural areas (%)*	25·2%	23·7%	21·9%	23·2%
Socioeconomic				
GDP per capita, PPP (constant 2005 international $)†	11 852·7	11 959·3	12 892·8	12 440·9
GDP annual growth (%)‡	6·6%	4·1%	1·2%	5·5%
Gini index§	51·9	46·1	48·3	50·9
Poverty headcount ratio at national poverty line (% of population)¶	53·6%	47·2%	47·7%	51·3%
Poverty headcount ratio at $2 per day (PPP; % of population)	15·1%	7·6%	5·2%	5·7%
Labour force participation rate (% of population aged 15 years or older)‖	60·3%	60·6%	61·8%	61·7%
Primary education completion rate, total (% of relevant age group)**	98·0%	99·0%	104·0%	NA
Health				
Infant mortality (rate per 1000 livebirths)	18·2	17·6	15·2	14·1
Mortality of children younger than 5 years (deaths per 1000 livebirths)	28·5	20·5	17·9	16·8
Communicable disease, maternal, perinatal, and nutrition associated mortality (%)	15·4	13·4	11·6	10·8
Non-communicable disease mortality (%)	70·7	73·8	75·3	74·8
Contraceptive prevalence rate (% of women aged 15–49 years)††	70·0	73·0	72·5	NA

GDP=gross domestic product. PPP=purchasing power parity. NA=not available. *Population in localities with less than 2500 inhabitants. †GDP converted to international dollars using PPP rates. ‡Annual percentage growth rate of GDP at market prices based on constant local currency. Aggregates are based on constant US$2000. §Measures the extent to which the distribution of income or consumption expenditure in individuals or households within an economy deviates from a perfectly equal distribution. A Gini index of 0 represents perfect equality, whereas an index of 100 implies perfect inequality. ¶Poverty rate measured as the percentage of the population living under the national patrimony threshold as defined by the National Council for the Evaluation of Social Development Policy (CONEVAL). CONEVAL defines patrimony poverty as "insufficiency of the income available to acquire the food basket, as well as to make the necessary expenses in health, clothes, housing, transport and education, even if the entire household's income was used exclusively for the acquisition of these goods and services". ‖Labour force participation rate is the proportion of the population aged 15 years and older that is economically active. **Number of new entrants in the last grade of primary education, regardless of age, expressed as percentage of the total population of the theoretical entrance age to the last grade of primary. This indicator is also known as gross intake rate to the last grade of primary. The ratio can exceed 100% because of overaged and underaged children who enter primary school late or early, or repeat grades. ††Contraceptive prevalence rate is the percentage of women who are practising, or whose sexual partners are practising, any form of contraception and is measured for married women ages 15–49 years only. See appendix for data sources.

Table 1: **Basic demographic, socioeconomic, and health characteristics, Mexico, 2000–10**

See Online for appendix

Panel 1: **Overview of Mexico, 2000–10**

The population of Mexico grew from 98 million to 112 million between 2000 and 2010. In view of the process of demographic transition, fertility decreased and reached near replacement levels, the proportion of the population aged 5 years or younger fell below 10%, and the elderly population grew from 4·7% to 6·2%.

Overall, health indicators improved steadily throughout the decade. Life expectancy rose to more than 75 years of age, infant mortality fell from 18·2 to 14·1 deaths per 1000 livebirths, and mortality in children under 5 years old fell from 28·5 to 16·8 deaths per 1000 livebirths.

Mexico has gone through a rapid, polarised, and protracted epidemiological transition.[23] The health burden has shifted towards non-communicable disease and injury that represented less than a third of mortality in 1950, to 85% in 2000, and to almost 90% in 2010.

Despite the economic crisis of the last part of the decade, gross domestic product (GDP) per capita grew 5% in real terms. In 2008, the growth rate fell to 1·2% and was negative in 2009 (–6·2%). The proportion of the population living in poverty declined between 2000 and 2010. Still, during interim periods of crisis, poverty increased. The Gini coefficient similarly improved and then worsened with the crisis.

Recovery from the crisis has been impressive.[24] In 2010, GDP growth was up to 5·5% and reached 3·9% by 2011.

Please see table 1 for basic demographic, socioeconomic, and health characteristics of Mexico, 2000–10.

allocation of federal resources, state financial contributions, and state out-of-pocket fees for services provided, were missing.[27]

In 1997, IMSS underwent financial reform of health and pensions.[28,29] A key tenet was to decrease payroll contributions and increase reliance on general taxes, largely to reduce informality. An unintended consequence was increased inequity in the federal allocation to health care because general tax funds, levied on all Mexicans, were directed towards the salaried labour force.

A decade of evidence inspired the Ministry of Health to focus on the financial aspects of reform. In the early 1990s, the first national health accounts provided surprising results: more than 50% of health expenditure was out of pocket. This result showed overreliance on inefficient, inequitable, point-of-service funding that exposed Mexican households, especially the poor and uninsured, to catastrophic and impoverishing health expenditures.[25,30–32] As a result, Mexico performed poorly on the fairness of financial contribution index of the World Health Report 2000.[33]

Although high catastrophic expenditure portrayed the exclusion of the poor from prepaid insurance and financial protection, families of all income levels, including those with social security, searched for increased access to high-quality care. Thus, out-of-pocket was a function of implicit service rationing through waiting times, medical drug-shortages, incomplete access to the package of covered services, and poor quality of care.[5] Ironically and unfortunately, a large part of this spending went to low quality, unregulated private providers.

In sum, the 2003 reform was largely motivated by imbalances that necessitated financial harmonisation across public providers. Further, the system before 2003 was characterised by low general health spending; predominance of private, out-of-pocket spending; unfair allocation of public resources between the insured and uninsured, and among states; inequitable state contributions to health financing, and underinvestment in equipment and infrastructure.[9] These imbalances, typical of many low-income and middle-income countries, prevented the health system from responding to the challenges of ageing and the predominance of costly, chronic disease and injury.

The creation of the SSPH implied a major legislative reform focused on financial reorganisation to correct these imbalances. The law, approved by a large majority of Congress in April 2003, came into effect in 2004.[9,34]

The overall goal of the 2003 reform was to achieve universal coverage by including the more than 50 million Mexicans who had previously been excluded from public, social insurance. The goal of universal coverage was grounded in the commitment to increase funding for health by one percentage point of gross domestic product (GDP), mainly through public resources. The General Health Law established a transition period to 2011, later extended to 2012, to help with a gradual affiliation process and capacity-building to absorb additional resources. *Seguro Popular* guaranteed legislated access to an explicit and comprehensive package of essential services, as well as more costly, specialised interventions associated with specific diseases and health conditions.

Innovations to promote protection for patients and against health risks

The financial reform was complemented with supply-strengthening provisions, including hospital management reform, improved schemes for drug supply, outcome-oriented information systems, a master plan for long-run investment in health infrastructure, and technology assessment.

Emphasis was also placed on public health through the following instruments: (1) a protected fund for community services; (2) a set of personal health promotion and disease prevention guides (similar to the traditional immunisation certificates) with a gender and life course perspective; (3) a comprehensive reorganisation of regulatory activities through a new public health agency—the Federal Commission for the Protection against Health Risks (COFEPRIS) charged with safety and efficacy approvals of new drugs and medical devices, food safety regulations, enforcement of environmental and occupational health standards, and control of marketing of hazardous substances such as alcohol and tobacco; and (4) major investments in public health to enhance security through epidemiological surveillance and improved preparedness to respond to emergencies, natural disasters, pandemics, and bioterrorism.[35]

The creation of COFEPRIS was key to strengthening the stewardship role of the Ministry of Health. One example is the design and implementation of tobacco-control measures, including a ban on mass media advertising, the creation of a General Law on Tobacco Control and increased tobacco prices. The investments in epidemiological surveillance, state laboratories and preparedness were crucial in confronting the 2009 H1N1 influenza crisis.[36,37]

Another crucial element to strengthen stewardship was the expansion of the role of the General Health Council (*Consejo de Salubridad General*), a collective decision-making body that spans all participants in the health sector and whose leadership requires Presidential appointment. The Council was charged with defining and updating the package of covered high-cost interventions, certification of health-care providers, and more recently, with the design of strategies to prevent non-communicable disease.[38]

To reinforce patient protection, the central programme of the managerial reform was the National Crusade for Quality in Health Care. The purpose of this programme was to enhance patient safety, improve responsiveness, manage facility accreditation and provider certification, implement quality improvement initiatives, measure technical and interpersonal quality, and undertake performance benchmarking among states and other organisations.[39]

Another important innovation was the creation of the National Center for Health Technology Excellence (CENETEC) in 2004. This Centre produces information and enables an evidence-based approach for investment and use of medical technologies, and coordinates the development of clinical practice guidelines. It has achieved international recognition and is a WHO collaborating centre.

Innovations to promote financial protection

Key to the financial innovations introduced by the SSPH is the separation of funding between personal health services and health-related public goods (including non-personal health services).[40] The separation is designed to protect public health services, which tend to be at risk in reforms that expand insurance.[41]

Funds are aggregated over the population without access to social security and divided into four components: (1) stewardship, information, research, and development; (2) community health services; (3) essential personal or clinical health services; and (4) high-cost, catastrophic health interventions (table 2).

The regular budget of the Ministry of Health finances stewardship functions, research, dissemination of information, and human resource development. The Fund for Community Health Services covers health promotion, immunisation campaigns, primary prevention, early detection, epidemiological surveillance, and control and risk protection activities. To avoid erosion of funding as reform proceeds, the services covered are explicitly defined and expand from year-to-year, although funding is subject to annual budgetary negotiation.

Funding for personal or clinical services, by contrast, is based on a public insurance logic focusing on risk pooling, prepaid contributions according to capacity to pay, progressive subsidies provided through public funding from general taxation, and explicit entitlement to a package of health interventions.[21] The instrument devised by the reform to finance these services is the *Seguro Popular*.

Explicit entitlement to a package of specific services is a milestone. The financial resources behind the insurance scheme are divided between a package of essential interventions provided in ambulatory settings and general hospitals financed through the Fund for Personal Health Services (FPHS), and a package of high-cost, specialised interventions that are available only through specialised providers and financed through the Fund for Protection against Catastrophic Health Expenditures (FPCHE; panel 2).[10] More recently, a set of interventions specifically addressing children and newborn babies, including new vaccines, were added through the Medical Insurance for a New Generation (*Seguro Médico para una Nueva Generación*).

Differences in health or socioeconomic status are not taken into consideration and pre-existing condition clauses are forbidden in the enrolment process. This eliminates risk selection based on health needs. As stipulated by law, the essential and high-cost intervention packages must be progressively expanded.[45] As funding increased, it became possible to combine horizontal coverage of a growing number of beneficiaries with vertical expansion of the interventions and entitlements (figure 2).

The financial architecture of *Seguro Popular* was designed to increase equity in the application of federal funds between populations with and without social security. It was harmonised with the IMSS, guided by the 1997 reform.[46] In 2007, the ISSSTE was also reformed and restructured along similar lines. As a result, allocations are similar across all three agencies, paving the way for the creation of a single health fund and payer scheme.

	Fund
Public goods	
Stewardship	Regular budget of the Ministry of Health
Information, research, and human resource development	Regular budget of the Ministry of Health
Community health services	Fund for Community Health Services
Personal health services	
Essential health-care services (*Seguro Popular*)	Fund for Personal Health Services
Health-care services for children and newborns	Medical Insurance for a New Generation*
Specialised and high-cost services	Fund for Protection against Catastrophic Health Expenditure

Adapted from Frenk J and colleagues.[9] See appendix for data sources. *As of December, 2006.

Table 2: **Funds of the System for Social Protection in Health by type of health good**

Panel 2: **Financial coverage and service delivery of catastrophic interventions**

The System of Social Protection in Health (SSPH) covers costly, specialised interventions through the Fund for Protection against Catastrophic Health Expenditures (FPCHE) using 8% of all resources annually allocated to *Seguro Popular*, which can be supplemented through earmarked contributions. These resources are administered through a trust managed at the federal level by the National Commission for Social Protection of Health (NCSPH), the agency responsible for the implementation and operation of *Seguro Popular*. Interventions subject to coverage are drawn from a list of interventions previously identified by the General Health Council as those likely to be financially catastrophic for the individual patient. The National Comission reimburses providers using preset tariffs for every intervention. Only interventions explicitly covered by the fund and delivered by certified providers are amenable to reimbursement.

The growing evolution and operational complexity of FPCHE is portrayed in the number of covered interventions and the caseload. The annual budgetary allocation to FPCHE has increased more than 12-fold between 2004 and 2011 as the number of enrollees grew. In 2011, the resources allocated to this fund amounted to US$700 million and is increasing.[42-44]

In 2004, only six interventions related to four diseases (HIV/AIDS, cervical cancer, acute lymphoblastic leukaemia in children and adolescents, and cataract surgery) were covered, and by the end of 2011 the figure had reached 57 interventions with a further expansion planned in 2012. Interventions currently covered are associated with a growing set of diseases and health disorders including among others all childhood, breast, prostate, and testicular cancers, corneal transplantation, acute myocardial infarction in adults younger than 60 years, and congenital and acquired malformations amenable to surgery. The total number of reimbursed cases per year increased from 2661 in 2004 to 172 945 in 2011.[42,44] In 2011, the largest budget shares corresponded to HIV antiretrovirals (about 40%), breast cancer (close to 25%), and neonatal intensive care (about 15%).[44]

Like IMSS and ISSSTE, *Seguro Popular* financing is tripartite. In the absence of an employer, financial co-responsibility is between the federal and state governments. A social contribution is provided by the federal government and was just under US$70 (MXN847) in 2011. The federal and state governments each provide a solidarity contribution. On average, the federal solidarity contribution is 1·5 times, whereas the mandated state contribution is 50%, of the social contribution per enrollee. In principal, the affiliate also contributes as a function of income. The law exempts low-income households—originally the two poorest and later the four poorest income deciles as well as families in deciles IV–VII that include a pregnant woman or a young child.

Funding for states is demand-driven as it is determined largely by *Seguro Popular* enrolment. The federal contribution is allotted to states by use of a formula based on enrolled individuals, health needs, and performance. The legally-mandated formula was a major innovation over previous inertial, subjective budgeting that was often driven by political negotiations.

Enrolment of most hard-to-reach, poorer segments of the population in both rural and urban areas was helped by the existence of *Oportunidades*, a large-scale social programme based on conditional cash transfers.[8] *Oportunidades*, initiated in 1997, now covers 5·8 million families—most of the poor.[47] Further, states have the incentive to enrol the entire population to expand their budget.

Implementation of the Mexican health reform

Health system reforms are not linear processes. As has been the case in Mexico, continuous evidence-based policy reformulation stimulates and guides implementation. For example, MING, launched in December, 2006, was a focal programme of the Government of President Felipe Calderón and an endorsement of *Seguro Popular*. MING provided an effective, as well as politically salient, instrument to grow the SSPH.

MING wove new opportunities into the tapestry of covered benefits and beneficiaries as an important complement to FPCHE and *Seguro Popular*. Whereas the FPCHE was based on accelerated coverage for specific diseases and interventions, and the *Seguro Popular* was a gradual horizontal expansion of coverage by population group, MING used both platforms in a diagonal approach.

MING brought additional funding that allowed for the expansion of the catastrophic fund for newborn babies and children younger than 5 years, and accelerated coverage of *Seguro Popular* for their families. In 2007, 110 interventions for newborn babies were added. As of 2012, the programme covers 131 additional interventions and has grown six times to cover 5·95 million children (figure 2). MING has been reinforced by targeted education and awareness-building on issues such as breast feeding and early childhood stimulation. Funding provided by MING was essential for the universalisation of rotavirus and Pneumococcal conjugate vaccines.

Another critical update was the reformulation of the *Seguro Popular* reimbursement unit from the family to the individual. Until 2010, the definition of the family unit included the head of the household, the spouse or partner, dependent children (younger than 18 years, studying, or disabled), and parents older than 64 years. This definition of the family unit allowed for the registration of individuals older than 18 years within the same household as single-person family units. Evidence showed a larger than expected number of single-person and small families being enrolled.[48] In some cases, gaming by states split families living in the same household to increase enrollees and consequently the transfer of federal resources, putting at risk the overall financial health of the *Seguro Popular*.

At the same time, financing for the reform was calculated on the basis of an average nuclear family size of 4·3 members, which did not capture continuous declines or variance in family size across states. As a result, the allocation per person was larger for wealthier states where the average family size is smaller than in poorer states, contributing to inequities.[49]

The financing unit was redefined in 2010 through a modification of the General Health Law from a family to a capitation fee per enrolled individual. Under the revised

Law, the rhythm of enrolment gained momentum.[50] A special compensatory fund was established to allow for transition for states where the new reimbursement rules required large budgetary adjustments.

Yet, universal health coverage proved unattainable in 2010. This was partly because of the economic crisis and the H1N1 epidemic, which redirected funds allocated for *Seguro Popular* expansion into purchase the flu vaccine and antiviral drugs, as well as to support other measures to deal with the epidemic." Additional challenges included increasingly difficult to enrol population groups (eg, high-income individuals), and poor supply capacity, especially in rural settings. As a result, the timeline and budget to achieve universal coverage was extended from December, 2010, to December, 2011.[50]

Another major adjustment was the implementation of expenditure controls for states. The 32 state governments are responsible for spending 89% of total resources of the *Seguro Popular* to finance the delivery of the essential package of health interventions. Agreements signed between the federal government and every state set clear rules on the annual transfer and allocation of resources.

Because of the high degree of heterogeneity in the use of resources across states,[51] since 2008, regulations for the use of federal resources and the annual service agreements limit expenditures by item. States can spend a maximum of 40% of total federal allocation on personnel, and 30% on medicines, materials, and other inputs.

It also proved necessary to regulate the purchase prices of medicines as there were large variations for both generics and patented drugs that could not be explained by local market conditions or volumes tendered.[52] This prompted greater monitoring of purchasing, integration of information, and the design of better guidelines for the efficient procurement of medicines by the states. Reference prices were established and states cannot purchase drugs with federal funds at prices more than 20% above this level. For on-patent drugs, states can benefit from federally negotiated prices that aggregate the federal Ministry of Health, IMSS, and ISSSTE. However, some states still purchase at prices well above the reference suggesting the need for further improvement in drug purchasing mechanisms.[53]

Coresponsibility—exercising rights while complying with obligations—is a key element of the Mexican reform. In the initial design of the reform, the main instrument for coresponsibility was family cofinancing. As enrolment progressed, it became evident that only a few enrollees—about 1% of families by the end of 2011—were paying the family premium.[44]

A new modality of coresponsibility was introduced through health promotion and a strategy of wellness check-ups. *Consulta Segura* is an integral part of the Mexican government's response to increase immunisation coverage and deal with major risk factors including unhealthy behaviour (tobacco and alcohol use), obesity, and high blood pressure, and thus, to prevent chronic and catastrophic illness.[54]

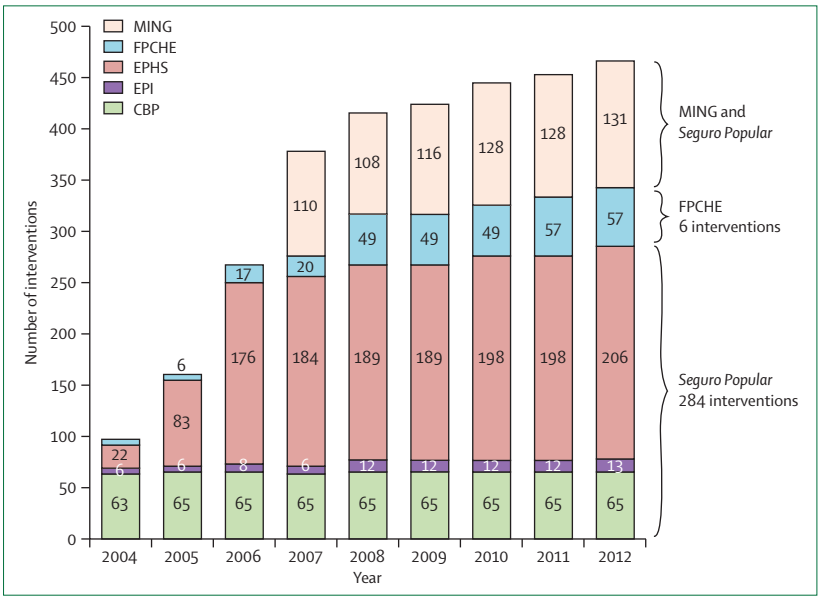


Figure 2: **Evolution of vertical coverage: cumulative number of interventions covered by the *Seguro Popular*, the Fund for Protection against Catastrophic Health Expenditure, the Fund for Community Health Services, and the Medical Insurance for a New Generation, 2004–12**

See appendix for a full list of data sources. MING=Medical Insurance for a New Generation (children born after Dec 1, 2006, and until they are 5 years old). FPCHE=Fund for Protection against Catastrophic Health Expenditures. EPHS=Essential Personal Health Services. EPI=Expanded Programme of Immunisations. CBP=Community-based package.

The check-up is compulsory for any person at the time of enrolment or re-enrolment and hence encourages beneficiaries to invest in their own health maintenance. It is designed to take 10 min and is integrated into the enrolment process, which typically takes place at a local hospital or clinics where modules have been set up.

The objective of this strategy is to build a risk profile of every beneficiary, promote a shift from curative to preventive care, and generate a registry and a system for early detection. The strategy has four components: a privacy-protected, fingerprint registry of all beneficiaries aged 10 years and older; basic screening for health risks; targeted medical care in response to the results of the check-up; and an integrated health information system useful for the development of future electronic health records. *Consulta Segura* has expanded rapidly and since 2010, more than 11 million individuals have been registered and almost 5 million screenings have been done.

Budgetary provisions for primary prevention have also been reinforced. As of 2008, annual budgets force the states to invest 20% of all *Seguro Popular* funds on prevention. This complements the federally-run community health fund.[54]

Effects of the Mexican health reform

This section discusses the effects of the reform on structural and process indicators including labour

markets, economic development, and finance; followed by an examination of effective coverage, health status, responsiveness, and financial protection.[55] Evidence from published research and recently collected data by the Mexican Government are presented (panel 3).

Availability, distribution, and allocation of financial resources

National health accounts suggest improvement in financial imbalances (table 3). Total health expenditure grew from 4·4% of GDP in 1990 to 5·1% in 2000, and to 6·3% in 2010.[65] Total health expenditure per person increased from US$ purchasing power parity (US$$_{ppp}$) 508 in 2000 to US$$_{ppp}$ 959 in 2010, while government per capita health expenditure increased from US$$_{ppp}$ 237 in 2000 to US$$_{ppp}$ 469.

Panel 3: Bibliometric analysis and databases

To document the progress in the intrinsic and instrumental goals of the *Seguro Popular*, we searched Medline, PubMed, and Google Scholar with keywords "*Seguro Popular*", "System for Social Protection of Health", and "*Seguro Popular* and health". This search uncovered 533 documents. In a second filter, we added "Mexico" and "effects" and/or "impact", refining the list to 184 documents. Although some work remains unpublished, 83 articles are available in peer-reviewed journals, of which 27 are international and 56 Mexican.

We further classified the 58 documents that analysed the effects or impact of the *Seguro Popular* using the WHO 2000 framework for health system performance.[33] Seven studies were devoted to the impact on health conditions, four to responsiveness, and ten to financial protection. Further, three reviewed the effects on stewardship, 11 on financing, three on resource generation, 14 on inputs and services, and another six on other sectors, specifically the labour market.

Additionally, we accessed several databases either directly or through published information used in regular administrative evaluations published by the Ministry of Health. These databases include the National Household Income and Expenditure Surveys (Encuesta de Ingresos y Gastos de los Hogares),[56] the National Survey of Demographic Dynamics (Encuesta Nacional de la Dinámica Demográfica; ENADID),[57] and the National Survey of Health and Nutrition (Encuesta Nacional de Salud y Nutrition; ENSANut).[58] For the National Survey of Health and Nutrition, we reviewed the 2000, 2006, and 2012 surveys, although for the 2012 survey, only national-level estimates were available because the survey was recent.

We also analysed data from administrative reports and evaluations undertaken by the Ministry of Health. These data included a third round of evaluation of the *Seguro Popular* published only in Ministry of Health reports,[59] that served as a partial (due to sample attrition issues) follow-up to the experimental evaluation undertaken in 2005–06.[60]

Most studies and data available provide descriptive results. Further, some of the data are only available at the national level and overall improvement cannot be exclusively assigned to *Seguro Popular*. Although not recent and spanning only 11 months of the coverage of the *Seguro Popular*, the 2005–06 experimental evaluation does allow for causal interpretation.[60] Further, several studies have been produced that use econometric techniques to analyse outcomes and causality.[61–64]

The availability of data, and particularly the ENSANut 2012, should spawn a new cadre of studies. Further, a new round of the 2005–06 evaluation, combined with more detailed econometric analysis of the 2008 evaluation follow-up,[59] could effectively shed light on the progress of the *Seguro Popular*.

Gaps between public and private expenditure are just beginning to close. Public spending as a percentage of total health expenditure increased from 46·6% in 2000 to 48·9% in 2010.[65]

Additional public resources have been mainly allocated to institutions caring for the previously uninsured. Between 2000 and 2010, the Ministry of Health budget increased 142% in real terms whereas the budget of IMSS grew 42% and that of ISSSTE 103%. This narrowed gaps between Mexicans with access to social security and those without and the ratio of per capita public expenditure declined from 2·1 in 2000 to 1·2 in 2010.[66,67]

The allocation of federal resources across states also improved. In 2000, the difference between the state receiving the greatest allocation of federal resources per person and the state least favoured was 6·1 to 1. By 2010, this difference was 3 to 1 (table 3). Variations in state contributions to financing declined somewhat, as shown by the small drop in the coefficient of variation between 2000 and 2010.[68] Further, the share of total public expenditure financed by the states has been increasing slowly but consistently since the creation of *Seguro Popular*.[69] Finally, resources devoted to investment increased in absolute terms. As a proportion of the Ministry of Health budget, investment grew from 3·3% in 2000 to 4·4% in 2010.[70]

Labour markets and economic development

One concern about *Seguro Popular* is stimulating parts of the labour force that evade taxation and social security contributions, and thus risking long run economic growth. Reviews of this issue suggest that the materialised risk is small and the concern misformulated.[15] Conceptually, non-salaried work has been erroneously considered equivalent to informality, which in turn has typically been synonymous with active evasion of the formal sector, salaried employment and taxation.[71] *Seguro Popular* targets all non-salaried workers who cannot access social security because they do not have an employer. This group is much larger and not coincident with informality. It includes independent workers, professionals and agricultural labourers, as well as those who do not participate in the labour force (ie, homemakers and elderly people).[15]

Empirically, most papers show the effect to date of *Seguro Popular* on salaried and formal employment is either nonexistent, small, or restricted to specific population subgroups.[72–78] Only two of the nine studies found a relatively small, negative effect on enrolment in social security.[79,80] Further, movement is not out of salaried employment but rather into non-salaried work.

Measuring the outcome of *Seguro Popular* requires a longer term, causal analysis. *Seguro Popular* was developed as a response to structural inequity and inefficiencies that prevailed in the Mexican health system and were already affecting labour markets. Indeed, an

objective of the 1997 reform of IMSS was reducing informality. Meta-analysis suggests that future research and policy questions, given the many positive effects of *Seguro Popular*, should consider how to minimise labour market effects. This includes focusing on improving the effectiveness of IMSS.[81]

From an ethical perspective, to deny access to health care on the basis of type or absence of employment is indefensible. It is also unnecessary. Numerous policy instruments to stimulate salaried employment can be disassociated from health care. Indeed, labour market performance is largely defined by policies outside of health, such as overregulation.[82]

A longer-term approach is required to conceptualise and eventually measure the full impact of *Seguro Popular* on labour markets and economic development. Investment in health can stimulate productivity and catalyse investments in education.[83–86] Although it is too early to measure the full effect of *Seguro Popular* on labour market productivity and economic growth through improved health, this effect is likely to overwhelm small, short-run implications for informality.

Enrolment and covered services

Coverage of public health insurance improved substantially between 2002 and 2011. *Seguro Popular* enrollees reached 52·6 million in April, 2012 (figure 3). Most belong to the poorest four income deciles, 35% reside in rural communities (compared with 22% nationally), and close to 9% belong to indigenous communities (compared with 6% nationally).[44,87]

In 2002, over 60 million Mexicans did not have any institutional form of financial protection in health. Although substantial debate concerning total coverage numbers exists, particularly for IMSS, a conservative estimate of the total number of Mexicans who had health insurance in 2002 is 41·5 million (38·7 million through social security and 1·8 million exclusively by private insurance).[88,89] By 2010, social security had increased to 59·2 million, and *Seguro Popular* enrolment reached 43·5 million.[44,90] An additional 8·3 million people enrolled in *Seguro Popular* in 2011. Thus, accounting for duplicate coverage between insurance schemes, about 110 million—almost 98% of Mexican residents—were registered with a health insurance entity by the end of 2011.[87] Further, the Ministry of Health 2012 budget is sufficient to ensure that all who do not have access to social security, taking into account population growth, can be affiliated voluntarily to *Seguro Popular*. Thus, as of 2012, Mexico is on track with universal coverage.

Both enrolment and the number of covered interventions in each package have expanded continuously (figure 2 and panel 2). The package of essential services, for example, grew from 91 interventions in 2004, to 284 in 2012, covering treatment for more than 95% of causes in ambulatory units and general hospitals.

	Indicator	2000	2004	2010
Level	Health expenditure as percentage of GDP	5·1%	6·0%	6·3%
Source	Out-of-pocket health expenditure as percentage of total health expenditure	50·9%	51·7%	47·1%
Distribution	Ratio of per-person public expenditure between those covered by social security agencies and those without social security	2·1 to 1·0	2·1 to 1·0	1·2 to 1·0
Distribution	Ratio of federal per-head expenditure on health in the state with the highest figure to that in the lowest	6·1 to 1·0	4·3 to 1·0	3·0 to 1·0
State contribution	Variability in state contribution to health-care financing (coefficient of variation)	1·0	0·8	0·7
Allocation of funds	Percentage of MoH budget devoted to investment	3·3%	3·1%	4·4%

See appendix for data sources. GDP=gross domestic product. MoH=Ministry of Health.

Table 3: **Evolution of financial imbalances in the health sector, Mexico 2000–10**

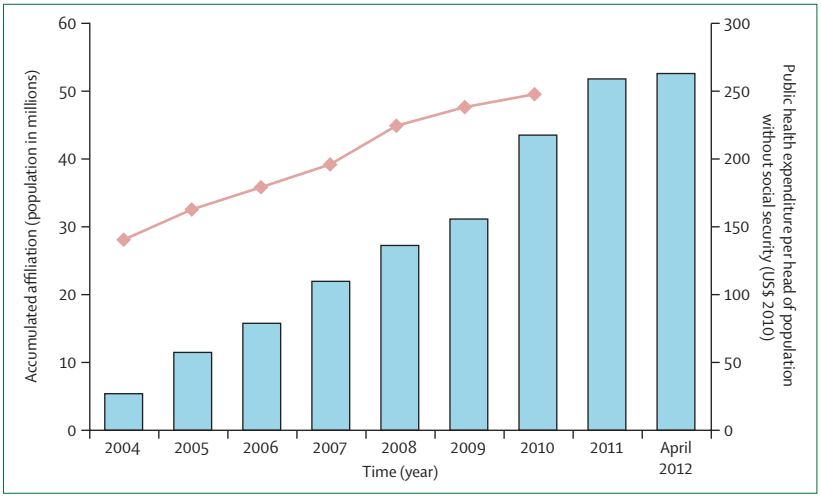


Figure 3: **Evolution of enrolment to *Seguro Popular*, Mexico 2004–12**
See appendix for a full list of data sources.

Health infrastructure, human resources, and availability of drugs

Health infrastructure—both of Ministry of Health and social security—grew over the decade. Between 2001 and 2011, 15 high-specialty centres were built as were more than 200 hospitals and almost 2000 ambulatory clinics.[91,92] Additionally, more than 4000 facilities were renovated or equipped.

Additional personnel were hired with *Seguro Popular* resources.[93] The physician (general and specialist) to population ratio increased by 54% between 2004 and 2010, compared with 7% between 2000 and 2004. Further, the availability of nurses increased by 29% between 2004 and 2009, compared with a 1% decrease between 2000 and 2004.[52,94,95]

Still, the expansion of the human resource base remains a challenge, especially in a decentralised health system. Most new personnel were initially hired by states with variable, short-term contracts. The situation improved as contract terms lengthened, legally-mandated

benefits were introduced, and salaries were standardised.[52] Initial imbalances created by over-hiring administrative staff have been largely corrected.

Seguro Popular financing has also been channelled into access to essential drugs. In 2002, 55% of patients reported prescriptions in ambulatory clinics of the Ministry of Health as fully filled.[96] In 2011, this number reached 62%.[97] For social security institutions, the proportion of prescriptions correctly and completed filled also increased over the same period (from 70% to 87%).[98]

Use of health services

Based on the 2006 ENSANut, *Seguro Popular* enrollees had a higher probability of service use, conditional on perceived need, than did uninsured individuals.[13,99] The 2006 National Satisfaction and Responsiveness Survey done in 74 hospitals nationwide showed that *Seguro Popular* enrollees had a higher probability of using hospital services for elective surgeries, diabetes, and hypertension than did the uninsured.[100] Another study showed an increase in the probability of visiting a health unit.[61]

Use of health services for childbirth between 2000 and 2012 provides additional support. The proportion of births in private entities declined from 25% to 19%, and in social security facilities from 35% to 26%. By contrast, use of public, Ministry of Health facilities increased from 32% to 48% (figure 4).

By contrast, the short-term, 2005–06 assessment[60] showed no measurable effect on service use. Still, in the follow-up assessment for 2008, *Seguro Popular* households registered 3·3 health visits per year, which was significantly higher than the visits registered by non-*Seguro Popular* households and similar to social security.[59,101]

Impact on effective coverage and health conditions

Both maternal and child mortality continue to decline. From 1990, the baseline year for the Millennium Development Goals (MDGs), mortality in children younger than 5 years fell from 47·1 per 1000 livebirths to 16·7 in 2010.[69] Projections indicate that Mexico will meet the MDG 4 target before 2015.[102,103]

Interventions to reduce maternal mortality are targeted to MDGs 4 and 5. Fair Start in Life, a national programme launched in 2001, includes a safe motherhood component that strengthens care networks and inputs, most notably, a safe supply of blood. Special measures were implemented to expand coverage of antenatal care and access to institutional deliveries, with emphasis on timely diagnosis, high-risk pregnancies, and emergency responses. Closer monitoring and detailed review of maternal deaths through verbal autopsies were implemented. Maternal mortality numbers declined substantially from 90·4 per 100 000 livebirths in 1990 to 51·5 in 2010, yet meeting MDG 5 will require further reductions that are especially challenging to achieve.

Improvements in maternal mortality and in mortality in children younger than 5 years have been larger for the previously uninsured than for social security beneficiaries. Mortality in children younger than 5 years fell by 11% for the population without social security compared with 5% for those with access. Maternal mortality fell by 32% for those without social security compared with 3% for those with access (table 4).

Coverage and effective coverage (when measurable)[3] have increased. Between 2000 and 2006 coverage for prenatal care and childbirth, immunisation (BCG [Bacillus Calmette–Guérin], DPT [diphtheria, pertussis, and tetanus], and measles vaccines), care of premature newborn babies, treatment of diarrhoea and acute respiratory infections in children, mammography, cervical cancer screening, and treatment of hypertension improved, concentrated in the poorest states and income deciles.[11,104]

With a composite indicator of interventions, in 2006 *Seguro Popular* enrollees had significantly higher levels of coverage than did the uninsured.[13] Further, individuals with social security had significantly higher composite coverage than the uninsured in 2000, but by 2006, the differences with *Seguro Popular* enrollees were insignificant. Controlling for observable differences, *Seguro Popular* enrollees had significantly more coverage than the uninsured for hypertension treatment, mammography, cervical cancer screening and acute respiratory infections in children. For interventions covered in long-standing national programmes (ie, childhood immunisations) the differences were, as expected, insignificant.

ENSANut data from 2006 and 2012 show further improvement (table 5). Coverage for measles and BCG has remained high and close to the same level (90·1% for measles and 97·1% for BCG), and has increased a few points for DTP3 (88%). Diarrhoea treatment has increased slightly and encouraging and significant improvements exist in coverage of acute respiratory infections in children younger than 5 years.

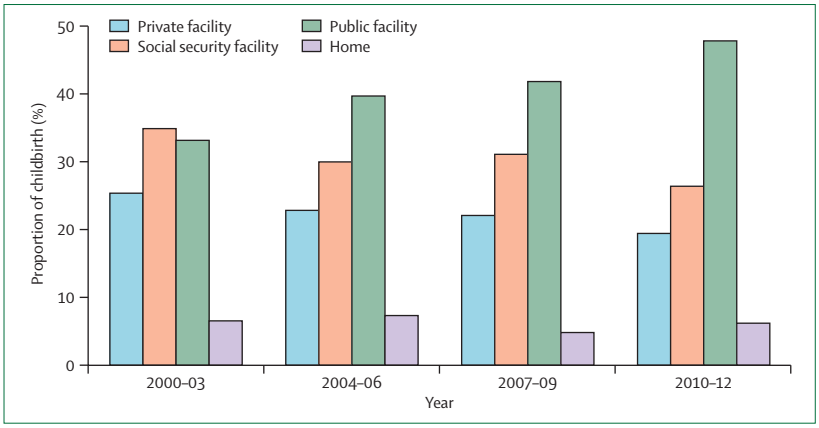


Figure 4: **Childbirth by type of care facility, Mexico 2000–12**
Estimated by the authors on the basis of original data sources cited in the appendix.

	2004			2010			Percentage of change	
	Social security* (a)	Non-social security* (b)	Gap† (c=a/b)	Social security* (d)	Non-social security* (e)	Gap† (f=d/e)	Social security* (g=([d/a]–1)×100)	Non-social security* (h=([e/b]–1)×100)
Health conditions: mortality								
Deaths in children younger than 5 years (per 1000 livebirths)	12·8	25·0	0·5	12·1	22·3	0·5	–5·2	–11·0
Maternal deaths (per 100 000 livebirths)	28·7	72·2	0·4	27·9	48·9	0·6	–2·9	–32·3
Financial protection								
Out-of pocket health expenditure by households as a proportion of total income (%)	3·0%	4·4%	0·7	2·6%	3·2%	0·8	–14·2%	–27·6%
Out-of pocket health expenditure by households as a proportion of disposable income (%)	3·7%	5·9%	0·6	3·3%	4·6%	0·7	–10·8%	–21·9%
Percentage of households with catastrophic health expenditures	1·5%	3·6%	0·4	1·4%	2·8%	0·5	–10·0%	–20·6%
Percentage of households with impoverishing health expenditures	0·2%	2·1%	0·1	0·1%	1·6%	0·1	–51·9%	–25·0%

Estimated by the authors on the basis of original data sources cited in the appendix. *Social security refers to the population covered by social security institutions, while non-social security refers to the population without access to health care through social security institutions, that is the previously uninsured population targeted by the *Seguro Popular*. †Gaps shown correspond to the ratio of the value observed for the insured by social security divided by the corresponding value for the previously uninsured; they are read as the number of times the value for those insured by social security exceeds the value for the previously unsinsured. The closer to one, the greater equality between population groups.

Table 4: **Progress in closing the gaps between population groups, health conditions, and financial protection**

Skilled birth attendance reached 94·9% in 2006, and 94·4% in 2009, according to the national demographic survey of 2009 (Encuesta Nacional de la Dinámica Demográfica; ENADID).[11,105] The ENSANut shows that rates continue to be close to 92%, and suggests a major improvement in coverage of prenatal care from 67·3% in 2006 to 81·3% in 2012 (table 5; panel 4).

Progress has been made in prevention, early detection, and treatment of cervical cancer, although the poorer, southern states continue to have higher incidence and death rates than the richer.[109–111] Screening coverage increased from 30% in 2000 to 43·8% in 2006, and 48·5% in 2012 (table 5).[13] Additional to traditional cytological examinations, in 2008, the Ministry of Health introduced tests to identify human papillomavirus DNA sequences.[69] Further, between 2008 and 2010, the human papillomavirus vaccine was applied for the first time to teenage girls in the 125 poorest municipalities. As of 2012, the vaccine is being applied to all 9-year-old Mexican girls.

Access to breast cancer treatment shows promising signs of improvement. By 2010, FPCHE was financing treatment for more than 17 000 women.[112] National data are unavailable, but the numbers from the largest, public specialty cancer centre, the National Institute of Cancer of Mexico, indicate that adherence increased.[110] In 2005, about 30% of the 600 women diagnosed with breast cancer abandoned treatment within a year. In 2010, less than 1% of 900 women abandoned treatment.[113] The package of covered services is broad—trastuzumab for example, was included in 2008.[114] Still, most patients with breast cancer begin treatment at advanced stages. ENSANut data show that screening rates have remained constant at about 20%.

Seguro Popular funding for childhood cancer is channelled to drug access, regional centres of excellence, and paediatric oncology training. Abandonment of treatment has declined to 5% (from about a third between 2000 and 2005), and 30-month survival rates for acute lymphoblastic leukaemia—covered since 2005—have increased to over 60% in several of the accredited hospitals. Still, the variance in outcomes across hospitals indicates opportunities for improvement as capacity is built.[115,116]

	2006	2012	Difference
Measles immunisation in children (18 months and 59 months)	92·0	90·1	–1·9*
DTP3 immunisation in children between (18 months and 59 months)	85·6	88·0	2·4*
Bacillus Calmette–Guérin (BCG) immunisation in children younger than 5 years	97·8	97·1	–0·6
Antenatal care	69·1	81·3	14·0*
Skilled birth attendance	94·9	91·8	–1·5
Treatment of acute respiratory infections in children younger than 5 years	58·1	63·8	5·7*
Treatment of diarrhoea in children younger than 5 years†	59·2	61·3	2·1*
Breast cancer screening in women aged 40–69 years (mammography)	21·6	20·1	–1·5
Cervical cancer screening in women aged 25–64 years	43·8	48·5	7·3*

Estimated by the authors on the basis of original data sources cited in the appendix. *Significant differences. †The indicator differs from Lozano and colleagues[11] since it is restricted to include packaged oral rehydration therapies only.

Table 5: **Coverage of specific health-care interventions, Mexico, National Surveys of Health and Nutrition (ENSANut) 2006 and 2012**

Between 2000 and 2006, hypertensive and diabetic adults with *Seguro Popular* had a significantly higher probability of receiving treatment than did the uninsured.[62,63] Furthermore, *Seguro Popular* beneficiaries with diabetes showed better blood glucose levels.[63] These data show important improvement over the period of the reform. Although causality cannot be inferred from the available data on mortality and coverage, a likely association with the expansion of *Seguro Popular* merits further research.

Responsiveness

In the 2005–06 *Seguro Popular* assessment,[60] 69·8% of *Seguro Popular* enrollees rated health services received as

Panel 4: Dynamic, effective universal health coverage: expanded immunisation and investment in child health

In 1989, a measles epidemic started in Canada, and eventually reached Mexico. Consequences were fatal in malnourished Mexican populations. In the USA, 120 of 55 000 reported cases died. In Mexico, more than 6000 children younger than 5 years died, concentrated in the poorest, southern states.[14]

The prevailing wisdom suggested that one dose of measles vaccine was enough for lifelong protection and that 80% vaccination coverage in the child population would prevent outbreaks. Further, administrative records in Mexico were overestimating effective coverage and providing a false sense of security.

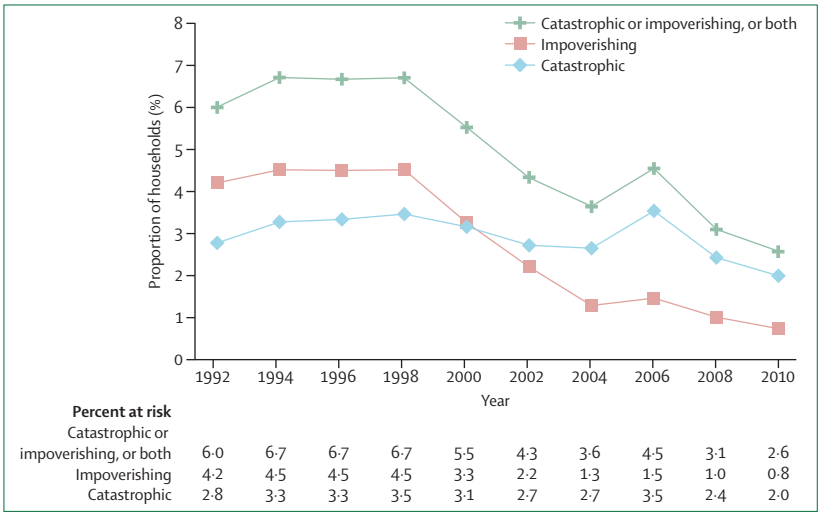
This epidemic spurred the coinage of the term "immunological equity", which was to be achieved through a universal vaccination programme whose audacious goal was "all the children; all the vaccines" by October, 1992.

Polio and measles were eliminated. Major public health interventions available at that time—vaccines, vitamin A, albendazole, oral rehydration therapy—have been delivered since then three times a year to all children and communities.

This public health policy has been expanded by successive administrations, leading to measurable improvements in the health and nutrition of Mexican children.[14] Further, an integrated set of platforms now exist with a prochild focus that include nationwide, conditional cash transfer programmes such as *Oportunidades*, which has had measurable effects on child development.[106,107]

Since the 2003 reform, the immunisation package has been expanded and now contains 12 vaccines, including those for rotavirus, pneumococcus, and human papillomavirus. As of 2011, two doses of human papillomavirus vaccine were included in the *Seguro Popular* for girls.

The implementation of the *Seguro Popular* has resulted in a comprehensive investment by Mexico in child health, which since December of 2006, includes a broad range of treatments and services. All newborns are covered by the programme through Medical Insurance for a New Generation. Indeed, spending through *Seguro Popular* on children below the age of 16 increased from $US12 million in 2007 to $102·6 million in 2011, and the number of covered children from about 800 000 to 5·8 million.[108]



Percent at risk	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010
Catastrophic or impoverishing, or both	6·0	6·7	6·7	6·7	5·5	4·3	3·6	4·5	3·1	2·6
Impoverishing	4·2	4·5	4·5	4·5	3·3	2·2	1·3	1·5	1·0	0·8
Catastrophic	2·8	3·3	3·3	3·5	3·1	2·7	2·7	3·5	2·4	2·0

Figure 5: **Trends of catastrophic and impoverishing health expenditure in Mexico, 1992–2010***
Estimated by the authors on the basis of original data sources cited in the appendix. *Catastrophic expenditure is measured as 30% or more of capacity to pay in turn proxied by total household expenditure less spending on food. Impoverishment is measured as households falling below the poverty line equivalent to $1 purchasing power parity, or deepening impoverishment if below the poverty line.

very good or good, 85% reported that benefits were well communicated, 94% that they were well treated, and 97% planned to re-enrol.[60]

The Ministry of Health is legally obligated to undertake nationally representative surveys of users of *Seguro Popular*. In 2011, 97% of the roughly 22 000 people interviewed with health facility exit poll surveys reported satisfaction with services received and more than 95% praised the interpersonal quality and ease of making appointments. Almost all (99%) reported that they would re-enrol, 30% because they did not have to pay fees at time of service, and 24% because of quality of care.[117] Comparing 2004 and 2011, perception of primary care treatment improved slightly as did the access to information from the primary care physician.[117] Waiting times in outpatient services decreased, but increased in emergency wards.[118]

Similarly, ENSANut show improvements between 2006 and 2012 in perception of care as good or very good. The number increased from 79·1% to 84·6%.

Certification and accreditation have expanded and 9592 of 12 743 units became accredited between 2004 and 2010. This helps patients to identify high-quality services.[119]

Independent regional initiatives have also been collecting information. *Latinobarómetro* considered *Seguro Popular* the most beneficial public policy implemented in Mexico in that period.[120]

Financial protection

Evidence shows significant progress in reduction of catastrophic health expenditure (CHE, 30% of capacity to pay) and impoverishing health expenditure (IHE, households forced below or further below a poverty line). Catastrophic and impoverishing health-care payments from 1992 to 2010 show a long-run downward trend (figure 5).[12,121] In 2000, 3·1% of households had CHE and 3·3% had IHE. By 2010, the values had dropped to 2% for CHE and 0·8% for IHE.

Furthermore, the differences between households with and without social security are decreasing (table 4). The differential share of out-of-pocket spending in household income and CHE fell for all groups between 2004 and 2010, especially for families without social security. IHE fell from 0·2% to 0·1% for households with social security, and from 2·1% to 1·6% for the rest of the population.

Notably, the drop in CHE is evident despite the small reduction in levels of out-of-pocket spending as a proportion of spending on health. This suggests that households are spending out of pocket, but not in ways that threaten their economic wellbeing or ability to cover basic needs.

Based on analyses of the ENIGH, the proportion of out-of-pocket spending financed by the poor and those with *Seguro Popular* has fallen. 13·7% of total out-of-pocket spending in 2002, and 12·8% in 2004 came from the 40% poorest households. By 2010, the value had dropped to

11·4% of total out-of-pocket spending. The percentages are 58·2% in 2002, 52·8% in 2004, and 35·7% in 2010 for the uninsured and *Seguro Popular* enrollees.

The 2005–06 assessment results show that *Seguro Popular* is reducing out-of-pocket spending and providing financial protection, especially for the poorest households, with a 23% reduction from baseline in CHE.[60,122] The findings were confirmed in the follow-up in 2008.[59,101] *Seguro Popular* enrolled households were significantly less likely than either households with social security or without any financial protection, to spend out of pocket on drugs or outpatient services. *Seguro Popular* households also had a significantly lower rate of CHE than did households eligible for *Seguro Popular* and not yet enrolled, and lower, although not significantly different, to households with access to social security.

Recent studies confirm this protective effect of *Seguro Popular*, especially among urban households and for prescription drugs and in rural areas with access to health facilities.[64] Still, the studies highlight the persistent challenge of protecting households in remote rural areas with very limited access.

Ongoing challenges to the SSPH

Seguro Popular is successfully closing the gaps in health financing across population groups. The gap in the per capita allocation of public resources fell more than 70% between 2004 and 2010 (table 6).

Yet, mobilising additional funds to extend health insurance coverage is a necessary but not sufficient condition to expand access to comprehensive health care and decrease reliance on out-of-pocket spending. Translation of additional financial resources into regular access to comprehensive, effective health services—the ultimate goals of effective universal coverage—is a formidable task. Until universal access includes a guaranteed, acceptable level of quality, the egalitarian exercise of the right to protection of health will remain an elusive goal and inefficient out-of-pocket spending will grow. Further, without efficient use of current resources, generating the additional fiscal space required to face the burden of chronic diseases is politically unfeasible.

Gaps and inequities in public funding across institutions and hence populations have been reduced. Yet the reliance on inefficient out-of-pocket spending as a source of health financing has not declined substantially. Out-of-pocket spending persists (alongside reductions in the prevalence of catastrophic spending) because families face issues with access and quality. Finally, gaps in access persist because of continuous limitations in crucial health-care inputs, especially human and organisational resources.

	2004			2009–10*			Percentage of change		
	Social security† (a)	Non-social security (b)	Gap‡ (c=a/b)	Social security† (d)	Non-social security (e)	Gap‡ (f=d/e)	Social security† (g=([d/a]–1)×100)	Non-social security (h=([e/b]–1)×100)	Progress in gap reduction (%)§
Financing									
Public resources per capita (US$ PPP)	209	102	2·1	237	205	1·2	13·1	102·2	74·2%
Service provision: activity levels (rate per 1000)									
Outpatient consultations: general	1865	1626	1·3	2110	1834	1·4	13·1	12·8	–2·0%
Outpatient consultations: specialty	1137	438	3·0	1226	573	2·6	7·9	30·9	13·3%
Hospital discharges	55	39	1·7	54	49	1·3	–2·3	25·8	69·7%
Service provision: productivity									
Consultations per general physician	16·8	12·3	1·4	17·8	11·1	1·6	5·9	–9·9	–41·1%
Consultations per specialist physician	2·9	1·6	1·8	2·3	1·6	1·4	–20·5	2·4	35·7%
Hospital bed occupancy rates (%)	76·0	68·7	1·1	81·8	70·7	1·2	7·6	2·9	–41·2%
Resource generation (rate per 100 000)									
General doctors	41	32	1·3	50	50	1·0	21·7	57·9	100·0%
Specialist doctors	78	40	2·0	90	60	1·5	15·7	51·6	32·2%
Nurses	232	155	1·5	250	200	1·3	7·9	29·2	39·8%
Hospital beds	88	62	1·4	80	70	1·1	–9·3	13·3	58·3%

PPP=purchasing power parity. *All data except for the indicator on financing (2010) correspond to 2009. †Social security refers to the population covered by social security institutions, while non-social security refers to the population without access to health care through social security institutions, that is the previously uninsured population targeted by the *Seguro Popular*. ‡Gaps shown correspond to the ratio of the value observed for the insured by social security divided by the corresponding value for the previously uninsured; they are read as the number of times the value for those insured by social security exceeds the value for the previously uninsured. The closer to one, the greater equality between population groups. Although the rates shown do not fully control for differences in age, sex, or epidemiological profile, gaps in activity levels have been adjusted by the difference in mortality rates between both population groups. §Progress in gap reduction is measured as the percentage change in the relative gap ratios between the 2 years analysed with the following formula $(1-[(e-d)/d]/[(b-a)/a])\times 100$.

Table 6: **Progress in closing the gaps between population groups by health system function**

A benchmark of reform was to close gaps in public financing between the previously uninsured and those with access to social security, and this goal has been largely achieved. Between 2000 and 2010, average out-of-pocket spending as a proportion of income and disposable income fell. Most of the decline occurred in the previously uninsured population (later *Seguro Popular* enrollees) from 6·3% in 2000, to 5·9% in 2004, and 4·6% in 2010. By contrast, for households with social security, out-of-pocket spending as a proportion of income remained quite constant.

Yet the reduction in out-of-pocket spending has been less than proportional to the increase in financial resources (tables 4 and 6). Private spending still accounts for 51% of total health expenditure (out of pocket is 47·1%; table 3). Thus families continue to rely on out-of-pocket spending—although at levels that generate less CHE.

Gaps in access to health care between those with social security and the previously uninsured who currently have *Seguro Popular* have also narrowed. Increased access is associated with higher utilisation of health services. Although the use of outpatient consultations and hospital services have improved over time for the previously uninsured, rates of utilisation are still higher in social security beneficiaries, as are differences in specialty consultations. The gap in the number of consultations per specialty physician is narrowing, yet differentials in general consultations and bed occupancy rates have increased (table 6). Thus, deficiencies persist, especially for some segments of the population and in specific states.

The *Seguro Popular* design includes supply-strengthening components to enhance provider responsiveness to patients' needs and expectations. Increased financing has generated improved supply of pharmaceuticals, expansion of facilities, and hiring of personnel. Despite this, some critical inputs still lag. For example, although the gap in availability of general physicians was essentially closed between 2004 and 2009, differences persist for specialists and nurses (table 6). Another problem is resource mobilisation and allocation. This includes slow flow of resources from federal to state and in turn to local levels, as well as under-spending, poor transparency and accountability, and poor managerial performance in the transfer and use of resources among states. In its initial phases, *Seguro Popular* focused 45% of transfers to the states on supporting the purchase of medicines and basic medical supplies.[123] By 2009, this share fell to 20% as the demand to cover salaries increased.[123]

Next steps of implementation require that the current bottlenecks, especially in some specialties, be solved. Yet this cannot be immediately remedied as it takes time to train specialists. For example, to meet the demand for breast cancer treatment in *Seguro Popular*, between 200 and 350 radiation oncologists are needed; yet only about 25% of this figure were available when the disease was included in the catastrophic fund.[124] Indeed, there is evidence of increasing underuse of high-specialty facilities because of scarcity of personnel. Average occupancy rates in the new high-specialty hospitals are 70%—a number that will improve as more specialists are deployed.[125]

Finally, improving access in remote rural areas is a challenge.[126] Although rural areas include only a minority of the population (1% live in localities that do not have access to public transportation and have fewer than 2500 inhabitants, and 5·4% live in localities with less than 5000 inhabitants), they are a vulnerable, dispersed, and hard-to-reach group.[126] In remote communities, health centres continue to operate with poor basic services, poor telecommunications infrastructure, and are often staffed by medical students.[127] Still by 2009, about 50% of these centres were formally accredited, a required condition in order to provide services to *Seguro Popular* beneficiaries.[127]

Future planning must account for population ageing and the growing burden of chronic illness. Although the number of diseases and interventions covered by the FPCHE has grown, there are still a host of common, costly, treatable chronic diseases that are not covered, including several cancers. This issue is a challenge for financing and for equity; patients with these diseases suffer severe economic hardship or go without treatment.

The prevailing models of ambulatory care were designed to treat acute disorders. Special effort will be needed to increase the capacity of primary health centres to deal with chronic disorders. This implies training in prevention, early detection, and treatment of chronic illness, and strengthening telemedicine. Similarly, capacity is sorely missing for long-term and palliative care. Further, prevention and appropriate management of chronic illness—through initiatives such as the *Consulta Segura*—are essential to the long-term financial sustainability of the health sector. The FPCHE should not be overused as a source of financing for treatment because of deficiencies in control of risk factors, prevention, and early detection (panel 5).

Despite substantial improvement on many fronts, the persistent gaps and imbalances portray structural limitations in absorptive capacity for the substantial expansion in resources brought about by the reform. The competencies and structural changes needed to efficiently manage expansion take time to mature. This point is especially relevant in the decentralised Mexican health system where states have different degrees of managerial capacity. Increased financial resources combined with weak management can lead to inefficiency, and solid guidelines combined with careful monitoring are needed to avoid corruption.

A major challenge is to complete the reorganisation of the health system by functions. As mentioned above, consolidation of stewardship at the federal level was largely achieved and the financial architecture of the entire system was aligned. The next stage of reforms will

need a fully integrated financing scheme with flexibility and portability of benefits to support delivery by a plurality of providers, both public and private.[131]

Another pending challenge is to implement the purchaser–provider split within states.[131] The initial reform design envisioned a more efficient arrangement for health-care delivery whereby states would develop the purchasing function of basic hospital and primary care. The state *Seguro Popular* fund holder would allocate monies through specialised service contracts to a network of public and private providers (including the states' own hospitals and clinics) on the basis of population needs, rewarding both efficient and responsive care. Local provision of public goods and provider regulation would remain part of the stewardship function of state ministries, working with the federal Ministry of Health. Yet progress has been slow and uneven as lack of local capacity compounds with the pressing need to expedite the supply of basic interventions.

Given successes in ensuring more money for health and financial protection, the emerging challenge for *Seguro Popular* is to achieve more health for money. The Mexican health system is ready for more reform to address prevailing inefficiencies and inequities.

The future of the Mexican health system: a new generation of reforms

The ultimate objective of the 2003 Mexican health reform is the egalitarian realisation of the right to social protection of health, which entails generally applicable rules of access to a comprehensive package of services provided with similar quality and financial protection to all. To achieve this objective, the next stage of reform must encompass financial arrangements, managerial capacities, and operation of the health-care model.

Financial reform should be geared to improved resource mobilisation. This goal can be accomplished through an earmarked, social contribution for health with a combination of progressive, efficient taxes.[15,132] This contribution would replace the payroll tax currently used to finance much of health care for social security beneficiaries and would further expand general taxation allocated to health. It should be designed as a single insurance fund to finance a common package of entitlements, including essential and high-specialty interventions, to which all Mexicans will have access regardless of the health-service provider.

The full fiscal benefits of replacing payroll contributions should also include additional revenues from eliminating the basis on which firms can deduct taxes and disincentivising informality. Pooling resources across the population would allow more efficient risk aggregation, especially for high-cost conditions. This could help with expanded financial coverage of catastrophic interventions and help avoid adverse selection.

The purpose of the managerial reform is two-fold: to consolidate the separation of the financing and delivery functions in all public institutions, and to strengthen managerial capacity at all levels. The separation of functions guarantees provision by a plurality of providers, both public and private, favouring good performance and quality of care. Ensuring an efficient articulation between payers and providers is essential to this process.[131] Strengthening managerial capacity requires a universal health identification number and card that would guarantee the portability of benefits, as well as common capitation and reimbursement rates to help with mobility of users across providers and to enhance responsiveness.

The reform of the health-care model will adapt service delivery to meet the challenge of chronic disorders and injuries, by creating healthy environments and extension of health care beyond medical facilities. The new model should prompt the construction of community spaces for health promotion and emphasise prevention; create networks of services to assure the continuity of care, and integrate formal and informal spaces through the extension of the supply of health-care services to the home, schools, workplaces, and public areas. This model should harness telemedicine to reach remote areas, and regionalise the provision of high-specialty services.

In this process of consolidation, it will be important to protect the investment in non-personal, community health services. Reforms in other countries have suffered from not paying enough attention to public health.[41] In Mexico, the next step is to adjust the law to assign a fixed

Panel 5: Optimisation of the FPCHE through investment in health promotion

The Fund for Protection against Catastrophic Health Expenditures (FPCHE) covers a relatively small number of diseases and interventions for which costs of treatment are high. Without appropriate prevention or control of these diseases, the associated costs could quickly push the fund into deficit. An example is costly endstage renal disease, associated with diabetes, which is in turn closely related to the epidemic of overweight and obesity that must be controlled through health promotion.

In the case of breast cancer, access and adherence to treatment have improved substantially. The challenge, however, continues to be late detection, which implies dramatically reduced survival and higher costs per year of life saved.[124,128] Investment expansion is required in the capacity to detect the disease in early stages. As a first step, a specialised training programme was developed for community health workers and primary-care physicians and nurses, and patient awareness and education were introduced into *Oportunidades*.[129,130] Still, and despite important investments in the purchase of mammography units, the lack of specialised breast radiologists is a major obstacle, especially in certain states.[69,124]

An integrated approach is needed to meet the challenge of chronic illness and catastrophic interventions in Mexico. First, education and economic incentives are needed to manage risk factors and promote prevention. Second, health financing and delivery must be aligned to guarantee investment in all stages of chronic disease.[129] In the case of the System of Social Protection in Health, this involves the three major funds—community health, *Seguro Popular* funding for essential interventions, and the FPCHE—since the management of some diseases requires a combination of public goods, essential personal health services, and highly specialised interventions. If investment is guaranteed only for treatment, results will be suboptimum both in terms of costs and lives saved.

percentage of the health budget to the Fund for Community Health Services. To date, this Fund is financed through an annual allocation that is exposed to the ebbs and flows of budgets, although the package of services is explicit and complementary funding has been identified through the provision for primary prevention in the *Seguro Popular*. Yet the potential economies of aggregating and integrating interventions suggest that investing in upstream, preventive and early detection services—that tend to not have enough spontaneous demand—will reduce downstream costs and suffering, especially for chronic illness. This is the rationale for fixing a percentage for this fund.

Sound evidence must continue to guide the evolution of the entire health system. Thus, the new reforms must be accompanied by additional investments in health systems research, fuelled by a vigorous and rigorous programme of evidence generation, monitoring and assessment.

Global implications of the Mexican health reform

The Mexican health reform contributes knowledge to the global movement for universal health coverage. The experience is an example of successfully guaranteeing social protection of health to the non-salaried population through legislated access to a comprehensive package of services. Social protection in health is not limited to those with salaried employment; rather it is a universal right for all citizens, independent of their employment status. The experience of applying evidence to design policy and measure progress also provides models for strengthening stewardship.[133]

Indeed, the Mexican experience is being used as a reference in international work on quality[134,135] and in designing strategies of universal coverage for countries at all levels of income. In April 2012, this interest resulted in a Mexico Declaration on universal coverage in an international forum jointly undertaken by the Mexican Ministry of Health and WHO that convened 21 countries.[136]

Various countries have or are undertaking health financing innovation with similarities to Mexico. The creation of an explicit package of services through the Regime of Explicit Health Guarantees (AUGE Plan) in Chile presents parallels with the Mexican FPCHE.[137] Another example is the South African systemic financial reform designed to equalise the entitlements of citizens with access to private insurance and those without.[138,139] India has produced an in-depth review of its health system and policy analysts are calling for a move to universal health insurance to achieve universal coverage.[140,141] Other countries with health reforms that parallel some aspects of *Seguro Popular* are Colombia, the Dominican Republic, Ghana, Peru, Tanzania, Thailand, Turkey, and Vietnam.[142–145,146,147]

A lesson from the Mexican experience is the importance of monitoring and assessment. Evidence has played a central role in steering the reform process including the revision of enrolment criteria and the definition of the interventions that have been gradually added to the FPCHE. Assessments have also played a crucial part in the implementation of accountability mechanisms now required by law. Several countries and most notably China, have similarly included a strong measurement and assessment component in their reforms.[147–150] These data will provide an opportunity to undertake comparative research, especially if rigorous assessment is built into reforms with similar indicators of progress towards universal health coverage.

The Mexican experience speaks to the potential to expand coverage to reach the poor and non-salaried workers. It is an example of applying legislative reform to use financing from general revenues to cover this population, building on existing social and antipoverty programmes that enable outreach and enrolment, such as *Oportunidades*. Indeed, both the reform of IMSS in 1997 and the 2003 reform that created the *Seguro Popular* increased reliance of the Mexican system on general taxation and government revenue to finance health.

The Mexican process points to the importance of continuity. Good programmes and policies should be preserved, enriched, and even expanded across administrations when these have been proven effective based on rigorous assessment.[151] The technical capacity of policy makers helps with this process.

The Mexican experience is especially noteworthy for having continued despite and throughout economic downturn and periods of economic crisis.[152] *Seguro Popular* survived the economic crisis of 2008–09, and covered services were continually expanded in the wake of the downturn. This was the result of political will and commitment to the health of the population. Yet continuity is also bound by legislative reform, which is another lesson. Had the reform been built on a series of programmes, rather than a new law, continuity might have been questioned. Another lesson is the importance of long-term investment in the development of research and educational institutions that generate evidence for policy design and implementation. These institutions also train leaders to occupy policy-making positions at the local and federal levels providing the managerial capacity to implement reform.

The Mexican reform shows that, although challenging, developing countries can expand financial coverage for treatment of chronic diseases. Part of the global community has been convinced that middle-income and especially low-income countries should limit their activities to prevention in the case of chronic and non-communicable diseases.[153,154] The Mexican case shows that developing nations can build fiscally responsible mechanisms, such as the FPCHE, to finance cost-effective treatment for chronic diseases alongside prevention.[42,155] Fiscally responsible reform implies the design and implementation of not only health policies

but also healthy policies that deal with social determinants.

The creation of a separate and protected fund for public goods, and especially community health services and personal and non-personal public health interventions, is another finding. This creation offers a way to extend other services without neglecting, and indeed while expanding, health promotion, disease prevention, and early detection services. Civil society has also contributed to the process of implementing the reform by sharing knowledge and encouraging patient involvement, which in turn builds responsiveness. Further, civil society provides complementary services for better delivery of care.

The Mexican health system has profited from a clear definition of priorities, which are important not only in terms of resource allocation, but also to garner public support. Distinctive initiatives of the Mexican reform, such as MING and Fair Start in Life, were also used to bridge the divide between the vertical and horizontal approaches to health care through the development of what has been called the diagonal strategy.[156] These initiatives show that it is possible to use explicit, high-priority interventions to drive system-wide improvement (ie, in quality)[134,135] into the overall health system.

Together, the instruments designed and implemented in Mexico constitute a map to expand the three dimensions of social protection of health: against health risks; for patients by assuring safety, effectiveness, and responsiveness; and against the financial consequences of disease.

The Mexican quest for universal health coverage and the creation of the System of Social Protection in Health through legislative reform encompasses 9 years of well documented efforts to achieve universality. These efforts can be adapted and translated for other countries seeking to provide universal coverage against threats to the health security of individuals and populations. Learning from this experience—both its successes and its challenges—will not only continue to improve health conditions and financial protection for all people in Mexico, but will also contribute to the global movement towards universal health coverage.

Contributors

FMK coordinated the writing group and the process of writing the article, participated in developing the conceptual framework, developed the outline, wrote text, undertook analysis, collated and incorporated all contributions, interpreted results, prepared figures, and incorporated revisions based on comments. EG-P participated in developing the outline and the conceptual framework, wrote text, undertook analysis, collated contributions, interpreted results, and prepared figures. OG-D participated in developing the outline and the conceptual framework, wrote text, undertook analysis, collated contributions, interpreted results, prepared figures, and undertook literature review. DG-J participated in developing the outline, analysed data, reviewed and revised text, and leads and manages the *Seguro Popular* implementation since 2011. HA-O wrote text, undertook analysis, analysed data, interpreted results, prepared tables and figures, and undertook the literature review. MB-L wrote text, undertook analysis, analysed data, collated contributions, interpreted results, prepared tables and figures, and reviewed and revised text. RS prepared tables and figures, analysed data, and reviewed and revised text. FMK, EG-P, OG-D, DG-J, HA-O, MB-L, and RS, under the guidance of SC and JF, were responsible for preparing the text on behalf and as part of the Mexico Health Reform Quest for Universal Health Coverage Collaborative Group. FC participated in developing the outline, provided data, and reviewed and revised text. MH-A contributed information from the ENSANut Survey of 2011, data and analysis of trends and outcomes, reviewed and revised text, and provided comments. GN contributed to the text on responsiveness, undertook analysis, and analysed data. ER contributed to the text on quality of care, and reviewed and provided comments on text. JS contributed to the text for panels and reviewed and provided comments on text. MJ, DK, RT, and GS reviewed and provided comments on text. SC defined the outline, designed the section on implementation, and participated in writing and reviewing text. He was responsible for the implementation and modifications of the reform, as Commissioner for Social Protection in Health from 2009–11 and as Secretary of Health of Mexico as of mid-2011. JF defined the conceptual framework, led the analysis, and participated in writing and reviewing all text; as Secretary of Health of Mexico from 2000–06, he was responsible for the design and initial implementation of the reform.

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Conflicts of interest

FMK collaborated with the Ministry of Health in the design of the 2003 health reform; her work was undertaken on a voluntary basis; she is married to former Minister of Health of Mexico Julio Frenk who designed the 2003 reform; she has worked for the Mexican Health Foundation full or part-time since 2000 and manages grants from both public and private donors; she is founding President of Tómatelo a Pecho a registered charitable organisation in Mexico focused on early detection and treatment of breast cancer; she participated in the evaluation of the *Seguro Popular* in 2011 and will continue to do so in 2012. EG-P worked for the Mexican Ministry of Health from 2001 to 2008 and participated in the design and development of the 2003 reform; he has collaborated in the past as Resident Researcher for the Mexican Health Foundation; he currently holds the position of Director of Finance at the Mexican Institute of Social Security. OG-D was Director General for Evaluation of the Ministry of Health from 2001–06 and participated in the design of the 2003 reform. DGJ is currently Commissioner for Social Protection in Health and has worked at the Commission since 2009; he participated in and currently manages the implementation of the *Seguro Popular*. HA-O directs research at the Mexican Health Foundation where he has worked since 2002 and participated in the research for the design of the reform; he manages grants from both public and private donors; he participated in the evaluation of the *Seguro Popular* in 2011 and will continue to do so in 2012. MB-L worked for the Mexican Ministry of Health from 2001 to 2009 and supported the development of the 2003 reform; she has collaborated in the past as Resident Researcher for the Mexican Health Foundation; she is currently Advisor to the Director of Finance at the Mexican Institute of Social Security. RS is Chief of Staff to the Commissioner for Social Protection in Health and has worked at the Commission since 2009; she participates in the implementation of the *Seguro Popular*. FC was Chief of Staff to the Commissioner for Social Protection in Health from 2009 to 2011 and is now Head of the Economic Analysis Unit at the Ministry of Health; he participates in the implementation of the *Seguro Popular*. MH was Undersecretary at the Ministry of Health from 2006–11 and participated in the implementation of the reform and is Director of the National Institute of Public Health and heads the evaluation of the *Seguro Popular* in 2012. MJ is the Executive President of the Mexican Health Foundation since 2009, an institution that receives various national and international, private and public sector grants; she was Secretary of the

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