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Foreword

This review of the Mexican health system was undertaken at the request of the Mexican Ministry of Health. It follows in the footsteps of the Korean review (2003) and continues the work of the OECD Health Project which ended in 2004. Drawing on the analytical framework developed during the OECD Health Project, it assesses the institutional arrangements and performance of the Mexican health system and the factors affecting it. It also evaluates the recent Mexican reforms and their impact on health system goals with the hope of enriching the debate in Mexico and aiding policy makers to bring these reforms to fruition through an international exchange of evidence and experience.

The Mexican population is characterised by marked inequality in health status and in access to healthcare services, particularly among the poor and in rural areas. This is reflected in poor health status when compared with other OECD countries. Financing arrangements for public health care that have resulted in low levels of per capita health spending, particularly among those who do not belong to the social security system. Weak performance in terms of health system goals also reflects the institutional fragmentation of the health system and provider inefficiency. Such underperformance is one factor limiting the development of the productive capacity of the economy.

Increasing access to coverage and quality care among disfavoured groups is a critical challenge to the Mexican authorities. Progress in this area will require increasing the level of resources accorded to the health sector and reducing the inequalities in the attribution of financing both across and within states. In this context, the report reviews recent reforms aimed at increasing resources for health, reallocating them towards underserved areas and providing wider insurance coverage against the costs of illness.

The main authors of this report were Howard Oxley and Francesca Colombo, assisted by Maria Luisa Gil Lapetra, Victoria Braithwaite and Elma Lopes. Support was provided by other members of the Health Division, the Directorate for Employment Labour and Social Affairs and the Economics Department, in particular John Martin, Martine Durand, Peter Scherer, Bénédicte Larre and Isabelle Joumard.

The completion of this report was made possible thanks to generous support from the Mexican authorities. This report benefited from the expertise of Mexican officials and health specialists during the OECD mission to Mexico. These included members of a range of government departments, private institutes, social insurers, private insurers, academics and state level authorities. The OECD Secretariat extends its thanks to the members of the Economic Analysis Unit of the Ministry of Health, and in particular Mariana Barraza Lloréns, Eduardo González Pier, Cristina Gutiérrez Delgado and Erick Peñaloza Sosa for help in preparing the mission and supplying subsequent data and information.

A draft report was prepared for, and presented to, a conference organised by the Mexican Ministry of Health in Mexico City in November 2004. Participants included Mexican health experts, representatives from other OECD countries and members of international organisations, many of whom provided invaluable comments that contributed to subsequent finalisation of the report.

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Executive Summary

The health status of the Mexican population has experienced marked progress over the past few decades and the authorities have attempted to improve the functioning of the health-care system. Nonetheless, health policy in Mexico faces important challenges in ensuring universal access to health insurance and enhancing the efficiency of the health system. The "Review of the Mexican Health System" first provides an overview of the system organisation, highlighting its main strengths and weaknesses. It then evaluates system performance against the policy goals of access, quality and responsiveness, efficiency and financial sustainability. Finally, the Review assesses recent reforms and their potential impact and areas where additional policies may need to be introduced to strengthen the system.

The Mexican health-care system is different from that of most other OECD countries

The public health-care sector is characterised by the presence of several vertically integrated insurer/providers, serving different parts of the population and with little connection between them. In addition, there is a very large, and mostly unregulated, private sector. Social security institutions cover salaried workers in the formal sector. Although estimates vary, individuals contributing to social security institutions and their dependents are estimated at around half of the population. The Ministry of Health, which provides health-care services to the population uninsured by social security, has decentralised most of the supply of care for those groups. The states now operate their own State Health Service systems of public hospitals and clinics. There are wide differences between states in the per-capita resources available for providing public health-care services and rural areas face particular problems of access. Each institution – whether state or social security – provides health services at all levels of care in their own facilities. The State Health Services (SHS) are perceived by the general public as providing lower-quality care than the social security system, although this partly reflects the fact that the resources per household allocated to the social insurers are roughly two thirds greater than those allocated to the State Health Services.

Doctors and nurses are salaried workers in all institutions which does not favour efficiency and a large proportion of doctors also have private practices, on a fee-for-service basis. The private-hospital sector provides around one third of all hospital beds in the country. These are concentrated in larger cities in richer states with nearly half of private hospital facilities found in Mexico City.

Despite major improvements in health status and prevention, the system needs to improve performance

Mexico has seen dramatic improvements in life expectancy and a steady reduction in infant mortality rates since the 1950s. Mortality and morbidity patterns in most Mexican states are no longer dominated by communicable diseases and the share of chronic and lifestyle-related illnesses has increased. Nonetheless, Mexico remains below most OECD countries for a number of health status indicators. Child and infant mortality rates are the second highest in the OECD area after Turkey, while its maternal mortality rate is also much higher than the OECD average.

Mexico is one of the few OECD countries that has not yet achieved universal or near-universal insurance coverage. The level of public spending, at 45% of total health expenditure in 2002, remains well below the OECD average of 72%. Most of private spending in Mexico is financed by out-of-pocket payments. The system is profoundly unequal in terms of access to health care, its financing, and health status indicators. Large disparities exist between the richer northern and the poorer southern states of the federation in insurance coverage, public expenditure and health status. While those not covered by the social security system can obtain care at government facilities, significant access barriers remain for those relying entirely on Ministry of Health and State Health Service facilities. Poorer households are less well covered by social insurance than richer households and a larger share of the poor also face catastrophic and poverty-creating health-care expenditures.

The level of public health-care spending – at 2.8% of GDP (2002) – is low by OECD standards. The supply of inputs into the health-care sector, such as practising doctors and acute care hospital beds, is also limited. Despite this, the intensity of use of these inputs is not high by OECD standards, signalling low demand and/or inefficient use of resources. The significant variability across institutions and across states in the intensity of use, suggests that there is scope for improving the performance of the weaker states and institutions. Administrative and governance costs also appear high by international standards, possibly reflecting the fragmentation of the health-care system. Plausible factors that might explain low efficiency levels include: the coexistence of numerous vertically-integrated insurers and the absence of any separation between purchasers and providers; difficulties in the coordination of policies in a decentralised environment; underdeveloped management capacity across decentralised institutions; and weak financial incentives associated with payment systems that do not reward productivity and quality.

While Mexican patients appear to be largely satisfied with the care they receive, the large share of private spending in total health-care expenditure raises concern about the quality of care and system efficiency and responsiveness. Lack of capacity to serve the health needs in the public sector has led to demand spilling over into the private sector where there is little insurance cover. Budgetary constraints have limited both the quantity and quality of care to the poor, leading to significant implicit rationing throughout the system. For example, availability of most drugs in the State Health Services is very limited. There are also reports of wide variability in quality across and within both the public and the private sector.

In addressing these challenges, policy makers are confronted with a number of policy constraints. The country is going through a demographic and epidemiological transition which is putting greater pressure on the health-care system. While Mexico spends less than other Latin American countries with similar levels of economic development, the absence of fiscal reform severely limits the scope for increasing government financing of the health-care system. Furthermore, the social security sector is facing budgetary pressures from increasing pensions for its workers. Finally the fragmentation of the institutional arrangements with the decentralisation of providers makes it more difficult to build a coherent strategy and create a consensus for change.

While an ambitious new reform offers new opportunities, challenges remain

Since the 1990s, the Mexican authorities have engaged in reform efforts to widen access to care for the uninsured population and improve the availability and quality of health services. The System of Social Protection in Health, the key reform of the present administration, aims to improving financial protection for those without social security coverage, inject new resources into the system, and re-balance the financial transfers from the federal government to the states.

The key element of the new reform is a voluntary health insurance option (the "Seguro Popular", or Popular Health Insurance) which will provide, progressively, coverage for a package of essential interventions and selected catastrophic treatments for households not covered by social insurance. The system is financed through new financial resources contributed by the federal and state governments for each newly affiliated family, topped up by a small income-tested premium paid by the family. Because funding is linked to the number of individuals enrolled, this new money will be primarily directed to those states with low levels of social insurance cover and which also tend to receive fewer resources from existing federal transfers. Conditional on budgetary resources being made available, inequalities between states in public-health care financing for the currently uninsured should be broadly eliminated by 2010.

With voluntary enrolment in the Seguro Popular, states have an incentive to affiliate as many families as possible and this should also encourage them to provide more and better quality services. Since health care services can be potentially supplied by any provider operating in the Mexican National Health System, it now becomes possible to move towards a breakdown of the current "silo" approach that underlies the existing organisation of provision. If the appropriate policies are put in place, this could encourage providers to improve quality and efficiency of provision as money would follow the patient. A separate fund is also established to finance public health and community health services, to ensure that public health services are not sacrificed during periods of budgetary restraint.

Despite the careful design of the new reform, successful implementation will remain a significant challenge to the Mexican authorities. First, the availability of fresh resources to finance the new programme remains conditional on the fiscal situation and, in this context, the OECD has emphasised the need for fiscal reform. Despite the recent reforms to the law governing social security, new pension arrangements are still under negotiation in the largest social security institution (IMSS) and pressures are likely to continue during

the transition period to a new system. The cost of pension arrangements for government workers also remains to be addressed.

Second, as the System of Social Protection in Health only covers a well-defined set of basic services and offers limited protection for catastrophic risks, pressures to expand such benefit coverage may arise from the users. Third, the new insurance system risks creating incentives for providers to give preference in treatment to the enrolee *vis-à-vis* those not enrolled in the new insurance scheme, especially during the transition period to 2010. Fourth, given new demand for public sector services, SHS providers will face the need to increase efficiency and quality, a key challenge, particularly in poorer states with weaker capacity and in rural areas. Currently, measures to encourage greater efficiency in the State Health Services have not been put in place and this policy area requires urgent attention to ensure that new resources under the System of Social Protection in Health are used to best advantage. Last, the success of the System of Social Protection in Health in the longer term will hinge upon its ability to break the link between financing and provision, thus avoiding continued fragmentation in the system.

Additional reforms are needed

This review presents several recommendations for tackling the weaknesses of the current system. Among the most prominent suggestions are the following:

- Introducing fiscal reform and implementing public-sector pension reforms to ensure adequate funding of the health system.
- Encouraging take-up of insurance under the Seguro Popular and tackling remaining barriers to access to services for those not covered by social security.
- Ensuring adequate financing for cost-effective "public health" goods such as prevention or epidemiological surveillance.
- Establishing a purchaser-supplier split with contractual arrangements between insurers and providers to reduce the current segmentation of the system.
- Re-investing un-necessary administrative costs in the supply of health-care services.
- Linking staff remuneration to performance goals and reviewing labour contracts to encourage greater professionals' productivity and eliminate practices that limit gains in efficiency.
- Furthering health-promotion initiatives and strengthening quality measurement and improvement initiatives to promote quality and cost-effectiveness of care.
- Strengthening information systems, reporting and accountability frameworks for all institutions, and investing in managerial capacity to improve governance of the system.

Introduction

This study reviews the Mexican health system. It has two main objectives. First, it provides an overview of the Mexican health system and a description of its current strengths and weaknesses. Second, it examines a number of recent reforms and how they are likely to impact on system performance with the aim of making additional recommendations to the Mexican authorities on reforms that could help achieve the desired objectives.

The Mexican health-care system is, organisationally, quite different from other OECD countries. The system is marked by a number of vertically integrated insurer/provider systems (referred to as the National Health System, NHS)[1] serving different parts of the population with little connection among them. While total per capita spending on health is slightly less than what might be expected given the level of economic development, over half of total spending is for private health-care services and the share of services financed by the public sector is very small by OECD standards. Lack of capacity and perceived low quality in the public sector has led to demand spilling over into the private sector where there is little insurance coverage. This configuration has created profound inequalities in access to health care, most notably between the insured and the uninsured populations, leading Mexico to rank very low in international comparisons of financing fairness. Budgetary constraints combined with low efficiency in public supply have limited both the quantity and the quality of care to the poor, leading to significant implicit rationing throughout the system and complaints over the quality of care.

Enhancing the performance of the Mexican health system has implications for the achievement of broader economic and social goals. Indicators of health status are weaker than a number of other countries with similar levels of income, possibly reflecting inadequate public spending on health care and poor health system performance (Mexican Commission on Macroeconomics and Health, 2004). An inadequately financed and poorly performing health-care system can also affect economic growth by weakening labour productivity, increasing the burden of illness, and reducing participation of the family in economic activities, school attendance and learning (CMH, 2001).[2] Poor health in the absence of insurance cover can also impact on poverty through catastrophic health-care spending and reduced capacity to work.

In addressing these challenges, policy makers are confronted with a number of constraints. The country is going through a demographic and epidemiological transition which is increasing the demand for health-care. Lack of much-needed fiscal reform is limiting the scope for increases in government finance to the health-care system. Finally, the fragmentation of the institutional arrangements, with a number of social security institutes combined with a system of decentralised state providers, makes it more difficult to build coherent policies and create a consensus for change.

This report comes after a time of important policy developments in Mexico. The current federal administration, at the beginning of its mandate, presented its National Health Programme (Programa Nacional de Salud, 2001-2006, PRONASA). This document provided a diagnosis of the Mexican health system and established the strategies and action plan for the 2001-2006 period. This report provides a partial assessment of some of the measures that have been undertaken to date. However, it does not attempt to evaluate all of the dimensions portrayed in the National Health Programme. Nor does it consider whether alternative policies would have been more appropriate. Rather, it examines the strengths and weaknesses of the current system. This evaluation is based on four criteria established in the context of recent work by the Secretariat (OECD, 2003). These concern achieving: *i)* widespread access to health-care; *ii)* high quality of care and provider responsiveness to patient needs; *iii)* efficient production of services; and *iv)* the financial sustainability of the system. Many of the developments within the system have been recent and it is therefore difficult to assess their impact. However, based on the experience of other countries, this review has attempted to identify some areas for improvement and some challenges that may occur as new policies are introduced.

This report begins with a description of salient features of the Mexican health-care system that are key for policy analysis. A second chapter provides a diagnosis of the system on the basis of the above-mentioned goals. The third chapter reviews recent policies, focussing on the recently introduced System for Social Protection in Health (Sistema de Protección Social en Salud or SPSS). A final section provides an overall evaluation and suggests areas for further reflection so as to better achieve the goals of the health-care system.

Notes

1. The National Health System (NHS) comprises all public institutions, departments, areas, from the public administration, both federal and local, as well as those entities from the private and social sectors that provide health services. The NHS objective is to achieve the goal of the right to health protection established in the Mexican Constitution.
2. According to a study for the period 1970-1995, using life expectancy and mortality at different age groups as health indicators, health is estimated to be responsible for about one third of the long-term economic growth (MCMH, 2004, p. 16, based on Meyer-Foulkes, 2001, pp. 123-126).

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Chapter 1

Organisation of the Mexican Health System

This chapter describes the organisation of the Mexican health system and the relationships among the main actors: the population/patients; the providers; and the "third-party" insurers and state purchasers. It starts by providing a brief background on the characteristics of the population and the social context of Mexico, including the size of the health sector in the Mexican economy. Section 1.3 outlines financing and coverage arrangements for the population. Next, the chapter focuses on the organisation of health service delivery and the relationship between patients and providers. Section 1.5 explains providers' payment arrangements and resource allocation mechanisms. The last section reviews briefly the role of government in the Mexican health system.

The creation of the current Mexican health-care system[1] dates back to the beginning of the 20th century, although substantial changes to its structure have occurred since (Box 1.1). It was not until the late 1930s that public institutions were charged with co-ordinating health-care policy and vertically organised public health programmes operated by the central authorities were established. Health policy focused on controlling communicable diseases, promoting primary health-care services in certain under-served areas and family planning. In 1943, the main vertically integrated social security institution was established for salaried workers operating in the formal sector. The Mexican Social Security Institute (IMSS) grouped the myriad of pre-existing union-based and industry-based coverage schemes. At the same time the Ministry of Health (then called the Secretaría de Salubridad y Asístencia, SSA) was also created. This was followed by the setting up, in 1960, of an independent social insurance arrangement for federal government workers (ISSSTE), while a number of programmes were subsequently created to cover specific industry groups, such as oil company workers (PEMEX). The coverage of those not salaried in formal employment was left to public hospitals run by the Ministry of Health (MoH) and subsequent to a two-wave decentralisation process to the State Health Services (SHS).

The spread of the institutions providing health services has been accompanied by a dramatic improvement in the health status of the Mexican population. Since the 1940s, average life expectancy has nearly doubled from 41 to 75 in 2002 and infant mortality has fallen from 126 per 1 000 live births to 21 in 2002.[2] Strong public health programmes, such as successful vaccination campaigns and other initiatives to control communicable diseases, have been a major factor behind improvements in health outcomes.

However, while the Mexican Constitution proclaims the right of each individual to health protection, Mexico is one of the few OECD countries that has not yet achieved universal access. The combination of a number of vertically integrated social insurer/providers for employees in the salaried labour market and a public hospital system providing for those who were not covered under the social security system has led to a fragmented health-care system. This in turn is hampering the search for a broad and more coherent approach to public health and health-care policy. There are also large disparities in insurance coverage, public expenditure and health status between the northern and the southern states of the federation, the latter reflecting differences in levels of economic and social development, education and epidemiological problems.

The Mexican National Health System (NHS) combines several public integrated schemes with a large private market.[3] The public sector includes a public decentralised health system run by the federal and state governments and a social-insurance system covering formal sector salaried employees. In both cases, providers are integrated with funding institutions with employees mostly paid on a salary basis. The private sector includes a mostly unregulated market where patients mainly pay providers directly out-of-pocket at market prices, although private insurance covers some private spending for a very small share of the population. Out-of-pocket payments by patients represent over half

Box 1.1. **Historical development of the Mexican health-care system**

The creation of the current health system began with the post-revolutionary consolidation of the Mexican state in the 1930s and reflected the widely felt political need for government intervention in social policy. This led to placing both the provision and financing of health-care policy within the realm of the state. But with only limited resources to set up a comprehensive health-care policy, the government began by strengthening the Public Health Department (Departamento de Salubridad Pública) that had been created in 1917, gathering together a heterogeneous and loosely coordinated group of organisations that had been operated voluntarily, such as religious institutions and charities. Given the difficult political and economic environment of the 1930s, the government restricted its actions to regulating the already existing public and private institutions offering health care. Policies were mainly geared to improving sanitation in urban areas and combating transmissible disease. In 1937 the Ministry of Public Assistance (Secretaría de Asistencia Pública) was created, which along with the Public Health Department was in charge of coordinating health policy among different providers. Provisions were made for the protection of specific groups such as children, state employees and the military. Medical services were also made available for the rural cooperatives with ties to the government and health centres were built in urban areas and a few key locations in rural areas.

The current structure of the health-care system was established in the early 1940s with an array of institutions exclusively targeting different groups based on their occupational profile or economic situation. In 1943 the Ministry of Health and Assistance (Secretaría de Salubridad y Asistencia, SSA) was formally set up by merging the Ministry of Public Assistance and the Public Health Department with a mandate to extend coverage to the poor and to set overall public health policy. It was also in charge of health-care provision through its centrally administered co-ordination offices in the states (Servicios Sanitarios Coordinados). At the same time, the Instituto Mexicano del Seguro Social (IMSS) was established to manage social security schemes including health that had been created for different unions and workers in individual sectors. However, some social security funds and services remained independent of the IMSS or were subsequently created for strategic target groups such as the military, oil sector workers and eventually the public sector. As part of the package of social security benefits, salaried workers in the formal economy were to have exclusive access to health services, ranging from maternity and child care to tertiary care and a system of age-related pensions. Following this path, the Institute of Security and Social Services for State Workers (Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado, ISSSTE) was established in 1960 providing health services as well as other monetary and in-kind social security benefits to state workers.

This approach led access to be based not on need but on occupational status and capacity to pay, leading to an allocation of resources and access to health-care services based on the economic and political leverage of the different socio-economic groups (*i.e.* unions, state workers and urban groups among others). As a result, the state allocated most of its resources to the provision of health care to organised labour in urban areas, as this group played a key role in sustaining political stability of the country and its economic development. But this system left those without formal labour salaried contracts (the self-employed, urban workers in the informal sector and the rural population) largely uncovered and dependent on the services provided by the SSA. While the social security (SS) system was financed by a tripartite arrangement of employers, employees and the government, the SSA was wholly financed by the federal government. This led to a serious

Box 1.1. **Historical development of the Mexican health-care system** *(cont.)*

imbalance of resources with the SSA having to provide services with little resources and buffeted by changes in policy, leading among other things to lower quality of care. The sustained resources of the SS system, on the other hand, permitted the expansion of services even in difficult times. A further consequence of this environment was the concentration of service supply, particularly very specialised services, in the urban areas, especially in Mexico City – both for the SSA and the SS. In the rural areas, the services were first made available to those rural workers who participated in commercial production in the export sector and who were frequently unionised and politically active, leaving the dispersed rural population un-served and unprotected.

By the 1960s, the imbalances in access to health care had become more accentuated. Special provisions were made to the Social Security Law to extend compulsory coverage to temporary and rural workers but, with few exceptions, this was not implemented and the distinction between the "derechohabientes" or the insured population and the "población abierta" or the uninsured population served by the SSA sharpened. Efforts to bridge this gap by increased investment in the 1960s came to a halt in the economic downturn of the 1970s. During that period, the state relied on the SS system to increase access and special provisions were put in place to give partial access to social security benefits to incorporate other groups in the rural areas and in the informal economy. In the case of health care, this meant creating a second tier of services of lesser quality where basic health care was offered to rural and informal workers and the population at large. This occurred through the then IMSS-COPLAMAR (subsequently renamed as IMSS-Solidaridad and now as IMSS-Oportunidades) which was aimed at providing health services to inhabitants of rural and urban deprived areas and financed by the government but operated by the IMSS.

By the late 1970s the institutional framework led to significant redundancy in health-care activities and double targeting of certain groups, while leaving large segments of the population uninsured. As a result, policy co-ordination was weak.

In the 1980s further reforms strove to establish the framework for a more coherent set of national health policies, aimed at expanding access to health care as well as improving the quality of health care throughout the system. This combined better inter-sector co-ordination between the SSA and the SS providers and the government's first attempt to decentralise SSA services by transferring responsibility for health care to the states. This first wave of the decentralisation process (1984-1988) was characterised by an administrative integration of the Ministry of Public Health and Assistance coordination offices in the states, the federal programme IMSS-COPLAMAR and some health services provided directly by the states. The results of this first wave resembled more a "devolution" of some functions rather than a comprehensive decentralisation and only 14 states embarked in this process. A Health Cabinet chaired by the President was established to give political backing to the reforms and build consensus among the different institutions involved and a National Health System was created as an organisational arrangement to give the SSA responsibility for national health policy design and co-ordination. At this time (1983) a constitutional amendment was passed, giving each individual the right to health protection and from which the General Health Law was derived. As part of these changes, the Ministry of Public Health and Assistance changed its name to Ministry of Health (MoH) (Secretaría de Salud). However, this process of change was once again brought to a halt by adverse economic developments. Interest group resistance at a time of political unrest due to the economic environment successfully

Box 1.1. **Historical development of the Mexican health-care system** *(cont.)*

vetoed change at a time when federal resources were at an historical low, making it impossible for the government to fund the transitory costs of the reform.

Several reforms were nonetheless implemented over the 1990s. The completion of the decentralisation process was pursued under more ambitious objectives: to transfer more functions and responsibilities alongside the corresponding resources in order to complete the decentralisation and strengthen the State Health Services (SHS). During this second wave, the remaining states joined the process and an organisational structure, the National Health Council was created in 1986 to co-ordinate the federal-states policy making. The Mexican authorities also established a Reform Plan for the Health Service 1995-2000. Several changes aimed at widening access of the uninsured population to health-care services were put in place, including special programmes to extend basic health-care coverage such as the Coverage Extension Programme (PAC). In parallel, a major anti-poverty programme was launched in the early 1990s to palliate the impact of economic conditions on the very poor, which included a health component (this programme was originally named Solidaridad, later it changed to Progresa and now it is called Oportunidades). But this has only partly palliated the needs of the rural areas and further change is necessary.

The key reform of the current administration, within the framework of the 2001-2006 National Health Programme, is the System of Social Protection in Health (Chapter 3). The current government's actions go further in the direction of ensuring universal coverage of health services. This reform aims at improving financial protection for those without social security coverage, injecting new resources into the system, and re-balancing the financial transfers from the federal government to the states.

Source: Updated from OECD (1996), based on Martínez Valle (1997), *Observatorio de Salud*, Chapter 16.

of total health-care financing, while tax revenues and social security contributions by employers and employees and private insurance premiums account for the rest. Figure 1.1 illustrates schematically the Mexican health-care system today.

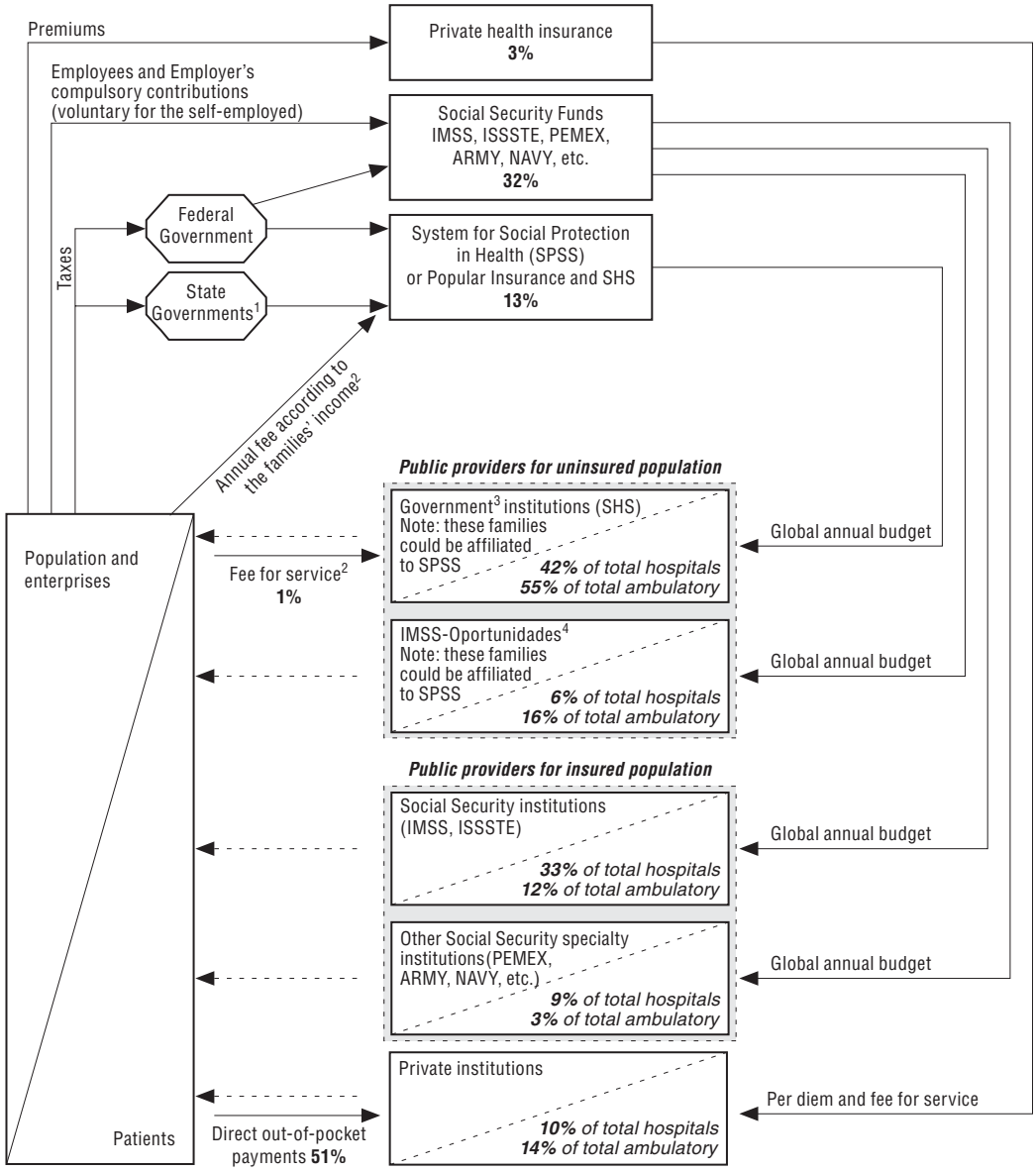
1.1. Salient features of Mexico: social and economic context, demographics and epidemiology

1.1.1. Social and economic context

Measured by GDP per capita, Mexico is the second poorest OECD country, after Turkey, with per capita income at about mid-range among the Latin American countries. Its per capita GDP was just over 9 000 USD PPPs in 2002, only a quarter of that of the United States (OECD, 2004c).

Mexico also has one of the most unequal distributions of income and wealth in the world. Although the precise results depend on the source and the definitions of the household unit, the bottom decile of households accounted for 1.3% of total income in 2002 while the top decile alone accounted for 39.7% (Secretaría de Hacienda y Crédito Público, 2004). The ratio between the income of the top and bottom decile was 30.[4] In 2000, 13-14% of the population lived on less than USD 1 per day and 46% on USD 2 per day. Over a fourth of the population over 15 had not completed primary education (OECD, 2004b). Inequalities also have a geographical dimension. Per capita incomes in the richest states of the Distrito

Figure 1.1. **The health-care system in Mexico, main flows, 2003**



SHS = State Health Services.

1. State expenditure for health has been at the discretion of the state governments. However, from 2004 under the SPSS a contribution for each affiliated family is compulsory.
2. The uninsured population pays "user fees". Under the SPSS, families will pay an "annual fee" and receive free access.
3. Federal and State Health Services for the uninsured population (State Health Services, National Institutes of Health, etc.).
4. Federal resources for IMSS-Oportunidades programme (for the uninsured) are allocated through the IMSS budget (given that the programme is run by a Coordination Unit set within IMSS for that purpose). These resources should not be considered within social security expenditure.

Source: MoH (2004d), *System of National and State Health Accounts*, Mexico.

Table 1.1. **Basic demographic and social indicators, Mexico, 2000**

	Population (millions)[1]	Population density (inhabitants per square kilometre)	Percentage of the population living in cities with less than 2 500 inhabitants	Illiteracy (percentage of population over 15)	Percentage of population over 15 that has not completed primary education	GDP per capita[2] (USD, 2000)	Degree of marginalisation[3]
República Mexicana	100.6	50	25.4	9.5	28.5	5 289	
Distrito Federal	8.8	5 799	0.2	2.9	12.2	13 481	Very low
Nuevo León	3.9	60	6.6	3.3	16.5	9 640	Very low
Quintana Roo	0.9	21	17.5	7.5	25.2	9 022	Medium
Campeche	0.7	12	29	11.8	34.2	8 852	High
Baja California	2.5	35	8.4	3.5	19.6	8 006	Very low
Chihuahua	3.1	12	17.5	4.8	23.3	7 879	Low
Baja California Sur	0.4	6	18.7	4.2	21.0	7 037	Low
Coahuila	2.4	15	10.6	3.9	18.8	6 902	Very low
Aguascalientes	1.0	168	19.8	4.8	23.0	6 597	Low
Querétaro	1.5	120	32.4	9.8	26.1	6 436	Medium
Sonora	2.3	12	16.9	4.4	22.4	6 271	Low
Tamaulipas	2.9	34	14.6	5.1	23.4	5 947	Low
Colima	0.6	96	14.4	7.2	27.2	5 290	Low
Jalisco	6.5	80	15.4	6.5	26.7	5 209	Low
Morelos	1.6	318	14.6	9.2	25.8	4 419	Medium
Yucatán	1.7	42	18.7	12.3	36.9	4 355	High
Durango	1.5	12	36.2	5.4	28.7	4 129	Medium
Sinaloa	2.6	44	32.6	8.0	30.1	4 082	Medium
Estado de México	13.5	586	13.7	6.4	20.8	4 058	Low
Puebla	5.2	148	31.7	14.6	35.2	3 852	High
San Luis Potosí	2.3	38	41	11.3	34.1	3 750	High
Guanajuato	4.8	152	32.8	12.0	35.7	3 686	High
Tabasco	1.9	76	46.3	9.7	32.3	3 280	High
Hidalgo	2.3	107	50.7	14.9	34.1	2 965	Very high
Veracruz	7.2	96	40.9	14.9	39.2	2 945	Very high
Nayarit	1.0	33	35.8	9.0	32.0	2 905	High
Guerrero	3.2	48	44.7	21.6	41.9	2 851	Very high
Tlaxcala	1.0	241	21.5	7.8	23.4	2 833	Medium
Michoacán	4.1	68	34.6	13.9	40.2	2 765	High
Zacatecas	1.4	18	46.7	8.0	37.5	2 616	High
Oaxaca	3.6	37	55.5	21.5	45.5	2 175	Very high
Chiapas	4.1	53	54.3	22.9	50.3	2 116	Very high

Note: States are ranked by decreasing GDP per capita.

1. Population living in each state at June 1st 2000.
2. Ratio of state GDP and population (referenced in first column) where 9.46 Mexican pesos = 1 USD (2000).
3. Marginalisation index ranges from –1.5 to –1.2 very low; –1 to –0.6 low; –0.4 to –0.1 medium; 0 to 0.8 high; and 0.9 to 2.25 very high.

Source: Columns one, four and five: estimates by CONAPO (2002), *Proyecciones de la Población de México 2000-2050*, based on INEGI XII Censo General de Población y Vivienda 2000. Columns two and three: INEGI XII Censo General de Población y Vivienda 2000, *www.conapo.gob.mx/00cifras/marg2000/005.htm*. For GDP data, INEGI (2004a), *Sistema de Cuentas Nacionales, cuentas de bienes y servicios 1995-2001*, *www.inegi.gob.mx/est/default.asp?c=1620*.

Federal and Nuevo León are between 4.4 and 6.4 times higher than per capita income in the poorest states of Chiapas and Oaxaca (Table 1.1; see also Figure 1.2 for a map of Mexico).[5]

The index of marginalisation – used by the Mexican government as a summary measure of the degree of social and economic deprivation and lack of access to services[6] –

Figure 1.2. **Map of Mexico**

TERRITORIAL LEVELS 2

MX01 – Aguacalientes	MX17 – Morelos
MX02 – Baja California Norte	MX18 – Nayarit
MX03 – Baja California Sur	MX19 – Nuevo Leon
MX04 – Campeche	MX20 – Oaxaca
MX05 – Coahuila	MX21 – Puebla
MX06 – Colima	MX22 – Queretaro
MX07 – Chiapas	MX23 – Quintana Roo
MX08 – Chihuahua	MX24 – San Luis Potosi
MX09 – Distrito Federal	MX25 – Sinaloa
MX10 – Durango	MX26 – Sonora
MX11 – Guanajuato	MX27 –Tabasco
MX12 – Guerrero	MX28 – Tamalipas
MX13 – Hidalgo	MX29 – Tlaxcala
MX14 – Jalisco	MX30 – Veracruz
MX15 – Mexico	MX31 – Yucatan
MX16 – Michoacan	MX32 – Zacatecas

TL2 – 32 states
TL3 – 209 regions

Note: The territorial grid at Level 3 is not yet available.

Source: OECD (2000), *Territorial Grids of OECD Member Countries*, Paris, available at *www.oecd.org/dataoecd/41/17/15236001.pdf*.

is generally higher in states in the centre and south of the country (Figure 1.3). Disparities also exist across states in the supply of infrastructure and basic services (clean water, drainage services, non-soil floors), as well as education.

Social inequities described above are reflected in health status. Richer parts of the country have an epidemiological profile closer to that of more developed OECD countries, while communicable diseases are still an important cause of death in poorer states (see Chapter 2).

Figure 1.3. **Marginalisation index by state, 2000**

Note: The marginalisation index ranges from –1.5 to –1.2 very low; –1 to –0.6 low; –0.4 to –0.1 medium; 0 to 0.8 high and 0.9 to 2.25 very high.

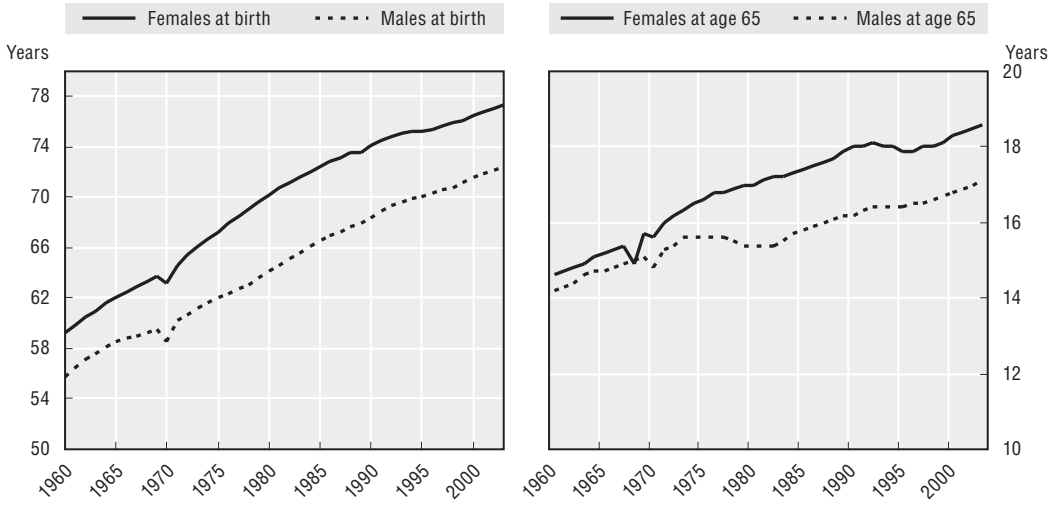
Source: CONAPO (2001), *Marginalisation Index*, estimates based on INEGI XII Censo General de Población y Vivienda 2000.

1.1.2. Demographic trends

Mexico is the country with the third largest population among the OECD countries after the United States and Japan, with an estimated 102 million people in 2002 (OECD, 2004c), having grown from 68 million in 1980. The country is divided into 31 states and the federal district, which differ in geographical size and urban development, population density, per capita income, and educational status (Table 1.1). The process of urbanisation of Mexico has been rapid and, at times, disordered. Over three quarters of the population lived in urban areas at the beginning of this century compared to two thirds in 1980. Almost a third of the population is now concentrated in four major metropolitan areas, and around 20 million people live in the urban area of Mexico City. A quarter of the population lives in localities of less than 2 500 inhabitants (INEGI, 2000), compared to one half in 1950. These are often situated in remote parts of the country and host the majority of the indigenous population of 11 million people. The dispersion of the population in rural areas has remained high, raising the cost of providing access to health care and other social services. While indigenous ethnic groups are widespread across Mexico, they are concentrated in the rural-poor areas of the centre and the south of the country and suffer from low levels of education, health status and income.

The Mexican population is young, compared to other OECD countries. In 2002, 5.2% of the population was 64 years and over, compared to 14.3% for the average of OECD countries.[7] Mexico has been, nonetheless, experiencing a rapid demographic transition. After a high rate of population growth in most of the post-World-War-II period – reflecting

Figure 1.4. **Increasing life expectancy in Mexico, 1960-2002**



Source: OECD (2004c), *OECD Health Data 2004*, 2nd edition, Paris.

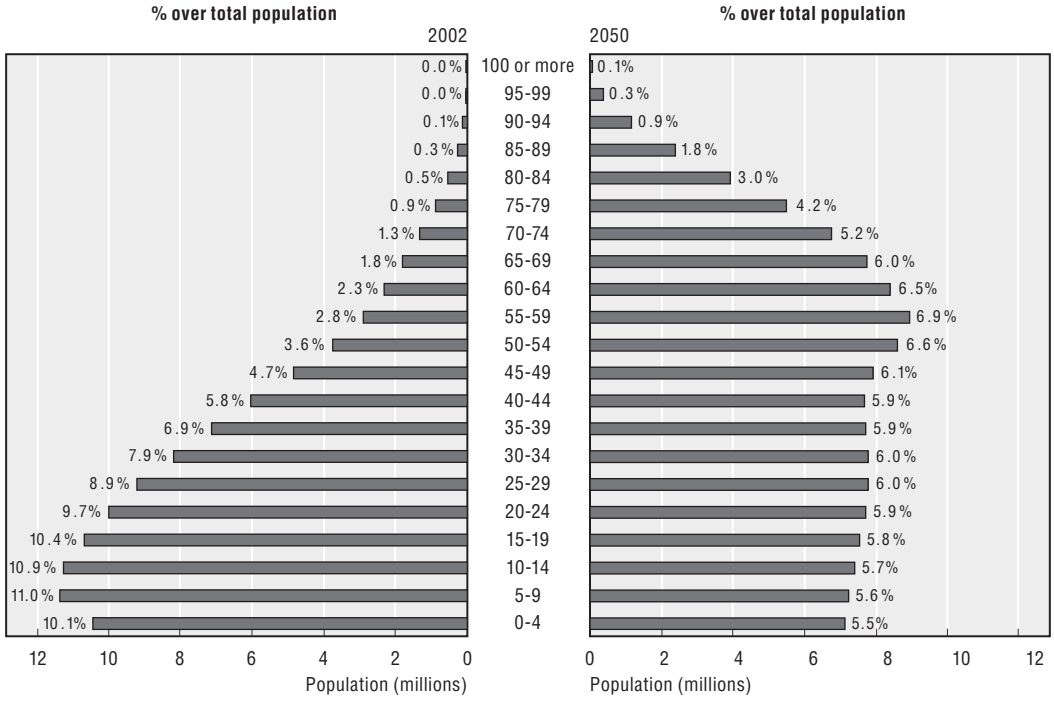
the combination of lengthening lifetimes and high fertility – population growth slowed dramatically over the past two decades as the fertility rate fell sharply: gross fertility rates declined from 7.2 children per woman aged 15 to 49 in 1960 to 2.4 in 2000. Mortality rates halved during the same period. As a result, life expectancy at birth and at age 65 increased steadily (Figure 1.4). Over the period 1960-2002, Mexico experienced one of the largest increases in life expectancy in the OECD area (17 years). However, life expectancy at birth is still 3.5 and 2.6 years below the respective OECD averages for men and woman, thus lying in the lower range of OECD countries and below many countries with similar levels of development (MoH, 2001b).

These patterns are expected to continue into the future. The structure of the population by age group, shown in Figure 1.5, is expected to age over the next 50 years (Chapter 2) as a result of further decreases in fertility and mortality rates – which, at the moment, remain among the highest in OECD countries (Figure 1.6). The size of the working-age population is expected to increase from just over 60% of the population to around 70% over the decade 2020 to 2030 (as the large younger cohorts move into the labour force). As the increase in the share of the elderly will be partly compensated by the progressive fall in the number of children, the overall dependency ratio is not projected to rise by a large amount.

1.1.3. Epidemiological characteristics

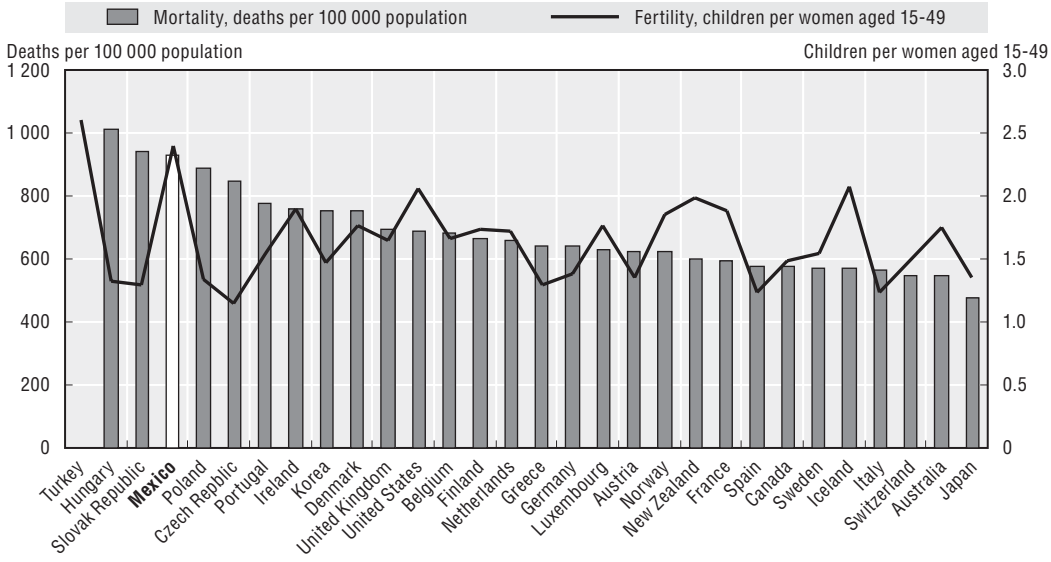
Mexico has been experiencing an epidemiological transition. Communicable and infectious diseases – such as diarrhœa, influenza and pneumonia – which represented the major cause of death for the bulk of the population half a century ago, have declined steadily as a source of mortality over the years while the importance of non-communicable diseases – such as chronic and age-related conditions – has increased. These ailments are now the major cause of death and, as in other OECD countries, cardiovascular diseases are

Figure 1.5. **The Mexican population by age group, 2002 and 2050**



Source: CONAPO (2004), *Proyecciones de la población de Mexico 2000-2050*, Mexico.

Figure 1.6. **Mortality and fertility in selected OECD countries, early 2000s**



Note: Mortality figures refer to early 2000 except for Belgium (1997), Mexico (1995), Denmark, France, Greece, United Kingdom (1999) and Turkey (not available). Fertility figures refer to 2000 except for Turkey (1998).

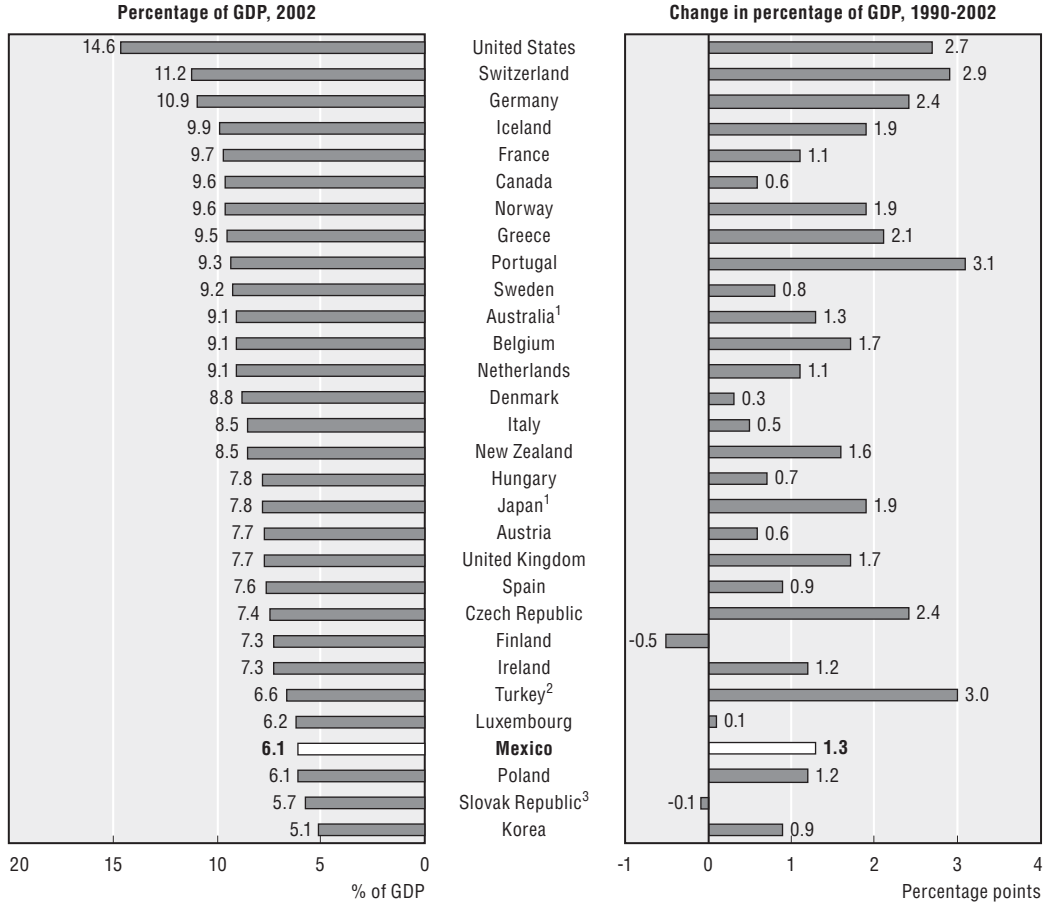
Source: OECD (2004c), *OECD Health Data 2004*, 2nd edition, Paris.

now the major killer in Mexico (16% of all deaths) and diabetes – which represented 12% of mortality in 2002 – is the most important single cause of death. Communicable diseases are more prevalent in rural areas and where the degree of social and economic integration is low, although non-communicable diseases and the risks related to them are also increasing in these areas (Chapter 2).

1.2. The size of the health system in the Mexican economy

Mexico has a relatively low share of GDP devoted to health expenditure compared to other OECD countries. In 2002, Mexico spent 6.1% of its GDP on health, placing it among the countries with the lowest share in the OECD (Figure 1.7) and below some of the Latin American countries at a similar level of economic development, such as Argentina, Brazil, Chile and Costa Rica (Table 1.2). A similar ranking holds for health expenditure on a per capita basis (Figure 1.8). Health expenditure as a share of GDP increased in Mexico from 4.8% in 1990 to 6.1% in 2002. This increase in health spending was only slightly below the

Figure 1.7. **Health expenditure in OECD countries as a percentage of GDP, 2002**



1. 2001.
2. 2000.
3. 1997-2002.

Source: OECD (2004c), *OECD Health Data 2004*, 2nd edition, Paris.

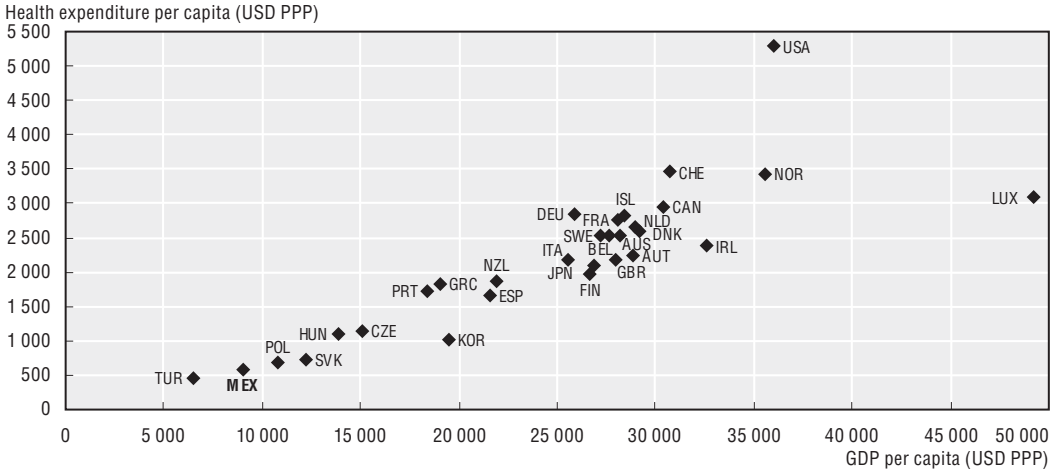
Table 1.2. **Income per capita and health expenditure as a share of GDP in selected Latin-American countries**

	GNP per capita, USD PPP[1]	Health expenditure as a share of GDP[2]
Mexico	8 540	6.1
Argentina	9 230	9.5
Brazil	7 250	7.6
Colombia	5 870	5.5
Costa Rica	8 260	7.2
Chile	9 180	7.0

1. Data refer to 2000.
2. Data refer to 2001.

Sources: 1) World Bank (2004c), *World Indicators*, Washington; 2) World Health Organisation (2000), *World Health Report*, Geneva. In 2001, Mexico reported 5.8% for "health expenditure as percentage of GDP" indicator, according to MoH (2002), *Salud: México 2001. Información para la rendición de cuentas*, 1st edition, México, D.F.

Figure 1.8. **Total health expenditure and GDP per capita, 2002**



Source: OECD (2004c), *OECD Health Data 2004*, 2nd edition, Paris.

OECD average increase from 7.2% to 8.6%. The share of federal government outlays that is spent on health was 12% in 2002[8] (Table 1.3).

1.3. Health coverage and health financing

Health coverage in Mexico is highly fragmented. The structure of health financing mirrors the numerous insurance schemes and the significant role of the private sector in the supply and financing of health-care services.

1.3.1. Fragmentation of health coverage across different institutions

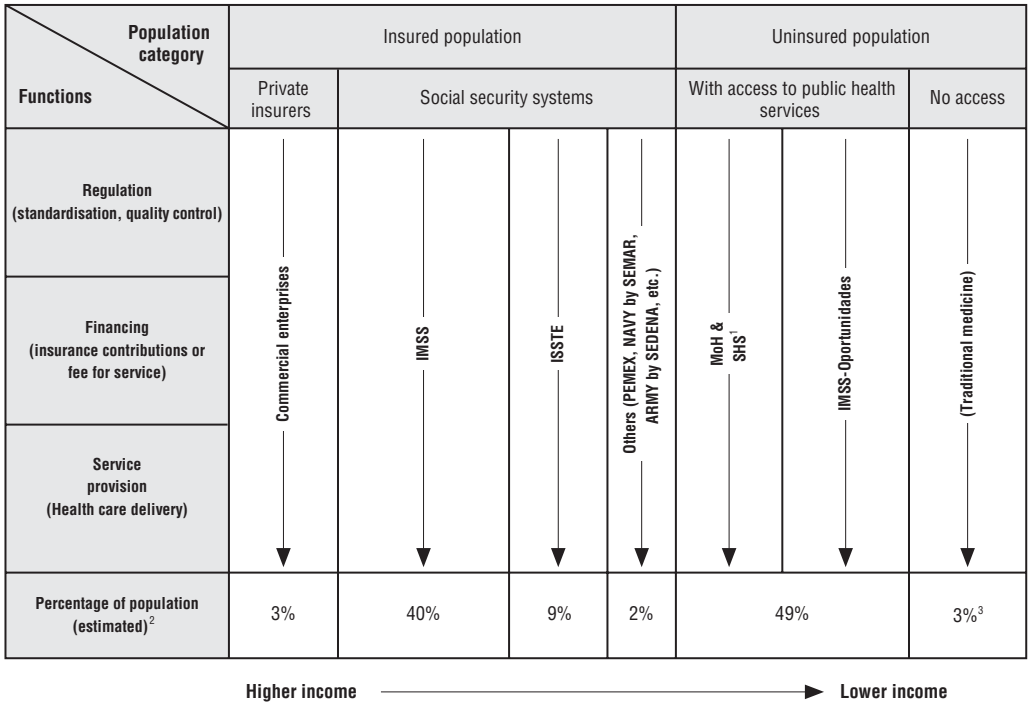
As shown in Figure 1.9, health-care coverage in Mexico is delivered by a range of different institutions. The terms "insured" and "uninsured" refer to a particular institutional setting in which individuals receive care.[9] The "insured" receive care for free from providers belonging to their social insurance institution. The so-called "uninsured population", although not covered by an insurance mechanism, can still access health-care

Table 1.3. **Share of public expenditure devoted to health in Mexico, 1995-2002**

	1995	1996	1997	1998	1999	2000	2001	2002
Total public expenditure, billion pesos	290.4	403.4	528.1	600.6	711.2	864.7	937.2	1 078.9
Percentage changes, in real terms	–15.6	6.3	11.2	–1.5	3.1	9.8	4.0	10.1
Percentage of total spent on health	14.0	12.9	13.4	14.7	15.5	14.1	14.5	12.3

Source: Secretaría de Hacienda y Crédito Público (2001 and 2002), *Cuenta de la Hacienda Pública Federal, 2001 and 2002*, Mexico.

Figure 1.9. **The vertically integrated nature of the Mexican health system**



Note: IMSS: Mexican Insitute of Social Security. ISSSTE: Insitute of Security and Social Services for Government Workers. MoH: Ministry of Health. IMSS-Oportunidades: Public health services for poor rural communities.

1. Includes State Health Services and Federal District Health Services.
2. Values do not necessarily add up to 100 as there is overlap between categories (privately insured are often covered by the social insurance system). For the insured population, the estimates are based on individuals with a right to social security coverage ("derechohabientes"), while for public health services estimates are based on those without such right. In all categories there is occasional recourse to private health insurance and more frequently use of private services financed out-of-pocket.
3. According to Hernández Ávila *et al.* (2001) the definition of no access relates to lack of geographical access to secondary-care facilities within a range of 25 km.

Source: Updated from OECD (1998), *Economic Survey: Mexico*, Paris.

services at markedly less than full-cost prices in publicly financed Ministry of Health and state health facilities. Despite open access to state health facilities to the entire population, a large fraction of the "uninsured" population, particularly those living in very poor and rural areas, face significant barriers to access to care and significant health-care expenses that are largely financed out-of-pocket (OOP). Several public programmes have been created over the years to facilitate access to health care for the uninsured population, most

of which still operate. Those programmes have considerably improved access to health care. Today, only a minor fraction of the population is both uninsured and does not have any access to health care, although problems of quality and adequacy of the care received in state health facilities persist.

Around half of the population is estimated to have access to health insurance through various social security (SS) systems (Box 1.2). These institutions provide mandatory health coverage to salaried employees working in the formal sector, *i.e.* those declared by their employers to the Mexican Institute of Social Security (IMSS) or other social security institutions. Social security coverage can also be obtained on a voluntary basis through the so-called "Seguro de Salud para la Familia" (SSF), a health insurance scheme for self-employed individuals set up by the IMSS, as well as through a system of voluntary affiliation (IVRO, see below). At present, only a limited number of individuals are covered under the SSF.

More recently, the Ministry of Health has launched a new reform to extend insurance coverage to those without access to social security. The Popular Health Insurance or Seguro Popular de Salud (SP) provides families with access to health insurance on a voluntary basis.[10] Finally, private health insurance exists, but it covers less than 3% of the population, often individuals already covered by the social security system.

All the schemes and programmes operating in the Mexican health system differ in terms of benefits covered, financing mechanisms, and target populations (Table 1.4), as well as expenditure per beneficiary (Table 1.5). The next paragraphs provide some additional descriptive information on these programmes.

Social security system (SS)

The Mexican social security system is compulsory for salaried workers in the formal sector, and provides health services and other benefits for beneficiaries and their dependants. Various funds operate, each covering different employment categories. These institutions are responsible for financing and providing health services to their enrolees, and operate as vertically integrated structures. Each of them employs salaried doctors, and own hospital facilities and clinics. The institutions also provide to their members a variety of additional benefits, such as sickness and maternity leave, old-age, disability, life insurance, severance and retirement, work-related injury and child care.[11]

The main social security organisations are IMSS and ISSSTE. IMSS is the largest institution and one of the main employers in Mexico.[12] IMSS provides social security to the majority of formally employed, salaried private-sector workers and their families. The second institution by size, ISSSTE, offers social security protection to government workers (mostly federal and some state employees).[13] Other smaller SS institutions serve employees of the navy (SEMAR), the National Defence Ministry (SEDENA), and the state-owned oil monopoly company (PEMEX). In Mexico City, the police, the federal district government and the Metro system have their own social insurance arrangements.

The official estimate of the number of insured in the total population is 52.5 million or 51% of the population. However, alternative estimates vary between 40% and 60% of the population, depending on the definition and the source used (Box 1.2). This relatively low percentage of coverage is a consequence of the Mexican labour-market structure. During the successive economic crises of the 1980s and 1990s, employment experienced a shift towards the informal sector which now includes around one quarter of the total number of workers – *i.e.* employers do not declare workers and thus are not paying their social

Box 1.2. **How many Mexicans have health-insurance coverage?**

There are various estimates of the number of individuals and families covered by Mexican social security institutions, and, as a consequence, on the number of uninsured individuals, including both estimates reported in administrative data and in population surveys.

While recognising that data may contain over or under estimates, this paper uses official estimates provided by the Ministry of Health, which distinguish between the "derechohabientes" and "non-derechohabientes" population.

1) Administrative data

The Boletín de información Estadística (MoH, 2004a, latest revision October 2004) reports three different estimates for population covered by social security institutions:

- The "derechohabientes" population includes individuals with a right to social security coverage, according to Ministry of Health estimates. This group was estimated at 52.5 million in 2002. The rest of the population, without access to social security coverage or "non-derechohabientes", was estimated at 50 million in 2002.
- The "población legal" or legal population includes individuals with social-security coverage according to social security institutions' own estimates. This group was estimated at 59 million in 2002.
- "Usuarios", or users, include people who have actually used the system, who tend to be lower than those with a right to use social security institutions. This group was estimated at 41 million in 2002.

	Derechohabientes/ no derechohabientes	Legal population	Users
IMSS	40 930 315	46 198 689	31 741 283
ISSSTE	9 128 551	10 303 539	6 962 864
Insured population (Social Security)	52 532 867	59 294 671	41 264 072
% of total	51.0%	57.0%	50.7%
Uninsured population	50 507 097	44 815 817	40 110 703
% of total	49.0%	43.0%	49.3%

Note: For the "derechohabientes" only an overall estimate is available, which is not broken down by institution. Coverage data for IMSS and ISSSTE have been calculated as follows: *i)* each institution reports data on the "legal population" they cover (including individuals paying contributions and an estimate of dependents); *ii)* the share of each institution in the total insured "legal population" has been derived; *iii)* this ratio was applied to the overall estimate of the "derechohabiente" population.

Source: MoH (2004a), *Boletín de Información Estadística*, Vol. I: Recursos y Servicios, No. 22, Secretaría de Salud 2002, Mexico (latest revision October 2004).

The main reason explaining differences between the number of "derechohabientes" and the "legal population" concerns the method for estimating the coverage of dependents. For example, IMSS does not have a roster of covered individuals, but only registers those actually paying a contribution (nearly 13 million people in September 2003) or using the service (32 million in September 2003). IMSS estimates the population they cover by applying a dependants' ratio to the number of contributing individuals. These data are considered to be overestimates, both because of the application of a high dependency ratio and because data may include some double counting, for example where more than one member of the household contributes to social security.

Box 1.2. **How many Mexicans have health-insurance coverage?** *(cont.)*

2) Survey data

There is an important discrepancy between administrative data and those reported in population surveys (table below), which include the National Health Survey (ENSA/2000); the National Survey of Employment and Social Security (ENSS/2000); and the National Survey of Household's Income and Expenditures (ENIGH/2000).

	Encuesta Nacional de Salud (2000)	Encuesta Nacional de Empleo y Seguridad Social (2000)	Encuesta Nacional de Ingreso y Gastos de Hogares (2000)
Insured population (Social Security)	39 350 622	40 559 977	9 933 498
% of total	40.8%	41.7%	42.3%
Uninsured population	57 142 979	56 783 872	13 551 254
% of total	59.2%	58.3%	57.7%

Note: The absolute numbers refer to the number of observations.
Source: World Bank (2004b).

After reviewing all administrative and survey coverage data, a World Bank study estimates the insured population at only 45%, with an uninsured population of 55% (World Bank, 2004b) and the CISS (2003) has presented similar results. In the light of this, adjustments in official data that reduce the share of the social security can be expected.

security contributions (although some of these individuals may be covered if they are dependants of someone who has social security cover) (INEGI, 2004). The informal sector is estimated to absorb about a third of the newly employed persons annually (OECD, 2004b).

The social security institutions are currently financed by a combination of employer and employee contributions and a transfer from the federal government. The financial reform undertaken by IMSS in 1995 (implemented as of mid-1997) is now approaching its steady state after a transition period of 10 years. The reform has substantially increased financing for health care through sickness and maternity benefits from the government (World Bank, 2004b).[14] In the case of ISSSTE, the government contributes in its capacity as employer, and the 9.5% (of earnings) contribution rate is split (70/30) between the employer and the employee. However, the ISSSTE still runs a large deficit (Chapter 2).

Health-care benefits covered under the SS system include all those services provided at each SS facility.[15] There is no comprehensive list or specific package of services covered, other than a generic entitlement to health-care coverage as indicated in the 1984 General Health Law and the social security laws governing IMSS and ISSSTE. Treatments offered by SS schemes include acute treatment and outpatient care in hospitals and ambulatory clinics, providing care for pregnancy and childbirth, physicians and specialists services, and the supply of most prescription pharmaceuticals included in the government's positive list. Nevertheless, the type and scope of services received by enrolees depend on resource availability at each institution. There is no cost-sharing.

Table 1.4. **Public sector health insurance schemes and other programmes to promote access to care in Mexico**

Scheme/Programme	Year	Type of scheme	Groups targeted	Eligibility	Benefit package	Financing method	Facilities used	Cost sharing
Insured population – Social Security								
IMSS	Since 1943.	Social security schemes, with integrated providers.	All private salaried formal sector workers (*i.e.,* excluding self-employed workers, informal sector workers and unemployed people).	• Contributors (workers). • Family members: spouse; dependent parents; dependent children (up to 16 in IMSS, to 18 in other schemes; students up to 25 if in full-education; disabled children, with no age limits).	In-kind health benefits (*i.e.* health care services). The Social Security Law (SSL) sets broad benefit provisions, including preventive and curative services; primary, secondary and simple tertiary care. No exclusions for pre-existing conditions or waiting periods set in the SSL. Available resources determine services actually on offer. Cash benefits are also provided when the worker is unable to work due to disease or maternity. Regulatory frameworks for each institution establish the requirements, duration and other conditions.	IMSS: Tripartite contribution:[1] *i)* Federal: 13.9% of the 1997 minimum wage, updated by inflation. (In January 2004 about 14.5% of the min. wage). *ii)* Employer: 13.9% of minimum wage in 1997. The percentage will increase up to 20.4% in 2007. *iii)* Employee/Employer Varies depending on wage.[2] The contribution will decrease annually, reaching 1.1% for employers and 0.4% for employee in 2007.	Each scheme owns and operates clinics and hospitals. In case of emergencies, patients can be treated in other institutions' facilities.	No cost-sharing is required according to the social security laws and rules governing these institutions.
ISSSTE	Since 1960.	Social security schemes, with integrated providers.	All government workers (Federal and some State employees).	See above		ISSSTE: Tripartite contribution: *i)* Employer (usually the federal government; this contribution is in its role as employer): 6.75% of basic salary. *ii)* Employees: 2.75% of basic salary.	See above	See above
PEMEX, Semar, Sedena	Established during the 1940s-1950s.	Social security schemes, with integrated providers.	Employees of the military, navy and Petroleum of Mexico (State Company) (PEMEX).	See above				
Uninsured population – Public voluntary insurance								
Seguro de Salud para la Familia (SSF)	Since 1995.	Voluntary public health insurance operated by IMSS.	Uninsured individuals willing to purchase health insurance cover voluntarily.	Subject to payment of SSF premiums.	Same as IMSS benefit package. Some exclusion for pre-existing conditions and waiting periods apply according to the SSL.	Since the 2001 SSL: *i)* Federal: 13.9% of the minimum wage as observed in 1997, updated by inflation. *ii)* Family members: premiums set by age groups, adjusted yearly by inflation.	IMSS owned and operated facilities.	None
Seguro Popular de Salud (SP) (comprised in the SPSS)[3]	Operated as a pilot programme; 2001-2003. Started operating under a more comprehensive financial framework in 1 January 2004, following April 2003 reforms to the General Health Law.	Voluntary public health insurance coordinated by the Ministry of Health.	Uninsured individuals excluded from social health security, which are willing to purchase voluntary public health insurance.	Subject to an annual fee per family affiliated according to income level.	Essential package of primary and secondary interventions and certain high-cost tertiary care interventions.	Tripartite contribution: *i)* Social Quota (Federal government). *ii)* Federal + State solidarity contribution. *iii)* Family contribution related to income level.	State Health Services facilities and other MoH-coordinated federal facilities such as NIH. The reform allows for the possibility to use other providers from the National Health System on the basis of service provision agreements (*e.g.* SS or the private sector).	None (2004). The law allows for the possibility to implement cost sharing.

Table 1.4. **Public sector health insurance schemes and other programmes to promote access to care in Mexico** *(cont.)*

Scheme/Programme	Year	Type of scheme	Groups targeted	Eligibility	Benefit package	Financing method	Facilities used	Cost sharing
Uninsured population – Government schemes to ensure access to care								
State Health Services (SHS) and Ministry of Health (MoH) facilities	Since 1943.	Public integrated system.	Specifically aimed at furnishing access to care for those without social insurance cover.	MoH/SHS facilities are open to all the population, with user fees.	The General Health Law of 1984 sets broad benefits (primary, secondary and simple tertiary care; preventive and curative services). Available resources determine actual available services.	*i)* Federal budget: Ramo 12 (MoH); Ramo 33 (FASSA, Federal health allocation to states) *ii)* State own-resources: Share of Ramo 28 and any resources from State own-revenues *iii)* Patient user charges (for those not enrolled in the SP).	SHS and other MoH facilities (clinics, hospitals, high-tech specialised tertiary care facilities such as the National Institutes of Health).	The Ministry of Finance sets indicative rates of cost sharing that depend on household income. Rates actually applied are set by each state or facilities and can vary among states and hospitals.
IMSS-Oportunidades	Since 1979 (previously called IMSS-Solidaridad).	Geographically targeted programme providing basic health services to marginalised populations, administered by IMSS but financed by the federal government.	Marginalised groups residing in rural areas with no access to any kind of basic health services.	Geographically based according to the level of margination. All members of communities where IMSS- Oportunidades exist (17 States) are eligible to care.	Outpatient and inpatient care; medicines, supplied in any of the IMSS Oportunidades facilities.	Budget allocations from the federal government.	IMSS-Oportunidades facilities (3 540 first level facilities and 69 second level).	None.
PAC	Operated between 1996 and 2003. Resources used for this programme have been decentralised to the States.	Geographically targeted programme, financing access to a basic package, administered by the SHS, funded by the Federal government.	Residents in rural and highly marginalised areas.	Geographically based. All members of communities where PAC operated were eligible to care.	Basic package including 13 interventions.	Budget allocations from the Treasury and World Bank support until 2003.	State Health Services facilities.	None.
Oportunidades	Since 1997 (previously called Progresa).	Means-tested poverty alleviation programme providing income support and social services, financed and administered by SEDESOL. A health component is comprised within the broad anti-poverty strategy.	Individuals in extreme poverty.	Families in highly marginalised areas identified through a means-tested process. These people are given an identification card.	The health component offers free access to the same basic package of interventions as PAC; it also provides nutritional supplements as well as health education.	It is financed by the Federal Government. Resources for the Oportunidades health component are channelled via Ramo 12 (MoH budget).	IMSS-Oportunidades and State Health Services facilities.	None.

1. These contribution levels were established in the 1995 reform to the Social Security Law.
2. IMSS contribution rates vary as follow: If contribution base salary < 3 minimum wage: Employees: Zero; If contribution base salary > 3 minimum wage: Employees: 2% x (contribution base salary 3 minimum wage); Employers: 6% x (contribution base salary 3 minimum wage).
3. See Chapter 3 for a more comprehensive description of the SP and the Sistema de Protección Social en Salud (SPSS) reform.

Source: OECD, based on official sources and other reviewed literature.

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Table 1.5. **Covered population and expenditure per covered person in Mexico, 2002**

	Expenditure by different programmes (current pesos, '000)	Coverage[1]	Per capita expenditure (current pesos)
Ramo 12[2]	20 127 347	50 507 097	399
Ramo 33	27 411 293	50 507 097	543
States Health Expenditure[3]	10 000 370	50 507 097	198
Total Federal and State	**57 539 010**	**50 507 097**	**1 139**
IMSS	91 020 087	40 930 315	2 224
ISSSTE	15 101 493	9 128 315	1 654
PEMEX	5 671 721	599 128	9 467
Total Social Security[4]	**111 793 301**	**52 532 867**	**2 128**
Total public sector	**169 332 311**	**103 039 964**	**1 643**

1. Figures for coverage refer to whether a person has or not the right to use social security services ("derechohabiente"), as estimated by CONAPO. In the case of federal and state health services, the number refers to those without the right to social security coverage. Coverage data for IMSS, ISSSTE and PEMEX have been calculated as follows: *i)* each institution reports data on the "potential population" they cover (including individuals paying contributions and an estimate of dependents); *ii)* the share of each institution in the total "potential population" has been derived; *iii)* this ratio was applied to the overall estimate of the "derechohabiente" population.
2. Expenditure on Ramo 12 includes: Central Administrative Units (3 509 million pesos), States (2 925 million pesos), Decentralised Organisms (10 581 million pesos including IMSS-Oportunidades with 4 191 million pesos), Deconcentrated Organs (2 846 million pesos), Seguro Popular (162 million pesos), Cruzada por la Calidad de los Servicios de Salud (20 million pesos) and Comunidades Saludables (81 million pesos). PAC and Oportunidades are part of "Programa Nacional de Salud" financed by Ramo 12 for a total amount of 1 811 million pesos for Oportunidades and 1 056 million pesos for PAC.
3. Includes state contributions from revenue transfers (Ramo 28) and state's own resources.
4. Includes other minor social security institutions.

Source: MoH (2004a), *Boletín de Información Estadística*, Secretaría de Salud 2002, Mexico.

Voluntary health insurance operated by IMSS: Seguro de Salud para la Familia (SSF) and Incorporación Voluntaria al Régimen Ordinario (IVRO)

Since the social security reform implemented in 1997, IMSS has offered a voluntary health-care benefits scheme targeted on self-employed individuals and other workers in the informal sector,[16] the Family Health Insurance (SSF). The coverage offered by the SSF is the same available to IMSS enrolees through the Sickness and Maternity Benefits, although, in the case of the SSF, insurance cover for affiliated individuals is subject to waiting times for certain services and exclusions for pre-existing conditions. The contribution paid on the SSF is shared between the government and the affiliates. In practice, voluntary affiliation has remained low (around 360 000 individuals in 2003).[17] To minimise adverse selection problems encountered as a result of the application of flat-rate premiums per family and the high cost of enrolling in the programme, a change in the contribution rates was implemented in 2001 and premiums are now adjusted by the number and age of family members. The average age of individual subscribers to the programme (39-40) remains considerably older than the global IMSS system (29-30).

Individuals working in small businesses or independent workers (*e.g.*, family businesses, artisans, domestic workers, etc.) can affiliate to the compulsory system of IMSS on a voluntary basis (Incorporación Voluntaria al Régimen Obligatorio, IVRO), through an agreement established with IMSS.[18] Individuals insured through the IVRO scheme pay both the employer and employee contribution, for an equivalent of the federal district minimum salary. Benefits covered include sickness and maternity, disability and life, and old-age pensions. However, some treatments and medical goods – such as dental, optical, fertility-related treatments, and

preventative medical examinations – are excluded from the cover. Pre-existing conditions are not insured and waiting periods apply for certain conditions.

Access to publicly-financed care outside social security

Ministry of Health (MoH) and State Health Services (SHS) providers. The Ministry of Health and the State Health Services have responsibility for providing medical care for those outside the social security system, in general, subject to the payment of income-related user charges.[19] Individuals covered under the social security system also have access to SHS facilities. While many of those under the social security system tend not to utilise MoH and SHS facilities, there is evidence that these individuals also utilise services from other facilities.[20] The population not covered by social security is a heterogeneous group, including people from rural areas and marginal urban zones. A good portion of this population still encounters some access difficulties because of problems of distance and lack of medical supplies (Chapter 2).

Other programmes to improve access to care for the uninsured. A range of programmes, aimed at improving access to care for the uninsured population and providing them with at least basic services, have been implemented over recent years (Table 1.4):[21]

- IMSS-Oportunidades is administered by the IMSS but is mainly financed by the federal government. It provides ambulatory care, hospital services and medicines to small communities, in areas where other facilities are not available. Individuals living in those areas are eligible to receive health services free of charge and do not have to demonstrate that they lack other forms of access to care. In 2002, this programme had a budget of MXN 4.2 billion (2.4% of total public health expenditure), and was estimated to serve a population of 11 million people. Due to the lack of a roster of covered individuals, a large number of individuals (estimated at over a third of users) who used services offered by IMSS-Oportunidades are insured by IMSS (World Bank, 2004b).
- PAC (Programa de Ampliación de Cobertura or Coverage Extension Programme) was established in 1996 to extend access for the rural and indigenous population, and operated until 2003. It financed access to a basic package of health services and access to ambulatory surgery and rehabilitation.[22] PAC also financed the operation of mobile units transporting doctors and nurses to remote areas. It was financed by the federal government with contributions by the states, and received support from the World Bank. In 2003, the financial resources for this programme were transferred to the states as part of their federal allocations.
- Oportunidades (built upon a previously existing programme: Progresa) is a poverty alleviation programme that provides conditional income support and social and health services to individuals in extreme poverty. The programme, which is administered by the Ministry of Social Development (SEDESOL) aims at improving the human capital of the poor. Its health component offers access to the same set of basic services included in the PAC, which are provided through State Health Services or IMSS-Oportunidades facilities.

There is some overlap in these programmes, both for services covered and eligible population. Since only Oportunidades has a register of eligible individuals, there is also the potential for targeting errors, for example individuals already covered by the social security institution utilise the services offered by these programmes.

System for Social Protection in Health (SPSS) and the Popular Health Insurance (SP). The 2003 reform establishing the System for Social Protection in Health (Sistema de

Protección Social en Salud, SPSS), institutionalised an existing pilot programme (Seguro Popular de Salud or Popular Health Insurance, SP) with effect from the beginning of 2004 (Chapter 3). This voluntary scheme aims at providing access to health insurance to those without social security protection. At the end of December 2004 it covered 1.5 million families. Coverage under the SP will expand progressively and is expected to be offered to all of the uninsured population by 2010. The SP is financed through tripartite contributions from the federal government, the states, and a small income-based family contribution. Services covered include an essential package of primary and secondary interventions, and selected high-cost tertiary-level interventions, which will now be provided free of charge at the point of delivery (although cost sharing could be implemented for interventions that might develop moral-hazard-induced over-utilisation). Prescription drugs are also covered.

Private health insurance

Around 3% of the Mexican population is estimated to have private health insurance cover, about half of which is through group plans sponsored by employers, who can deduct premiums against taxable income.[23] Purchasers of private health insurance are mainly drawn from high-income groups. The market is highly concentrated, with the two largest companies representing 50% of the market. The two main types of policies offered in the market are catastrophic medical insurance policies (Gastos Médicos Mayores, GMM) and HMO-type policies offered by Specialised Health Insurance Institutions (ISES) (Box 1.3).

A part of the ISES group policies is represented by administrative-service-only plans, whereby employers assume the insurance risk and the ISES act as administrators of claim payments and premium collection. This type of policies includes banks that exercised the so-called "reversion de cuotas", a system within the Social Security Law, whereby the company gets back part of its health insurance contribution to IMSS. This option formalised existing arrangements within the banking sector and in some industries in the north of the country, which provided their own insurance coverage for their employees before IMSS was established, in exchange for a 71.5% reduction in health-related contributions paid to IMSS. However, this option accounts for only about 2% of IMSS members.[24]

The Mexican private health insurance market remains a very small player in the health system which is not likely to represent a significant proportion of total health expenditure. High premiums of private policies constitute an important financial barrier for the large majority of the Mexican population.

1.3.2. Financing health expenditure

At 44.9% of total health expenditure in 2002, Mexico has the same share of funding from public sources[25] as the United States and the lowest among OECD countries. While the share rose from 40.4% in 1990, it remains well below the OECD average of 72% in 2002 (Table 1.6). Private financing is almost entirely in the form of out-of-pocket payments, as only 3% of total expenditure on health is funded through private health insurance. This contrasts with the United States, where private-health-insurance arrangements account for 66% of total private health financing and 36% of total health financing. Cost sharing in the public sector make up only a minor part of out-of-pocket expenditures, as only MoH and state-level facilities apply income-related co-payments or user-charges.

The share of total health expenditure funded publicly has increased slightly since 1990, particularly at the beginning and at the end of the 1990s (Figure 1.10). Private expenditure has grown faster since 2000.

Box 1.3. **Private health insurance policies in Mexico**

Gastos Médicos Mayores (GMM)

"Catastrophic health expenditure" plans are indemnity insurance policies covering hospital expenses and other defined diagnoses. The premiums can vary by age and gender of the insured, and, in the case of company policies, premiums also take into account previous health experience of the group. A typical annual premium for a family with two children is USD 3 000 if local providers are used, or USD 4 000 if US providers are also included in the network. GMMs involve a large deductible that can be waived or reduced if individuals choose to receive services from a network of providers (hospitals and doctors) with whom the insurer has a contract. In this case, insurers operate in a manner similar to PPOs[1] in the United States. Generally, GMM plans are offered by general insurers that do not have a specialization in health insurance. Insurers make direct reimbursement to hospitals for the cost of care provided to insured.

Products by Specialised Health Insurance Institutions (ISES)

Integrated, pre-paid managed care products are offered by ISES. Prior to 1999, institutions providing health services on a prepaid basis existed. However, these stood outside the legal framework for insurance regulation. Some of these firms experienced bankruptcy, raising consumer protection concerns. In 1999, the General Law of Insurance Institutions and Mutual Societies was modified to accommodate these concerns. The reform required institutions that provide prepaid health insurance to be legally established as separate specialised entities (ISES) (with the exception of catastrophic health insurance products). ISES are regulated by the National Commission of Insurance and Guarantees (CNSF), which is responsible for ensuring compliance with solvency and capital adequacy requirements, and adequate risk management.

ISES operate in a manner that share elements with HMOs[2] in the United States, offering full health coverage with provision through contracting with private providers. ISES can provide preventive and health promotion services, review utilisation of the health services provided and manage the healthcare delivery services available to their members, including referrals, pre-utilisation and protocols (OECD, 2004d). Doctors within the network need to satisfy certain quality and comfort criteria. ISES premiums can amount up to three times as much as GMM premiums. The market for ISES is not large. While in 2004 twelve ISES had authorisation to operate in Mexico, they covered only 2.9% of the privately insured population in 2002.

1. A Preferred Provider Organisation (PPO) is a type of medical plan in which coverage is provided to participants through a network of selected health-care providers (such as hospitals and physicians). The enrolees may go outside the network, but then pay a greater percentage of the cost of coverage than within the network (National Centre for Health Statistics: *www.cdc.gov/nchs/datawh/nchsdefs/list.htm*).
2. A Health Maintenance Organisation (HMO) is a health-care system that assumes or shares both the financial risks and the delivery risks associated with providing comprehensive medical services to insurees, usually in return for a fixed, prepaid fee. (National Center for Health Statistics: *www.cdc.gov/nchs/datawh/nchsdefs/list.htm*).

Social security organisations account for 66% of public expenditure, the remainder being spent by federal and state authorities (Figure 1.11). Social security institutions also receive a large contribution from general tax funds from the federal government. For example, federal government allocations to IMSS in 2002, accounted for 30% of total health-related IMSS revenues.[26] Within the public sector, expenditure by federal and state governments has increased relative to the social security sector, particularly since the beginning of the current decade.

Table 1.6. **Public funding of total health expenditure in OECD countries, 1970-2002**

	Public share in health expenditure (%)				
	1970	1980	1990	2000	2002
Australia	62.7	63	62.5	68.7	
Austria	63	68.8	73.5	69.6	69.9
Belgium	n.a.	n.a.	n.a.	70.5	71.2
Canada	69.9	75.6	74.5	70.4	69.9
Czech Republic	96.6	96.8	97.4	91.4	91.4
Denmark	n.a.	87.8	82.7	82.5	82.9
Finland	73.8	79	80.9	75.1	75.7
France	75.5	80.1	76.6	75.8	76
Germany	72.8	78.7	76.2	78.8	78.5
Greece	42.6	55.6	53.7	53.9	52.9
Hungary	n.a.	n.a.	n.a.	70.7	70.2
Iceland	66.2	88.2	86.6	83.6	84
Ireland	81.7	81.6	71.9	73.3	75.2
Italy	n.a.	n.a.	79.3	73.7	75.6
Japan	69.8	71.3	77.6	81.3	
Korea	n.a.	n.a.	37.4	47.6	52.1
Luxembourg	88.9	92.8	93.1	89.7	85.4
Mexico	**n.a.**	**n.a.**	**40.4**	**46.5**	**44.9**
Netherlands	n.a	69.4	67.1	n.a	n.a
New Zealand	80.3	88	82.4	78	77.9
Norway	91.6	85.1	82.8	85	83.5
Poland	n.a.	n.a.	91.7	70	72.4
Portugal	59	64.3	65.5	69.5	70.5
Slovak Republic	n.a.	n.a.	n.a	89.4	89.1
Spain	65.4	79.9	78.7	71.5	71.4
Sweden	86	92.5	89.9	84.9	85.3
Switzerland	n.a.	n.a.	52.4	55.6	57.9
Turkey	37.3	27.3	61	62.9	n.a
United Kingdom	87	89.4	83.6	80.9	83.4
United States	36.4	41.5	39.6	44.4	44.9
Average[1]	70.3	75.3	72.6	72.2	72.8

n.a.: not available.

1. The average comprises all available countries with a fairly complete data throughout the period.

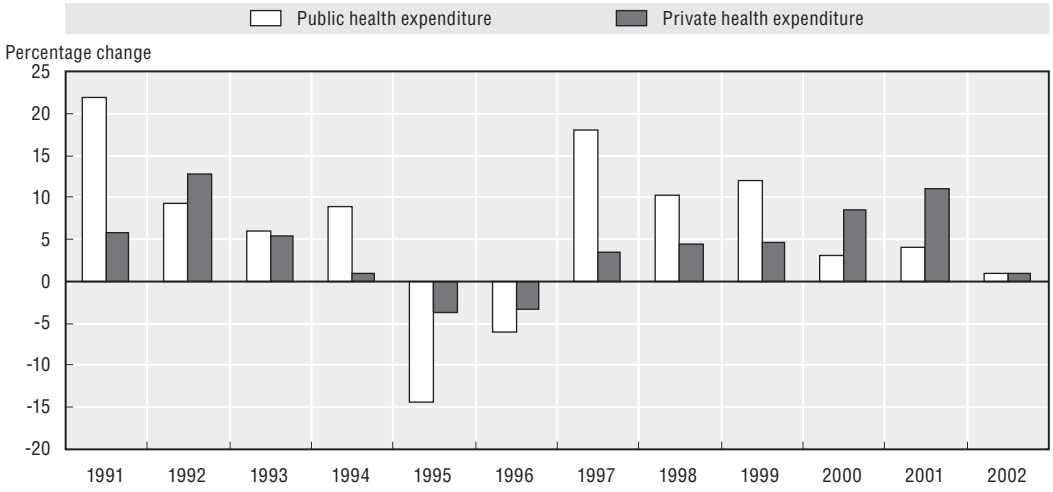
Source: OECD (2004c), *OECD Health Data 2004*, 2nd edition, Paris.

In addition to contributions to social security institutions, federal revenues are allocated to the health sector through various channels (Figure 1.12 and Box 1.4).

1.4. Service provision

Each of the institutions operating in the Mexican health system owns and runs their facilities, and employs their own staff (Table 1.7). While the federal MoH still finances and controls a series of third-level providers – the National Health Institutes (NHI) and three federal general hospitals in Mexico City – responsibility for the delivery of most health services by the MoH has been decentralised to the state-level facilities (SHS). The MoH also maintains responsibility for public health initiatives, although each of the SS institutions and the states are implementing illness-prevention and health-promotion programmes for the population they serve. The Mexican private sector is heterogeneous – in terms of size of care institutions and of quality – and weakly regulated.

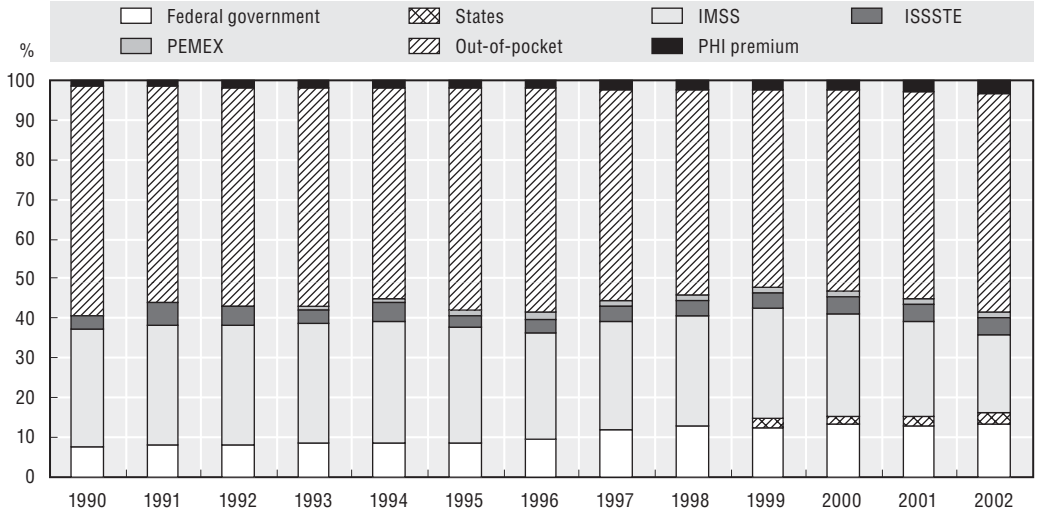
Figure 1.10. **Year-to-year growth rate in public and private health expenditure in Mexico, 1991-2002**



Notes: Data for public expenditure include MoH (Ramo 12) and SHS (Ramo 33), IMSS, ISSSTE, PEMEX (since 1993) and States Health Expenditure. Data are deflated using GDP deflator from OECD (2004a), *Analytical Data Base*, Paris.

Source: MoH (2004a), *Boletín de Información Estadística*, Secretaría de Salud 2002, Mexico.

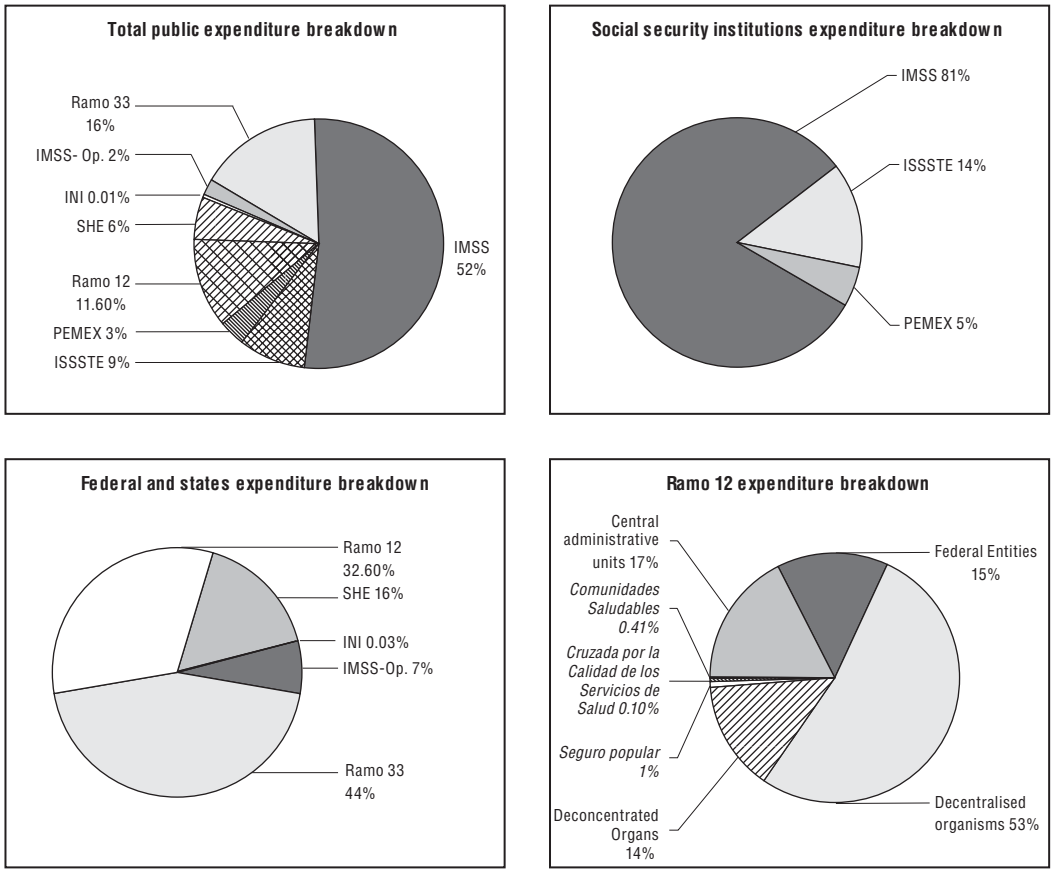
Figure 1.11. **Evolution of Mexican health expenditure by source of financing, 1990-2002**



Notes: Federal government figures include Ramo 12 from 1990 to 1997 and both Ramo 12 and Ramo 33 since 1998. PEMEX expenditure is included from 1993, for all states except: Aguascalientes, Baja California, Baja California Sur, Coahuila, Colima, Durango, Guerrero, Michoacán, Morelos, Nayarit, Querétaro, Quintana Roo, Sonora, Tlaxcala, Yucatán and Zacatecas. Private expenditure in 2002 includes cost sharing.

Source: MoH (2004a), *Boletín de Información Estadística*, Secretaría de Salud 2002, Mexico; INEGI (2004a), *Sistema de Cuentas Nacionales de México, http://dgcnesyp.inegi.gob.mx/cgi-win/bdi.exe*; Asociación Mexicana de Instituciones de Seguros A.C. AMIS (2004) for data on private health insurance; Secretaría de Hacienda y Crédito Público (2000), *Cuenta de Hacienda Pública*, for Ramo 33.

Figure 1.12. **Breakdown of public health expenditure in Mexico by institution, 2002**



Note: Public expenditure for the uninsured population (without access to social security services) comprises Ministry of Health (Ramo 12), federal allocations to states (Ramo 33) and state own contributions, States Health Expenditure (SHE), services of the Instituto Nacional Indigenista (for the indigenous population) and IMSS-Oportunidades (for the rural poor population). Social security institutions include IMSS (Mexican Social Security Insitute), ISSSTE (Social Security Institute for Civil Servants) and PEMEX.

Source: MoH (2004a), *Boletín de Información Estadística*, Secretaría de Salud 2002, Mexico.

Both the social security system and MoH and SHS facilities provide care at primary, secondary and tertiary levels. The social security institutions have slightly higher availability of doctors, nurses and hospital beds than the government sector, both in absolute numbers (Figure 1.13) and when compared to the population they serve (Table 1.7). Tertiary-level and highly-specialised institutes of the MoH and SHS however, are primarily funded through the federal government, grants and cost sharing, while the SS system finances their own tertiary-level highly specialised hospitals. The NHI operate as autonomous institutions within the public sector. There is limited overlap across different institutions, in terms of the population covered and served. Patients tend to access facilities belonging to the institution from which they draw their insurance status, although there is evidence from the 2000 National Health Survey (Encuesta Nacional de Salud 2000) that patients also use providers from other institutions and from the private sector.[27]

Box 1.4. **Financing of health at the federal and state levels**

Financing of health at the federal level:

MoH [Budget appropriation line (Ramo) 12]

Ramo 12 includes the Ministry of Health budget, the health component of Oportunidades, resources for public health programmes and some resources for the Seguro Popular de Salud, the National Health Institutes and other large hospitals run by the federal government which have not been decentralised to the federal district. It also used to include IMSS-Oportunidades, but this is now transferred directly to the IMSS by the Ministry of Finance and Public Debt. There are no earmarked taxes, such as, for example, tobacco taxation, although a small contribution by the tobacco industry for catastrophic health expenditures was negotiated for the 2004-2006 period.

Financing of health at the state level:

Federal earmarked grants ("aportaciones federales")

The federal government makes an earmarked health allocation to the states via the "Fondo de Aportaciones para los Servicios de Salud" (FASSA) which lies within Budget line (*Ramo*) 33. The amount allocated to each state is estimated by the Ministry of Finance and Public Debt (Secretaría de Hacienda y Crédito Publico, SHCP) under the terms established in the fiscal co-ordination law. Global budgets for FASSA are approved by Congress every year. Only a small part of the allocation to individual states is based on state needs. Historical budgeting – based on existing personnel and operational costs – and some investment mainly determine the size of allocation to states.

Revenue sharing transfers ("participaciones federales")

The federal government makes a block grant allocation to states, representing their "fair share" of resources collected through the fiscal general revenues [*Budget line (Ramo) 28*].* This revenue-sharing arrangement allocates funds to states on the basis of a complex formula that includes both per capita and state-level fiscal capacity considerations. States are free to decide how to spend these resources according to their needs. While the amount of financial resources actually devoted to health under Ramo 28 is, thus, a discretionary state decision, it remains a minor component of overall health-system financing. State spending on health (Ramo 28 plus allocations to health from the states' own resources, described below) accounts for 16% of state and federal health expenditure for the uninsured in 2002 (see Figure 1.12).

States' own resources

While most state health-related revenues are received via the two budget lines just indicated, states can also raise their own revenues (via taxation, charges for services or use of resources) and can also allocate their resources from revenue sharing to financing health activities. The capacity to generate fiscal revenues from their areas of tax competence is weak for most states. States' resources also include the revenues from user charges levied at the point of health-service delivery. Changes to the tax regime in 2002 and 2003 have created more room for states to impose additional taxes, but in practice few states have used the options (for more details see OECD, 2004b).

* State governments transferred taxing power to the federal level in the early 1980s in return for a share of the revenues.

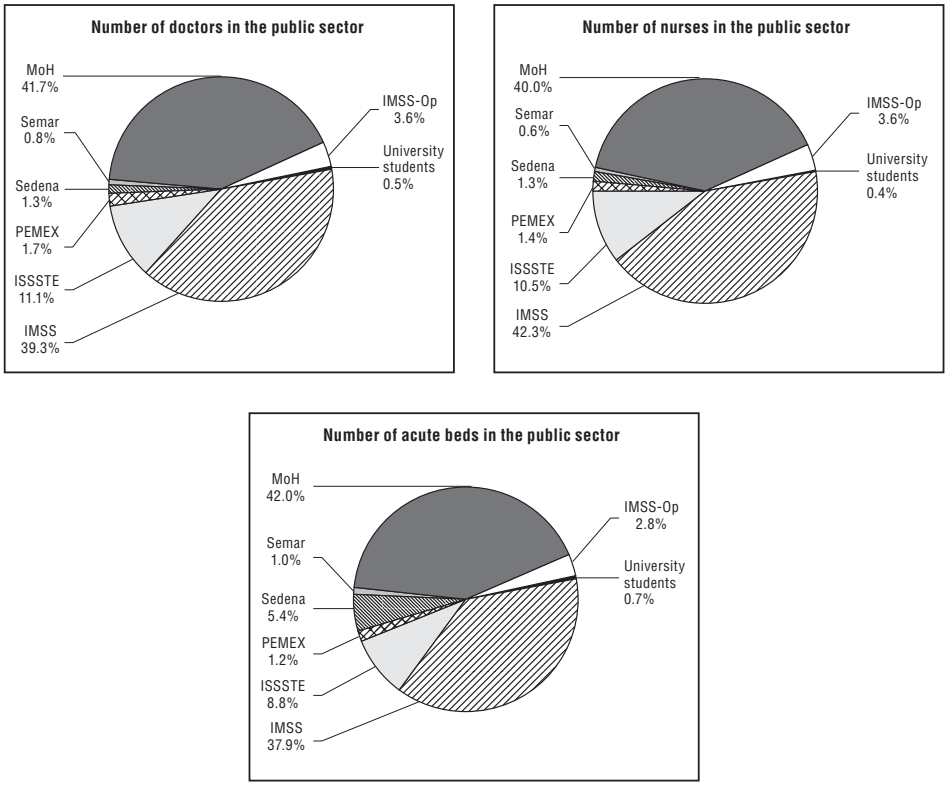
Table 1.7. **Health resources in the Mexican health-care system**

	Doctors[1]	Nurses	Beds[2]	Hospitals
Total	184 587	223 461	109 752	4 048
Total public sector	140 235	190 255	76 653	993
Total private sector	44 352	33 206	33 099	3 055
Total per 1 000 population[3]	1.8	2.2	1.1	
Breakdown of public sector:				
Population with social security	76 037	106 539	41 737	464
IMSS	55 176	80 520	29 039	262
ISSSTE	15 524	19 887	6 778	105
PEMEX	2 417	2 685	958	23
Sedena	1 845	2 388	4 174	42
Semar	1 075	1 059	788	32
Total per 1 000 population	1.4	2.0	0.8	
Population without social security	64 198	83 716	34 916	529
MoH	58 513	76 137	32 207	454
IMSS-Op	5 029	6 813	2 181	69
University students	656	766	528	6
Total per 1 000 population	1.3	1.7	0.7	

1. Doctors include all physicians: generalists, specialists and dentists.
2. Only acute care beds.
3. Population data refer to 2002: the total population was 103 039 964 (projections from CONAPO); the total population insured by social security was 52 532 867 (reported by MoH, 2004a); total uninsured population was 50 507 097.

Source: MoH (2004a), *Boletín de Información Estadística*, Secretaría de Salud 2002, Mexico (revised October 2004)

Figure 1.13. **Health resources in the Mexican public sector**



Note: Doctors include all physicians: generalists, specialists, odontologist.

Source: MoH (2004a), *Boletín de Información Estadística*, Secretaría de Salud 2002, Mexico.

Table 1.8. **Indicators of supply in OECD countries**

	Total health-care employment[1]	Practising physicians[1]	Practising nurses[1]	Acute-care beds[1]	Computed tomography scanners[2]	Magnetic resonance imaging units[2]
Australia	34.5	2.5	10.4	3.7	n.a.	4.7
Austria	n.a.	3.3	9.3	6.1	27.3	13.4
Belgium	n.a.	3.9	5.6	4.6	n.a.	n.a.
Canada	38.3	2.1	9.4	3.2	9.7	4.2
Czech Republic	25.0	3.5	9.4	6.5	12.1	2.2
Denmark	27.7	3.3	9.7	3.4	13.8	8.6
Finland	47.8	3.1	9.0	2.3	13.3	12.5
France	30.8	3.3	7.2	4.0		2.7
Germany	45.9	3.3	9.9	n.a.	13.3	5.5
Greece	15.3	4.5	4.0	4.0	17.7	2.4
Hungary	n.a.	3.2	8.5	5.9	6.8	2.5
Iceland	45.4	3.6	14.0	n.a.	20.9	17.4
Ireland	30.9	2.4	15.3	3.0	n.a.	n.a.
Italy	n.a.	4.4	5.4	4.6	23.0	10.4
Japan	n.a.	2.0	8.2	n.a.	92.6	35.3
Korea	n.a.	1.5	1.7	5.7	30.9	7.9
Luxembourg	13.0	2.6	10.8	5.8	24.7	4.5
Mexico	**6.7**	**1.5**	**2.2**	**1.0**	**2.6**	**1.1**
Netherlands	29.1	3.1	12.8	3.3	n.a.	n.a.
New Zealand	n.a.	2.1	9.4	n.a.	11.2	n.a.
Norway	n.a.	3.0	10.4	3.1	n.a.	n.a.
Poland	n.a.	2.3	4.8	4.6	n.a.	n.a.
Portugal	13.6	3.2	3.8	3.2	n.a.	n.a.
Slovak Republic	21.1	3.6	7.1	5.5	10.6	2.0
Spain	17.0	2.9	7.1	2.8	12.8	6.2
Sweden	n.a.	3.0	8.8	2.4	14.2	7.9
Switzerland	59.3	3.6	10.7	3.9	18.0	14.1
Turkey	n.a.	1.3	1.7	2.1	7.5	3.0
United Kingdom	31.9	2.1	9.2	3.9	5.8	4.0
United States	37.0	2.4	7.9	2.9	12.8	8.2
Average[3]	31.3	2.9	8.3	4.0	19.0	8.2
Standard deviation	12.9	0.8	3.2	1.3	18.2	7.5

1. Per 1 000 population.
2. Per million population.
3. The average and standard deviation include OECD countries whose data are available, excluding Mexico.

Source: OECD (2004c), *OECD Health Data 2004*, 2nd edition, Paris.

The resources allocated to health-care supply are low in Mexico by OECD standards (Table 1.8). In virtually all dimensions for which data are available, Mexico lies well below-average. This is particularly the case for hospital beds and number of nurses where the level relative to the population is around one quarter the OECD average. However, physicians per head, while half the OECD average, are the same as Korea and three quarters of the level in the United Kingdom and Japan.

1.4.1. Decentralisation of health service provision

Provision of health services by the MoH was decentralised in two stages: the first in the 1980s and the second in the 1990s (Box 1.5). The decentralisation process was in response to a number of perceived problems with the existing arrangements: a

Box 1.5. **The two phases of decentralisation of the Mexican health system in the 1980s and 1990s**

The decentralisation reform started in the mid-1980s. However, the process was introduced in the midst of a debt-driven financial crisis and widespread spending cuts. Resources channelled to the states fell in real terms and, strong central controls were maintained to cap spending (Merino, 2003). The states with greater administrative capacity and resources were the most successful in implementing the decentralisation process, as this allowed them to take on a greater share of spending from their own resources. Lack of administrative capacity in many states, reluctance by the centre to relinquish control and public concern over the quality of care for the poor led to the interruption of the process in 1988. By that time, responsibility had been shifted only to 14 states most of which tended to have both higher-than-average per capita incomes and greater financing capacity of their own (Tlaxcala, Nuevo León, Guerrero, Jalisco, Baja California Sur, Morelos, Tabasco, Querétaro, Sonora, Colima, Estado de México, Guanajuato, Aguascalientes and Quintana Roo). As a general rule, many of these states were more industrialised with the highest levels of social security cover, and with less problems of nutrition and basic sanitation.

This first stage of the decentralisation transferred operating responsibility for primary care clinics and second-level hospitals (but not third-level National Institutes of Health), as well as certain administrative responsibilities. What was then the IMSS-COPLAMAR (now IMSS-Oportunidades) was also integrated with the existing MoH system of provision in the states. The states agreed to increase financing of health care from their own resources to reach 20% of their budgets, although this target was not always reached. State resources allocated to health care range from under 5% in some of the poorer states such as Chiapas, Oaxaca and Durango, to over 20% in Aguascalientes, the federal district, Morelos and Tabasco (SICUENTAS, System of National and State Health Accounts, MoH, Mexico). Central powers remained tight, largely through controls over the budget and the number of personnel (the Ministry of Finance still decided on the number of personnel to be funded both in decentralised and non-decentralised states as contractual labour arrangements were still negotiated at the federal level). This period was also marked by the expansion of public health programmes that largely sidestepped the new federal structure.

The decentralisation process was re-engaged in the mid-1990s for the remaining states and all states and the federal district which have now been decentralised under the new arrangements. The new approach granted a greater degree of administrative independence to states than under the first stage, even though tight financial constraints were maintained through a system of earmarked federal transfers. Unlike the 1980s reforms, the IMSS-Oportunidades system maintained its independence from state services for the remaining states decentralised under the second wave. The staff of this organisation is now covered by the IMSS labour agreement. The employees of MoH services have been transferred to the states but, as the federal labour contract was more advantageous than those of state employees, they continue to be covered by a federal agreement.

bureaucratic and highly centralised approach to policy making and policy implementation; inappropriate resource allocation, such that resources were only weakly aligned with needs; and, weak coordination between providers serving the uninsured population.

There is a clearer division of responsibilities between federal and state authorities, even though there are important areas of overlap between the two. Federal authorities are

responsible for setting health-care goals, defining the legal framework for the overall functioning of the system, ensuring coordination and planning and monitoring outcomes. Each state now has wide operational flexibility and responsibility for legislating on organisation and operation of care services for the uninsured at the state level. Coordination between the federal government and the states takes place within the National Health Council (Consejo Nacional de Salud, CNS) which is composed by the health ministers from each state and presided over by the federal Minister for Health. The National Health Council has had an important role in strengthening state services and greater policy co-ordination across State Health Services. The recent establishment of a master plan for health-care infrastructure and provision (more in Chapter 2) as a planning instrument to work towards a better spatial distribution of health-care supply is an example of improved policy co-ordination under the CNS.

In a separate process, the IMSS has also decentralised its operations. The aim was to bring decision-making closer to providers and implement a stronger separation between the insurance and provider functions. In practice, the reforms have tended to shift day-to-day management decisions towards the providers, although management and control of the system remains largely in the hands of the centre. IMSS is divided into four regions (down from seven due to high administrative costs). Each region has oversight over their state delegations and is responsible for strategic planning and control. Their structure mirrors the organisation of the central IMSS. Delegations, as well as high-specialty hospitals, enjoy autonomy in contracting for equipment, drugs and for small hospital investment decisions. However, operational flexibility of the delegation is constrained by the collective contract governing the workforce. Delegations receive their budgets on a historical basis, which mainly reflect payroll cost (near 75% of total current spending).[28] The remaining funds are distributed on the basis of a formula that takes into account differences in morbidity, age and sex of the population served. The central administration evaluates the delegations' budgeting and expenditure every three months.

1.4.2. Ambulatory care

Public sector

Primary care clinics (also called health-care centres: "centros de salud") provide primary services, including dental care and family planning, and dispense pharmaceuticals. They can also provide limited inpatient treatment for simple procedures and deliveries. Patients' choice is limited, as individuals cannot select their doctor at the point of delivery. Services delivered in social security institutions and IMSS-Oportunidades clinics are free and also cover the provision of pharmaceuticals. MoH and state-level health centres typically levy small charges for services and drugs.

Primary care clinics operated by state governments largely serve the uninsured population but they also accept individuals covered by the SS system. IMSS-Oportunidades also has a significant number of clinics that are concentrated in the poorer areas in the centre of the country. In 1999, 71% of the total number of primary health-care centres was mainly providing services to the uninsured population, compared with only 17.5% in the social security system and 11% in the private sector (MoH, 2001b).[29] This distribution reflects the fact that the insured population is largely located in urban areas, while the uninsured population is predominant rural or living in smaller towns and cities.[30] Primary care has been expanded over the past decade, largely reflecting the policy goal of improving access to care for the rural population. SHS (State

Health Service) health centres are organised according to health districts covering a given catchment area ("Jurisdicción sanitaria"). Each district contains health centres, which typically serve 300-500 uninsured families. Mobile units rotating between sparsely populated communities also provide primary care.

All institutions in the public sector operate a referral system for individuals needing access to higher levels of care. Typically, individuals covered by social security, and those without, first visit a primary care clinic within the catchment area the person is assigned to, unless they need emergency treatment at hospitals. Primary-care doctors send patients to a nearby general/specialised hospital belonging to the same institution. IMSS hospitals only accept to treat non-insured individuals in cases of emergencies or where there is no MoH facility available in the area. If the patient requires care from a specialist hospital, the doctor seeks authorisation from that institution. In practice, however, patients often bypass the referral system at the primary level. Some MoH hospitals are said to make little effort to require referrals (NERA, 1998).

Operating patterns also differ across institutions. In the IMSS, each doctor is allotted a specific number of patients. MoH and state service facilities are generally run as a small unit, with a head doctor and several doctors and nurses working for him or her. Larger units can have primary-health-care technicians who receive specialist training of two years at a university. IMSS-Oportunidades clinics generally consist of small rural units, providing a wide range of free curative and preventive services in areas with less than 5 000 persons. The programme has a high proportion of indigenous families among their patients. IMSS-Oportunidades clinics also engage the community in health prevention programmes.

Private sector

Private primary health-care units operate both in the for-profit and non-profit sectors. In the for-profit sector, services are generally provided in solo practices or in small local clinics that are mostly physician-owned. Group practices are becoming more common, enabling reduced practice costs. The non-profit sector mainly operates in larger cities and often focusing on care for children.[31]

1.4.3. Hospital supply

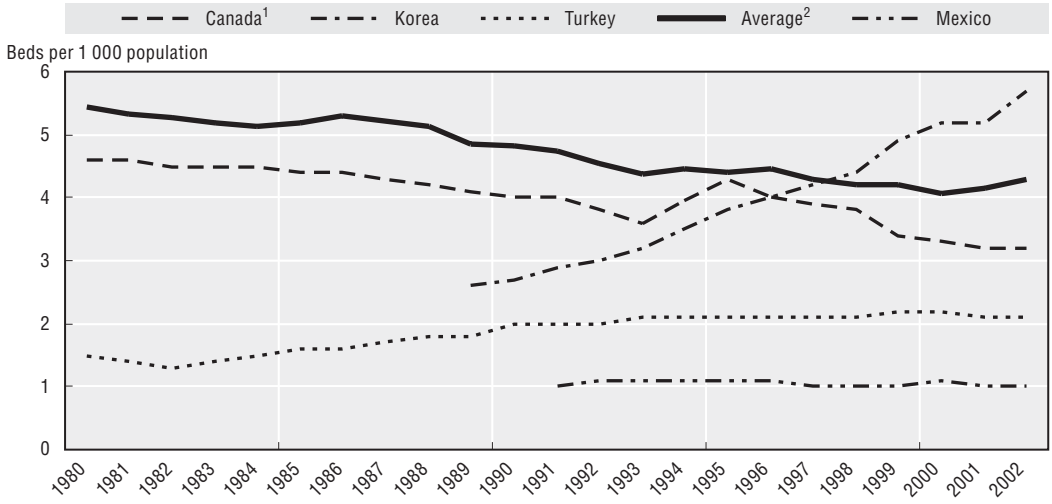
Hospital supply in Mexico is the lowest in OECD countries, with only one acute care bed per 1 000 population compared with an OECD average of about four in the year 2000 (OECD, 2004c).[32] Despite this gap, bed supply per capita has been stable in Mexico (Figure 1.14).

The Mexican hospital sector is heterogeneous, in terms of quality, geographical distribution, and the type of facilities. Some of the specialised hospitals in both the public and private sectors offer high-quality services comparable to those of northern America, while other general hospitals and private sector hospitals provide poorer-quality care.

Public sector

Two types of hospitals exist in Mexico. General hospitals supply secondary care, including accident and emergencies, maternity, and treatments of a few basic specialties. Specialised hospitals comprise tertiary-level facilities equipped to supply the full range of services and all specialities. They include the prestigious Ministry of Health's National

Figure 1.14. **Acute care beds in Mexico and selected OECD countries, 1980-2002**



1. Canadian data for 2002 refer to 2001.
2. The average includes OECD countries with a relatively complete set of data for the period.

Source: OECD (2004c), *OECD Health Data 2004*, 2nd edition, Paris.

Health Institutes (NHI) and the federal reference hospitals, autonomous highly specialised health care and medical science institutions that also carry out education and research activities, as well as the social security system tertiary-level highly specialised hospitals, which also undertake education and research activities. Most tertiary-level hospitals are located in Mexico City and in a few other large cities. Hospitals are generally managed by a doctor, and hospital-based doctors are salaried public-sector employees.

There are differences in the provision of hospital services across institutions. IMSS operates the largest number of hospitals in Mexico, accounting for almost 40% of the total public sector beds in 2001. IMSS hospitals tend to be larger in size than hospitals operated by other institutions and are predominantly general hospitals. The number of IMSS specialised third-level hospitals is lower than those funded by the federal and state governments. The number of hospitals operating in Mexico has grown rapidly in recent years, both in the SS system and in the MoH and state health facilities although the number of overall beds per capita has remained broadly unchanged. IMSS-Oportunidades also operates rural hospitals, generally smaller in size and providing secondary-level care.

Private sector

The Mexican private sector accounts for 34% of total hospital beds in the country. Many of the private sector units have a very small number of beds compared to the public sector. Only 15% of private hospitals have more than 15 beds and only 3% have more than 50 beds, while 27% are small physician-owned clinics with less than five beds (MoH, 2001b). Over half of private hospitals do not have an x-ray, a third does not have one full-time doctor and a small fraction has a full-time nurse. The main use of these facilities is for ambulatory care, basic surgical procedures and deliveries. However, a few large private hospitals provide high-tech care and specialised health services. The availability of private

hospitals also varies across the country. In 1999, around 10% of the total number of hospitals or clinics was found in the federal district but this share rises to around one third for hospitals with over 50 beds (MoH, 2001b). As expected, richer states have a larger availability of private sector facilities than poorer ones.

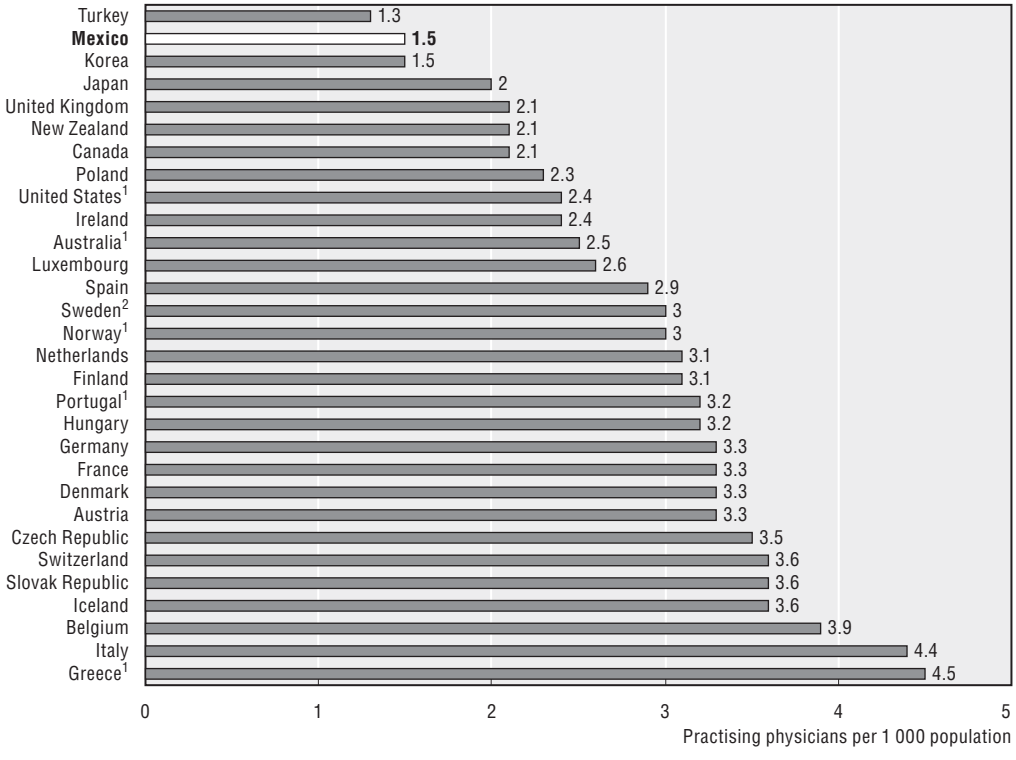
The establishment of hospitals, clinics and pharmacies in the private sector is left to private entrepreneurial initiative. There are no constraints on providers concerning their location, activities and prescriptions and, at present, no regulation concerning the quality of services. The largest private hospitals, however, tend to have certification.

1.4.4. Human resources

While the number of practising doctors in Mexico has risen over the past decade, Mexico still has the second lowest number of doctors per 1 000 population in the OECD area after Turkey: 1.5 in 2002, compared to an OECD average of 2.9 doctors per 1 000 (Figures 1.15 and 1.16). Employed nurses are also at a low level relative to other OECD countries – 2.2 per 1 000 in 2002 compared with an OECD average of around 8. Mexico has an unequal distribution of human resources by region, institution, and across specialisation. Rural areas tend to be under-served.

The Ministry of Education has responsibility for issuing the permit/licence that allows physicians to practice medicine and for governing medical schools, although these have flexibility and freedom in deciding curricula. Most doctors receive their medical education

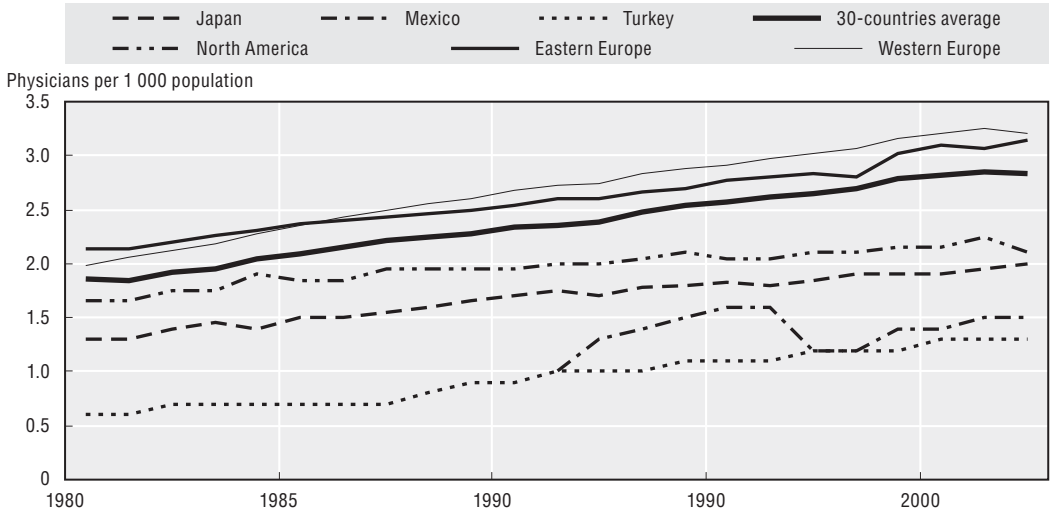
Figure 1.15. **Number of practising doctors in OECD countries, 2002**



1. Data refer to 2001.
2. Data refer to 2000.

Source: OECD (2004c), *OECD Health Data 2004*, 2nd edition, Paris.

Figure 1.16. **Trends in the number of practising doctors in OECD countries, 1980-2002**



Note: Mexican data are available only from 1990.
Source: OECD (2004c), *OECD Health Data 2004*, 2nd edition, Paris.

in public universities, although doctors can also be trained in private institutions. There is no explicit policy concerning the number of doctors in Mexico, and medical schools have expanded the number of places substantially in the past decade. There is also no competitive exam to enter a specialty – although a competitive exam for medical residents exists – and medical education has an emphasis on specialist rather than generic training or family medicine. The quality of medical graduates and training in Mexico is heterogeneous.

While the health sector is one of the largest employers in the economy, the number of graduates from medical school has exceeded the rise in employment in public institutions (NERA, 1998; Frenk *et al.*, 1991; Ruiz *et al.*, 2003). Many doctors work outside of the medical field, in jobs which do not require the same high level of training as the medical profession (Berman and Cuizon, 2004). Others practice at low pay, unstable employment conditions or low productivity levels. A significant share of graduates from medical schools (30%) does not get their title or their licence to practice. The 2000 labour market survey (ENEU) suggests that in 2000, 28% of doctors were either unemployed, worked less than full hours or worked in other sectors of the economy unrelated with health.

Since as early as the 1970s, Mexico experienced a rapid increase in the supply of medical doctors which has been beyond the ability of the public health system to absorb them, especially as the economic growth weakened (Frenk *et al.*, 1991). The availability of doctors and other medical professionals is not evenly distributed across the country. While there is an excess supply of doctors in urban areas, unfilled posts persist in rural areas (Nigenda, 1997), where work and living conditions are less appealing. Many doctors choose not to work in the medical profession or prefer to remain under-employed in urban areas rather than practicing in remote parts of the country, where basic health services are deficient. About 80% of public sector doctors are estimated to operate in urban areas (NERA, 1998). Health workers in rural areas very often tend to be young graduates who are

required to serve a mandatory period in rural areas. These differences in supply are also marked between the richer states in the North and the low-income states in the centre and the south (Chapter 2) (Nigenda, 1997). Some additional factors explaining the current imbalances in the labour market for doctors include segmentation of the labour market, with more disadvantaged people attending substandard schools and gender imbalances in the opportunities for postgraduate residencies and training, coupled with an increasing feminisation of the medical profession.[33] These problems, in substantial part due to underlying socio-economic inequities, were recorded as early as the beginning of the 1990s and appear to persist up to the present.

A growing share of nurses gets training at a university level. Nonetheless, one third of the persons who had completed nursing school are either unemployed or inactive and an additional 15% are working outside the health-care sector. Part-time working is particularly prevalent amongst younger nurses who are six times more likely to be working shorter hours than the age group 30 to 45.

The public sector offers most of the employment opportunities in the health sector. IMSS accounts for 40% of all doctors employed in the public sector and ISSSTE for an additional 11%, compared with 44% who work for the MoH and State Health Services. A similar picture emerges for nurses. Differences in resource availability used to be more pronounced, with the social security institutions accounting for a much larger share of the total. The gap has been reduced over time, thanks to increases in employment in government institutions catering for the uninsured population. For example, there was a large increase in the number of doctors operating in the government health system in the second half of 1990s as the PAC programme was put in place (Ruiz *et al.*, 2003). A larger proportion of specialist doctors and nurses operate in social security institutions, although data are difficult to interpret due to the large number of doctors classified as "other" (Table 1.9).

Table 1.9. **General and specialist health professionals**

	Total public sector	*Total uninsured population*	MOH + SHS	IMSS-Op[1]	*Total insured by SS institutions*	IMSS	ISSSTE	PEMEX
Practising doctors	**92 277**	*58 269*	53 341	4 928	*34 008*	17 004	14 755	2 249
General practitioners	**30%**	*27%*	30%	n.a.	*34%*	37%	26%	41%
Specialised practitioners	**38%**	*30%*	30%	n.a.	*45%*	43%	53%	54%
Others[2]	**32%**	*44%*	40%		*21%*	20%	22%	5%
Nurses	**186 042**	*82 950*	76 137	6 813	*103 092*	80 520	19 887	2 685
General nurses	**41%**	*42%*	45%	n.a.	*41%*	41%	39%	43%
Specialised nurses	**11%**	*6%*	6%	n.a.	*15%*	13%	23%	14%
Others[2]	**48%**	*52%*	48%		44%	46%	37%	43%

1. The majority of IMSS-Oportunidades doctors (78% of all practising doctors) are "pasantes" (undergraduates students who have finished their courses and are doing their practice at hospital prior to getting their general doctor graduate degree) while 87% of total nurses are auxiliaries.
2. Other includes, in the case of the practising doctors: pasantes, interns and dentists; while in the case of nurses it refers mainly to auxiliaries.

Source: MoH (2004a), *Boletín de Información Estadística*, Secretaría de Salud 2002, Mexico.

Roughly one quarter of the total medical and paramedical professionals work in the private sector. There is a much higher share of specialists in the private than in the public sector, although many specialists work in both. Labour contracts with the public sector do

not exclude doctors from having private practice on their own time and it is not uncommon for doctors to have as many as three jobs. Nurses tend to be less qualified in the private sector compared with public institutions, but the private doctor/nurse ratio appears to be higher.[34] There is an increasing migration of nurses to the United States and Canada.

In Mexico, medical, paramedical and nursing personnel working in the public health sector hold a contract with a fixed salary and working hours and social security benefits. Some extra financial benefits can be accorded on the basis of the staff track record of attendance to work and punctuality, as well as the number of years of service and the risk involved in their specific activity. National contracts are negotiated collectively with the National Union of Workers of the Health-Care Sector (for the Ministry of Health and State Health Services) or with the National Union of Workers of IMSS or ISSSTE (for employers of the two institutions). Positions are considered as permanent and promotions, transfers and dismissals occur through a complex bureaucratic process.

There are differences between the rules governing labour relations of the IMSS, ISSSTE and the MoH and State Health Services. IMSS unions operate on the basis of constitutional Article 123 "part A", which concerns private sector workers, and permits the negotiation of collective contracts. The IMSS union covers all IMSS workers and includes a wide range of health professional and non-health professional workers in the same contract. Conversely, federal government workers are covered by "part B" of Article 123, which provides less capacity for collective agreements and union control. In the MoH and SHS system, the collective agreements differ for various categories of workers and often contracts are individual. IMSS unions have also been more active in their industrial actions than ISSSTE and MoH unions, and have for example organised strikes around the times of renegotiation of the collective contract. Contrary to the public sector, the IMSS contract is also enforceable by law. Unions are said to have significant power of decision at least within IMSS with, for example, effective control over hiring of doctors, working times and the assignment of staff duties.

1.4.5. Pharmaceuticals

The Mexican pharmaceutical market – representing 1.2% of GDP in 2002 or about a fifth of total health expenditure (González Pier and González Hernández, 2004) – is characterised by distinct and large differences between the public (government and social security) and private sectors, in terms of production, purchasing and distribution.[35]

Governments and social security funds purchase products – for distribution to public patients – that have been included on a positive list (the "Cuadro Basico") set by the General Health Council (Consejo de Salubridad General, CSG).[36] The Cuadro Básico and the medicines catalogue contain 776 generics, which have been determined on the basis of their effectiveness, quality, safety and accessibility. The supply of these pharmaceuticals is dominated by domestic firms. Up to 300 compete in this dispersed market, mainly for generic products, which represent 80% of public purchases in volume terms. Competition across domestic producers is intense: on average 20 firms bid for each contract, and the 20 largest companies account only for slight more that 10% of the market. The private market is conversely more concentrated with around 70 firms competing. Twenty companies make up 60% of the market and three quarters are multinationals. Products sold on this market are both innovative and generics.[37] There is little R&D in pharmaceuticals taking place in Mexico.

Overall, the private and public markets are roughly equivalent in terms of volume of drugs sold. However, the public sector accounts for only 20% of the value of sales (González Pier and González Hernández, 2004).[38] Within the public sector, IMSS and ISSSTE represent respectively about 80.3% and 14.2% of public purchase of pharmaceuticals, while the federal and state health systems account only for 5.4%. These disequilibria between the social security and the SHS services are reflected in serious problems of drug supply in the state health services. The difference in prices between the public and the private sector is due to several factors, ranging from a relative lack of innovative and branded products in public sector purchases, to the lack of wholesale and retail margins. Public payers (social security and the MoH) generally centralise the purchasing of drugs. However, the MoH centralise purchasing only for vaccines and other essential drugs, while the states enjoy financial and managerial authority in purchasing other pharmaceuticals. The federal government provides indicative prices for different drugs, but decentralised state purchasing has resulted in wide differences in average drug prices between states.

Recent efforts have been made to improve and control drug quality (Box 1.6). The public sector is supposed to purchase only pharmaceuticals included in a basic list of interchangeable, bioequivalent generics, which is compiled by the CSG. Where bioequivalent drugs are not available, the public sector purchases generics which have been controlled for quality. However, at the end of 2002, bioequivalent generics represented only a very small share, for both value (0.3%) and volumes (0.7%), of the overall market for generics in Mexico. Non bioequivalent copy products represented 36% of the overall market in 2002, compared to only 0.3% (value) or 0.7% (volumes) for bioequivalent generics (González Pier and González Hernández, 2004).

At present, producers operating in the private health market are subject to a direct price control mechanism exerted by the Ministry of Economy, whereby producers can increase drug prices but the change is capped by a threshold on the maximum retail price calculated on the basis of the evolution in certain macroeconomic variables. This mechanism is operated through an agreement on drug prices between the firms, but about 40% of the market does not comply with them.

For what concerns distribution, the largest companies commercialise and distributes pharmaceuticals through three large wholesale distributors, which control nearly 70% of the distribution market. The rest of the market relies on smaller distributors specialised at the local level. Distribution margins are estimated to be around 15%, compared to 21% pharmacies' margins (González Pier and González Hernández, 2004).

There is a clear-cut separation between the public and the private sector concerning points of sale and distribution of drugs to patients.[39] Pharmaceuticals in the public sector are made available to patients at government and social security facilities. At present, it is not possible for a patient with a prescription from public sector institutions to obtain public reimbursement for a drug purchased from a private pharmacy. There are up to 20 000 private pharmacies, mainly independent pharmacies, catering exclusively to private patients paying privately for drugs. Regulation of private sector pharmacies is weak. Patients often do not need to show a prescription to purchase drugs that would normally require one. Some pharmacies employ a doctor who can prescribe on site should a patient need a drug requiring a prescription.

In order to solve some of these problems and stimulate competition in pharmaceutical markets, new proposals have been made concerning the regulation of drug prices in the

Box 1.6. **Regulation of drugs and other medical supplies**

Recent steps have been taken to improve the regulation for medicines with respect to safety and efficacy. The Mexican authorities have a regulatory framework and drug registry for drugs to guarantee that producers adhere to standards of efficacy, security and quality.* The registry of drugs, which includes all those pharmaceuticals licensed or authorised to be sold on the Mexican market, has been recently revised.

In contrast with most other countries – where all generics products are subject to "interchangeability" tests – two types of generic medicines coexist in Mexico. Interchangeable generics (Genéricos Intercambiables, GI) include those products where the substitutability is demonstrated by a set of clinical. A second group of so-called "copy products" includes medicines that lack any proof of security and effectiveness.

Since 1998, the number of listed GIs has increased to 449 pharmaceutical drugs. Inclusion is based on a decision by the Federal Commission for the Protection against Sanitary Risks (Comisión Federal para la Protección contra Riesgos Sanitarios, COFEPRIS). In order to stimulate the market for GI products, a decision of the CSG in June 2002 requires all public health institutions to purchase GI medicines, where they are available in the Mexican market rather than "copy products". Since this decision the number of pharmaceutical drugs requested for inclusion in the GI list has increased from 963 to a total of 2 606 products.

To ensure that the quality of drugs is maintained over time, a legislative change has recently been passed by Congress whereby the registration of generic drugs is limited to five years and copy or GI products will undergo regular tests for quality and efficacy. Re-registration will thus require making drugs interchangeable with the brand product. This is intended to progressively eliminate poorly copied products and ensure improved transparency for doctors, pharmacists and consumers. Further revisions in the existing regulatory framework will be needed in order to ensure that all drugs currently included in the "Cuadro Básico" and in the catalogue of public health sector drugs are endorsed as GI.

* A drug is considered of good quality when its structural characteristics are homogenous across all of the output produced, is deemed to be safe when the expected effects of its components are those for which the drug was originally authorised; and it is effective when the pharmacological effect of its components are as originally approved. Before being listed, each new drug needs to demonstrate that is safe on the basis of clinical trials. Drugs whose active ingredients are already used on the Mexican market are dispensed from this requirement.

private sector. For patented products, the new price regulation system would allow prices to be set in line with the prices in a set of other countries. The suggestion is to use those international prices at launch as a basis, with an increase in line with inflation. For non-patented drugs, prices would be entirely liberalised and entry barriers for producers reduced (at present, only producers with facilities operating in Mexico can introduce a product in the market).

1.4.6. Expenditure by type of health services

Mexico spends 33% of its total health expenditure on inpatient care, 31 % on outpatient care and 22% on pharmaceutical drugs. Compared with the OECD average, the share of drugs is marginally higher and that of inpatient care marginally lower (Table 1.10).

Table 1.10. **Health expenditure by type of health service in OECD countries, latest available year[1] (% of total health expenditure)**

	Inpatient	Outpatient	Drugs	Outpatient plus drugs
Australia	40.2	26.1	13.8	39.9
Austria	38.2	31.5	16.1	47.6
Belgium	n.a.	n.a.	n.a.	n.a.
Canada	28.8	28.5	16.6	45.1
Czech Republic	37.8	24.9	22.6	47.5
Denmark	51.1	27.5	9.2	36.7
Finland	39.2	30.3	15.9	46.2
France	41.3	22.8	20.8	43.6
Germany	36.1	20.6	14.5	35.1
Greece	n.a.	n.a.	15.6	15.6
Hungary	29.0	22.6	27.6	50.2
Iceland	54.6	23.2	14.0	37.2
Ireland	n.a.	n.a.	10.3	10.3
Italy	41.5	30.2	22.4	52.6
Japan	38.9	32.0	18.8	50.8
Korea	22.9	42.1	22.4	64.5
Luxembourg	40.3	27.2	11.6	38.8
Mexico	**33.0**	**30.8**	**21.6**	**52.4**
Netherlands	40.8	21.9	10.4	32.3
New Zealand	n.a.	n.a.	n.a.	n.a.
Norway	n.a.	n.a.	n.a.	n.a.
Poland	n.a.	n.a.	n.a.	n.a.
Portugal	n.a.	n.a.	n.a.	n.a.
Slovak Republic	35.0	15.6	37.3	52.9
Spain	27.6	39.2	21.5	60.7
Sweden	31.2	47.7	13.1	60.8
Switzerland	48.1	27.4	10.3	37.7
Turkey	19.9	28.4	24.8	53.2
United Kingdom	n.a.	n.a.	n.a.	n.a.
United States	27.6	43.7	12.8	56.5
21-country average[2]	37.1	28.9	17.7	44.2

n.a.: not available.

1. The latest available year is 2002 for all countries except Australia, Austria, Greece, Ireland, Japan and Korea, whose data refer to 2001, and Turkey, which refer to 2000.
2. The OECD average includes all OECD countries except the United Kingdom, Turkey, Portugal, Poland, Norway, New Zealand, Ireland, Greece, Belgium and Mexico.

Source: OECD (2004c), *OECD Health Data 2004*, 2nd edition, Paris.

There are notable differences in the expenditure by type of care across the public and the private sectors (Table 1.11). In particular, the share of spending on drugs is higher in the private sector compared to the public system.

1.5. Payment of providers

The methods for payment of providers vary between the public and the private sector. Public-sector doctors and nurses are paid on a salary basis by the institution they work for, while hospitals are allocated funds on the basis of historical budgets. In the private sector, providers are paid on a fee-for-service basis.

Pay in the public sector is based on seniority. Wage levels are relatively low, and doctors' incomes appear low when compared to average income.[40] There are differences in wage levels between the social security sector, and institutions catering to the uninsured, the former being

Table 1.11. **Breakdown of health expenditure by type of institution and by type of health service**

Public and private health expenditure by type of health service

	General government expenditure (excluding SS)	Social Security (SS) expenditure[1]	Private insurance	Out-of-pocket payments
Inpatient services	43.0%	83.1%	59.5%	19.4%
Outpatient services	12.2%	n.a.	n.a.	43.1%
Drugs (pharmaceuticals)	0.6%	n.a.	3.6%	37.5%
Prevention and public health services	20.6%	n.a.	n.a.	n.a.
Health administration and health insurance	23.6%	16.9%	36.9%	n.a.
Total	**100%**	**100%**	**100%**	**100%**

n.a.: not available.

1. Social security expenditure for inpatient services includes also outpatient and drugs. No breakdown for these items is available.

Source: Merino-Juárez, M.F., Alarcón-Gómez, M.G. and Lozano-Ascencio, R. (2004), "SHA-Based Health Accounts in 13 OECD Countries: Country Studies Mexico – National Health Accounts 2001", OECD Health Technical Paper, No. 8, OECD, Paris.

higher than the latter. Low wages reduce incentives for professionals to remain in the health-care sector[41] and may also lead to absenteeism, low staff morale, and involvement of health professionals in second jobs (in either the public or the private sector, or even outside of the health sector) (Cercone *et al.*, 2001). Nurses' hourly wages appear to be particularly low, representing approximately one-third less than the average wage (Aguilar *et al.*, 2003).

Public sector hospitals are set annual global budgets. These are predominantly determined on the basis of historical cost and availability of resources, without taking into account hospital efficiency, responsiveness to patients or other indicators of performance. The largest part of each hospital budget is absorbed by personnel costs. This represents, for example, around 80% of the budget in IMSS hospitals. Hospitals have little autonomy or control over this item of spending, because wage rates, employment rates and working conditions are agreed centrally in contracts with unions, most often negotiated at a national level. In the case of IMSS, a small fraction of the remaining 20% of the budget is allocated on the basis of activity. Overall, however, hospital administrators have little managerial discretion over how to run their facilities, and on how to allocate resources. When the hospital runs into deficit, the shortfall is covered by the corresponding central institution, be it the federal or state government, IMSS or ISSSTE central offices.

In the private sector, fee-for-service is the predominant payment arrangement. Fees charged by doctors are not regulated, and doctors are usually paid in cash. If doctors participate in private insurers' networks, fee levels charged to insured patients are negotiated with the relevant insurance company. Private hospitals also operate on a fee-for-service basis. Fees are set freely but insurers negotiate lower fees with private hospitals for the treatment of insured patients. The volume of hospital activity channelled through insurers varies by private hospitals, and can be as high as half of overall hospital activity. Private hospitals can also receive revenues from physicians who rent or purchase some space from private hospitals for their private practice.

1.6. The role of government in regulation of the health sector and setting national health policy

Since the reform in 1984, the General Health Law regulates all aspects of the sector, and sets out the right for all Mexican citizens to health protection. It also sets the division

Box 1.7. **Regulation to limit public-health risks in Mexico**

The Mexican government has placed high priority on the protection of the population against public health risks and, to this end, the administration established the Federal Commission for the Protection Against Sanitary Risks (COFEPRIS) in 2001. COFEPRIS is a semi-independent agency of the Ministry of Health with technical, administrative and operative autonomy in the areas of public-health risk regulation, control and promotion. Health risks covered include those associated with food and drink, medicines, medical equipment and supplies, cosmetic products and perfumes; vegetal nutrients, plants and disinfectants, and other products and substances to which the population is involuntarily exposed. In addition, COFEPRIS has responsibility for designing strategies of prevention and control of environmental risk factors that may be deleterious to health. It has assumed responsibilities for the control and public-health surveillance of certain activities that were previously under the control of the National Centre for Blood Transfusion, the National Centre of Transplants and the General Directorate of Quality and Education in Health.

COFEPRIS has authority over the drafting Mexican official norms relative to various products and activities, the evaluation of health risks and the application of sanctions and safety measures in the areas of its competence. The functions of this new entity have been incorporated within the operation of the states in order to facilitate integrated action. Progress has also been made concerning the regulation of provision of personal health-care services, for example in the areas of drugs and medical supplies (Box 1.6).

of responsibilities for health between the federal government and the states, as well as other organisations. These aspects have been preserved and reinforced through the successive reforms that have been taking place ever since. The federal government is responsible for setting pertinent legislation, choosing priorities and goals, training staff and providing technical support for the implementation of population health programmes. Local government authorities set local objectives and are responsible for implementing population health programmes within their areas of competence. The government also has responsibilities for planning and implementing public health programmes.

While the Ministry of Health has overarching responsibility for establishing the governance framework of the health system, the fragmentation of the health system has, however, made it difficult for the Ministry of Health to exercise fully this stewardship role, particularly in the area of health service provision. A particular problem, in this context, concerns the social insurance system, where the oversight of the Ministry of Health is weaker than for the services supplied by the Ministry of Health itself. For example, IMSS – possibly because of its role in providing social insurance more generally – reports to the Ministry of Labour with the Ministry of Health playing only a consultative and coordinating role with respect to the health-care component.[42]

The government has also a role in the regulation of the supply of health services. As regards professional qualifications, an accreditation system for medical schools has started to take form. While only 23 of the 78 medical schools in Mexico were accredited in 2000, and only 5 out of 300 nursing schools (MoH, 2001b), this is set to evolve rapidly. All medical schools have applied for accreditation following a ruling which limits hiring in the federal and SHS facilities, as well as in the social security system, to graduates from accredited institutions. Some schools require students to pass a National examination of

professional qualifications before receiving their degree. There is also a national mechanism for accreditation which is co-ordinated by the National General Medicine Council (Consejo Nacional de Medicina General). Accreditation of specialists has been left to the specialist councils linked to the National Academy of Medicine and the National Academy of Surgery. Hospital certification began in 1999 and was operated by the General Health Council (Consejo de Salubridad General) through the (then called) Hospital Certification Commission. Regulation of the private sector has been weak. Self-regulation by professionals and providers is the main model of control of standards of practice. Clinical guidelines remain underdeveloped.

The National Commission for Medical Arbitration (Comisión Nacional de Arbitraje Médico, CONAMED) was established in 1996 aimed at resolving conflicts between providers and patients through conciliation and arbitration procedures. This is the main body for providing patient protection in Mexico. Until 2001 it had treated 22 000 cases but there is little information on the impact that this has had on the quality of care.

The Ministry of Health has responsibility for the regulation and protection against public health risks through its Federal Commission for the Protection against Public Health Risks (Comisión Federal para la Protección contra Riesgos Sanitarios, COFEPRIS). This entity acts as a US style food and drug administration and environmental health protection agency. It is responsible for regulating products and services whose consumption may entail health hazards (Box 1.7).

Notes

1. While this review focuses primarily on the health-care system of Mexico, it also covers other important health activities – such as public health or regulatory developments – where these are appropriate for the analysis and assessment of policy. See OECD (2004c) for a definition of health activities.
2. The source of 1940 data is Ortiz *et al.* (2002).
3. According to a typology of country health-care models set out by OECD (1992). See also Docteur and Oxley (2004).
4. According to estimates by the World Bank (World Bank, 2004a, based on De Ferranti *et al.*, 2004), the income distribution is even wider. The bottom quintile of households (ranked by per capita household income) accounted for 3.1% of total income while the top decile alone accounted for 43%. The ratio between the income of the top and bottom decile was 45.
5. The Mexican Republic comprises 31 states and a federal district. Although the latter has a different legal status in some aspects, for practical purposes it can be considered as a 32nd state.
6. The marginalisation index, which is computed by CONAPO, summarises in one measure the lack of access to basic needs such as education, adequate living conditions, and perceptions of adequacy of income. The index considers four structural dimensions of marginalisation (for each of which different indicators are used): housing; income from work; education; and population distribution (CONAPO, *Marginalisation index*, Mexico, *www.conapo.gob.mx*). This index is highest in Chiapas, Guerrero, Hidalgo, Oaxaca, and Veracruz.
7. *OECD Health Data 2004*, 1st edition. The average excludes Turkey, for which 2002 data are unavailable.
8. This was based on calculations by the Ministry of Finance and Public Debt (SHCP). The comparability of these data with data from other OECD countries is however weak.
9. This report uses the term "uninsured population" to refer to those individuals and families without access to social-security protection. This differs from the way the term "uninsured" is used in other OECD countries, where the uninsured population generally refers to individuals who have to pay for health-care services out-of-pocket apart from some cases of emergency.
10. The major reform establishing the SP is described in detail in Chapter 3.

11. These programmes are not discussed in this report except to the extent that they impinge on the financing of health care (Chapter 2).

12. In April/May 2004, employees at IMSS amounted to 408 283 including both medical and administrative personnel. This figure includes 22 498 workers from IMSS-Oportunidades (Informe de Servicios Personales, Junio 2004, *www.imss.gob.mx*).

13. Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado (ISSSTE) covers employees of the federal government, a number of state governments and most federally-owned government enterprises. Government enterprises should, in principle, be attached to IMSS under subsection A of article 123 of the Mexican Constitution (see below) and there has been a trend in this direction (*e.g.* the Comisión Federal de Electricidad, Ferrocarriles Nacionales de México and Luz y Fuerza del Centro).

14. The reform of the contribution structure of IMSS was carried out in the 1995 Social Security Law (SSL) and implemented from 1997. This reflected concern over the large size of the informal sector and the incentives for underreporting by employers and employees. Increases in the contribution rates for the illness and maternity component in the late 1980s probably impeded the increase in formal employment and induced under-reporting of earnings. In addition, the deficits in the health component of the IMSS had been financed by surpluses on the old-age pension component. Before the reforms, the system was financed by contributions of 12.5% of wages (8.75% employer and 3.125% per employee), with an additional government transfer of 0.625%. The system in its final form will be made up of the several components: *i)* a federal contribution equivalent to the inflation-updated value of 13.9% of the 1997 minimum wage in the federal district; *ii)* an employer flat-rate contribution equivalent to 20.4 of the minimum wage; *iii)* an income-related contribution set at 1.5% of workers' income above 3 times the minimum wage split between employers and employees [1.5% x (income – 3 times the minimum wage)]. Employees earning less than three times the minimum wage are exempt from the payment of any contribution (OECD, 1998).

15. In addition, individuals covered by the IMSS ordinary regimes also receive cash benefits in the advent of illness. The SSF covers only benefits in kind.

16. Self-employed, owners of businesses, domestic servants and family workers as well as Mexicans working abroad.

17. The government contribution is the same as its contribution to IMSS social security affiliates (the inflation-adjusted value of 13.9% of the 1997 federal district minimum wage) and remained unchanged in the reforms to the financing of the scheme in 2001.

18. This means accessing full social security benefits, *i.e.* health and others.

19. Care is free at the point of services in the case of the health services of the federal district government (which operates like an individual state system).

20. Analysis based on the National Health Survey (ENSA, 2000) reveals that 39% of the IMSS enrolees and 56% of ISSSTE enrolees obtain ambulatory care from providers other than their social security provider, and 28% of IMSS and 46% ISSSTE enrolees for hospital care.

21. In addition to the programmes listed in this paragraph, the National Indigenous Institute (Instituto Nacional Indigenista, INI) provides some medical services to the indigenous population, while the DIF (Sistema para el Desarrollo Integral para la Familia) mainly provides, in the health-care area, family planning and assistance to the handicapped.

22. The services offered in this package included: family planning services; prenatal and post-natal care; infant growth supervision and nutritional programmes; vaccinations, anti-parasite, and diarrhoea treatments; management of respiratory infections; prevention of hypertension, diabetes, tuberculosis and accident prevention; and, prevention and detection of uterine cancer.

23. Employers can offer private health insurance that duplicates the benefits available through IMSS facilities. According to the 1994 National Health Survey (ENSA), half of the people who subscribe to a private health insurance are also covered through the IMSS.

24. The 1995 reform proposed to facilitate this opting-out mechanism in order to increase competition and client satisfaction through incentives to provide better quality of care, reduce employment costs and stimulate formal employment, and stimulate the insurance and health-care industry. However this proposed new bill was frozen by Congress until rules to reduce the risk of adverse selection could be put in place.

25. According to OECD (2004c), the public share of health financing includes "expenditure on health care incurred by public funds. Public funds are state, regional and local Government bodies and social

security schemes. Public capital formation on health includes publicly-financed investment in health facilities plus capital transfers to the private sector for hospital construction and equipment".

26. In Figure 1.11, these funds are included in expenditure by social security institutions.

27. For example, for those with only social insurance coverage, over 20% preferred a different health-care provider when having a health problem. Out of those individuals reporting having only IMSS coverage, 18.4% preferred a private provider, while this was 24.4% for ISSSTE insurees. Out of those reporting having IMSS or ISSSTE coverage, about 9% preferred MoH providers.

28. Includes Personnel Services and Retirement and Pensions Regime (Régimen de Jubilaciones y Pensiones, RJP) taken as a per cent of "gastos directos" (IMSS, 2003a, Table V2).

29. Data for the private sector includes institutions with less than 15 beds.

30. While around 82% of the insured live in urban areas, only 50% of the uninsured live in urban areas.

31. Traditional medicine practitioners and healers are popular in rural areas. A large fraction of births are attended by traditional midwives in the poorer states, particularly those where the indigenous population lives.

32. The Mexican data exclude beds in hospital units with fewer than 15 beds. If all beds were included, the rate would rise from 1.0 to 1.2.

33. There has been a marked feminisation of the medical profession, with almost half of practising doctors now being women (Aguilar *et al*., 2003, p. 128), particularly in primary medicine and certain specialties such as paediatrics and mental health. About half of women doctors work on a part-time basis and they have a high rate of unemployment and inactivity.

34. In 2002, the ratio of doctors to nurses was 0.63 in the public sector and 1.32 in the private sector. The ratio for the public sector is among the lowest in the OECD area.

35. The Mexican pharmaceutical industry is organised in an association, the Cámara Nacional de la Industria Farmacéutica (Canifarma).

36. The General Health Council is composed by representatives of public health institutions as well as other government offices, non-governmental organisations, representatives from health-professionals academies and health-related education representatives. Its main objective is to provide a co-ordination mechanism for all institutions and entities comprised in the National Health System.

37. An important amount of "copy" products still prevails in the market, due to the relatively recent introduction of an intellectual property rights law (late 1980s). Although they have the same active ingredient as the innovator product, these products are still not considered interchangeable generics as defined in other countries. At present, two types of generic products exist: those which have been certified as "interchangeable generics" (having passed the corresponding tests) and those considered as "copy generics" (not having had the tests). Through recent initiatives by the General Health Council the public sector has agreed to favour the purchase of "interchangeable generics" as opposed to "copy generics".

38. According to OECD (2004c), public financing of pharmaceuticals in Mexico account for only 10% of total expenditure on drugs, while the private sector accounts for 90%.

39. A total of 23 500 point of sales of pharmaceuticals are estimated to exist in Mexico.

40. However, as the Mexican income distribution is heavily skewed to the right, doctors' wages could be much higher relative to the median.

41. In particular, the weaker labour market attachment for women doctors may be partly explained by the hourly wages for women being 20% lower than for their male counterparts. Part of this difference may be related to differences in the age structure and degree of specialisation. Wage rates increase with age and length of studies. The average age of women doctors is probably lower, while the share of men who are specialists is higher than for women (Aguilar *et al*., 2003, Figures 3 and 4).

42. Under the General Health Law (Article 3), the Ministry of Health "organizes, controls and oversees" health services outside of the social insurance sector. For the social insurance sector, in contrast, the Ministry role is confined to "coordination, assessment and monitoring".

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Chapter 2

A Diagnosis of Strengths and Weaknesses of the Mexican Health System

This chapter examines the strengths and weaknesses of the Mexican health-care system. The analysis in the first four sections is structured around the four key objectives of OECD health-care systems: achieving equitable access to (and coverage for) health care; ensuring high-quality care and responsiveness to patient needs; establishing cost-efficient provision; and maintaining financial sustainability of the system. Under each heading, this chapter outlines the key problems, examines possible reasons for these outcomes and describes some of the policies that the authorities have put in place to improve performance. A final section considers the implications of the current system for governance and describes authorities' longer term approach for reducing the current segmentation of health-care insurance and supply.

This chapter examines to what degree the Mexican health-care system meets the four broad goals highlighted in the introduction: achieving equitable access to (coverage for) health-care; ensuring effective and high-quality care and responsiveness to patient needs; establishing cost-efficient provision; and maintaining financial sustainability of the system. All systems have their strengths and weaknesses. In the Mexican case, the health-care system appears to provide a large array of services for a relatively modest public budget. It has achieved a high degree of success in some areas of prevention and significant improvements in population health status. It has also made great strides over the past several decades in reducing premature mortality, particularly among children. However, there appear to be important weaknesses elsewhere, although as for most countries, data available to assess these are limited, particularly with regard to "micro-economic" issues concerning quality, responsiveness and efficiency.

2.1. Access to health care

Unlike most other OECD countries, Mexico continues to have important problems of access to health-care. Indeed, this is probably the greatest challenge facing the authorities, along with finding the financing capacity necessary to address this issue. Better access to health-care would appear to be essential if further improvements in health status are to be achieved. This subsection considers two aspects of equitable access. The first concerns whether patients can reach health-care services when they need them. The second concerns whether those with access to services can afford the care they need.

2.1.1. Inequalities in the distribution of health-care services

The share of the population with weak access to health-care services is most important in rural areas, although structures in low-income urban areas are not always adapted to needs. A study from the late 1990s found that 17 million persons lived in rural villages with no health-care unit (Hernández Avila *et al.,* 2002). In addition, many Mexicans cannot reach the health-care services they need even when they exist. Hernández-Avila *et al.* (2002) found that 97% of the population lived within 50 kilometres of a second-level health-care unit, but access can often be difficult where transport links are poor or expensive and patients are too poor to pay for them. There is a large heterogeneity in rates of coverage of childbirths by medical personnel, with about half of states reaching over 90% coverage, compared with less than 60% for the remaining states (Mexican Commission on Macroeconomics and Health, 2004). Problems of access to care are also more acute for the uninsured population as many live in rural areas where they are largely served by SHS or IMSS-Oportunidades services that are less generously financed than the social insurance system (Table 1.5). Higher-level services are also ill-distributed across the country. A recent survey of existing capacity has indicated that 54% of equipment is found in Mexico City alone and some large states do not have third level hospitals at all.[1] However, economic constraints may make these problems difficult to resolve as unit costs of supply to remote rural areas can be higher than in urban areas, reflecting the wider dispersion of the population.[2]

Table 2.1. **Health-care resources by state**

	Per 1 000 population					Per capita	
	Doctors	Total beds	Acute care beds	Nurses	Surgical units	Health-care spending (insured population)[1]	Health-care spending (uninsured population)[2]
Aguascalientes	1.7	1.3	0.8	2.4	2.6	1 879	1 737
Baja California	1.0	0.8	0.5	1.5	2.9	1 917	686
Baja California Sur	2.2	1.7	1.0	2.9	4.0	2 983	2 267
Campeche	1.7	1.6	0.8	2.2	3.0	2 600	1 505
Coahuila	1.5	1.4	0.9	2.3	2.7	2 015	1 331
Colima	1.8	1.8	0.8	2.5	1.9	2 134	1 560
Chiapas	0.8	0.9	0.4	1.2	2.7	1 490	554
Chihuahua	1.1	1.2	0.7	1.7	2.5	1 792	920
Distrito Federal	3.0	2.3	1.7	4.6	4.2	5 236	1 459
Durango	1.5	1.8	0.8	2.1	2.2	1 704	1 113
Guanajuato	0.9	0.9	0.5	1.3	2.1	1 673	545
Guerrero	1.1	1.2	0.4	1.3	1.9	1 733	713
Hidalgo	1.1	1.5	0.5	1.6	1.8	1 629	700
Jalisco	1.4	1.5	0.9	1.9	3.0	1 922	1 178
México	0.7	0.7	0.4	1.0	1.8	926	533
Michoacán	1.0	1.2	0.5	1.3	2.8	1 549	436
Morelos	1.2	0.8	0.5	1.7	2.0	1 940	670
Nayarit	1.6	1.5	0.6	2.0	2.5	2 123	990
Nuevo León	1.3	1.2	0.8	2.0	1.9	2 167	1 079
Oaxaca	1.0	1.1	0.4	1.3	2.3	1 328	614
Puebla	0.9	1.1	0.5	1.2	2.7	1 867	398
Querétaro	1.2	1.1	0.5	1.7	1.5	1 507	980
QuintanaRoo	1.3	0.9	0.5	1.5	2.1	1 977	1 318
San Luis Potosí	1.1	1.2	0.6	1.6	1.9	1 616	741
Sinaloa	1.3	1.3	0.7	1.8	3.5	1 764	981
Sonora	1.4	1.5	0.9	2.1	3.7	1 945	1 746
Tabasco	1.5	1.4	0.6	1.9	2.1	2 258	1 598
Tamaulipas	1.5	1.4	0.8	2.1	2.8	2 000	1 098
Tlaxcala	1.3	1.2	0.5	1.6	2.1	1 604	803
Veracruz	1.2	1.1	0.6	1.5	3.1	2 208	641
Yucatán	1.4	1.4	0.8	2.1	2.6	2 396	942
Zacatecas	1.2	1.3	0.5	1.6	2.8	1 646	627
National	**1.3**	**1.2**	**0.7**	**1.8**	**2.7**	**2 128**	**1 139**

1. Includes IMSS, ISSSTE and PEMEX (pesos).
2. Includes Ramo 12, Ramo 33 and States Health Expenditure in 2002 (pesos).

Source: MoH (2004a), *Boletín de Información Estadística*, Secretaría de Salud 2002, Mexico; MoH (2004c), *Salud: Mexico 2003. Información para la rendición de cuentas*, 2nd edition. Secretaría de Salud 2002, Mexico (latest revision October 2004).

Problems of access are also related to the distribution of health-care resources across states. Individuals living in the richer northern states are much better served than persons living in the centre and south of the country. Doctors per capita differ by a factor of three between the best-off and worst-off states, by a factor of four for acute beds, and by a factor of five for spending per uninsured individual (Table 2.1) (MoH, 2003). Inter-state differences also show strong inverse correlations with the degree of marginalisation – a general measure of social and economic exclusion – and with measures of health status of the population, suggesting that resources are not always being directed to where they could have the strongest impact on outcomes (Lozano *et al.*, 2001; Zurita *et al.*, 2003)[3] (Table 2.2).

Table 2.2. **Resources for health, social-insurance cover and health-related indicators by state: correlations**

Correlation coefficients

	Public health-care spending per capita	Doctors per 1 000 population	Hospital beds per 1 000 population	Insurance coverage	Infant mortality rate per 1 000 live births	Maternal mortality rate per 100 000 live births	Margin-alisation index	Income per capita (USD, 2000)
Public health-care spending per capita	1							
Doctors per 1 000 population	0.95	1						
Hospital beds per 1 000 population (total beds)	0.79	0.87	1					
Insurance coverage	0.58	0.44	0.33	1				
Infant mortality rate per 1 000 birth alive	–0.53	–0.45	–0.27	–0.89	1			
Maternal mortality rate per 100 000 live births	–0.33	–0.27	–0.27	–0.60	0.66	1		
Marginalisation index	–0.52	–0.44	–0.27	–0.87	1.00	0.67	1	
Income per capita (USD, 2000)	0.75	0.61	0.38	0.73	–0.72	–0.40	–0.69	1

Note: 9.46 Mexican pesos = 1 USD (2000).

Sources: Public health-care spending and insurance coverage: MoH (2004a), *Boletín de Información Estadística*, Vol. I: Recursos y Servicios and Vol. IV: Recursos Financieros, Secretaría de Salud 2002, Mexico; Doctors and hospital beds per 1 000: MoH (2004c), *Salud: Mexico 2003. Información para la rendición de cuentas*, Mexico; Infant mortality rate: CONAPO (2004), *Proyecciones de la Población de México, 2000-2050*, Mexico; Maternal mortality rate: based on INEGI (2004b), *Estadísticas de Mortalidad 2002*, and on estimated live births from CONAPO (2004), *Proyecciones de la población de Mexico 2000-2050*, Mexico; Marginalisation index: CONAPO (2004), *Indices de marginación 2000*, Mexico; Income per capita: calculations based on GDP per state: INEGI (2004a), *Sistema de Cuentas Nacionales 2000* and CONAPO (2004), *Indices de marginación 2000*, based on INEGI (2000) XII Censo General de Población y Vivienda 2000, for population per state.

2.1.2. Inequalities in access to health-care insurance and financing

As noted in Chapter 1, Mexico ranks among the OECD countries with the lowest degree of formal public insurance coverage. According to official estimates around 51% of the population is covered by social security (Box 1.2, p. 32). In contrast, 95% of the population in other OECD countries is covered by some form of insurance for health-care costs. Only 45% of total health spending is public (compared with over 70% for the OECD country average) and virtually all of the remaining private spending is out-of-pocket (Table 2.3).

The extent of public insurance cover in Mexico is strongly linked to income: around 12% of the population in the lowest quintile is insured compared with over 60% in the highest quintile (Knaul *et al.*, 2003; World Bank, 2004b) and this difference widened over the second half of the 1990s (CISS, 2003).[4] This, combined with high levels of out-of-pocket health-care spending, is reflected in the high catastrophic and poverty-creating health-care expenditure in lower income quintiles (Figure 2.1 and Box 2.1).[5]

Differences in formal insurance coverage are also in evidence across states, ranging from 27% of households in Chiapas to 79% in Coahuila (Figure 2.2) and this is negatively correlated with the degree of catastrophic spending, per capita incomes by state and with health-status indicators such as child and maternal mortality (Figures 2.2 and 2.3, and Table 2.3).[6, 7]

2.1.3. Inequalities in use of health-care services

A key policy objective in all OECD countries is to achieve access to health care on the basis of need and not on the basis of income or other individual, social or geographical characteristics. A study of 21 OECD countries indicates that Mexico stands out as one of the few where the rich have a greater take-up of services than the poor for both doctor visits,

Table 2.3. **Coverage of health-care insurance and the share of out-of-pocket payments in OECD countries, early 2000s**

	Social coverage (% of total population)	Out-of-pocket payments (% total health expenditure)
Australia	100	19.3
Austria	97	17.5
Belgium	99	n.a.
Canada	100	15.2
Czech Republic	100	8.6
Denmark	100	15.3
Finland	100	20.0
France	99.9	9.8
Germany	90.1	10.4
Greece	100	n.a.
Hungary	100	26.3
Iceland	100	16.0
Ireland	100	13.2
Italy	100	20.3
Japan	100	16.5
Korea	100	37.3
Luxembourg	99.6	11.9
Mexico	**50.9**	**52.1**
Netherlands	75.7	10.1
New Zealand	100	16.1
Norway	100	14.2
Poland	n.a	27.6
Portugal	100	n.a.
Slovak Republic	97.3	10.9
Spain[1]	99.8	23.6
Sweden	100	n.a.
Switzerland	100	31.5
Turkey[1]	66	27.6
United Kingdom[1]	100	11.0
United States	25.3	14.0
Average[2]	94.6	17.8
Standard deviation[2]	15.7	7.5

1. United Kingdom data for out-of-pocket share refer to 1996. Spain and Turkey data for health-care coverage refer to 1997.
2. The average and the standard deviation exclude Mexico.

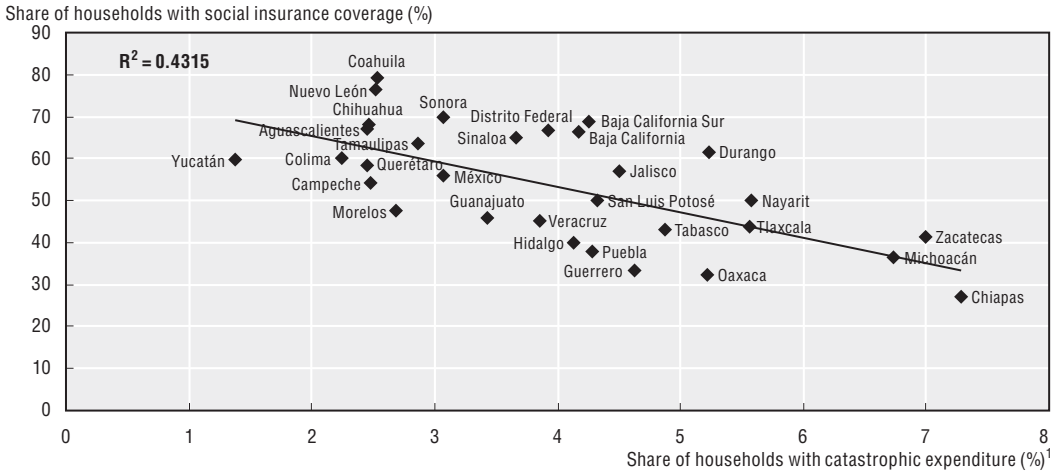
Source: OECD (2004c), *OECD Health Data 2004*, 2nd edition, Paris; Mexican data for social coverage from MoH (2004a), *Boletín de Información Estadística*, No. 22, Secretaría de Salud 2002, Mexico.

hospital admissions and length of stays even after adjusting for need (van Doorslaer *et al.*, 2004).[8] Use of health-care resources is also highly unequal across states (see below), although this may reflect both supply and demand factors.

2.2. The quality and effectiveness of the Mexican health-care system and its responsiveness to patient needs

There is widespread concern about the quality of health care in Mexico and quality-of-care and patient-satisfaction issues have been given a high priority by the Mexican authorities (MoH, 2001b). These difficulties are not simply related to the quality of care *per se* – *e.g.*, patients being poorly treated or medical malpractice – but also to the fact that hospitals and clinics often lack the necessary qualified staff and supplies of materials to provide services and

Figure 2.1. **Share of households with catastrophic health expenditure and social insurance coverage by state, 2002**

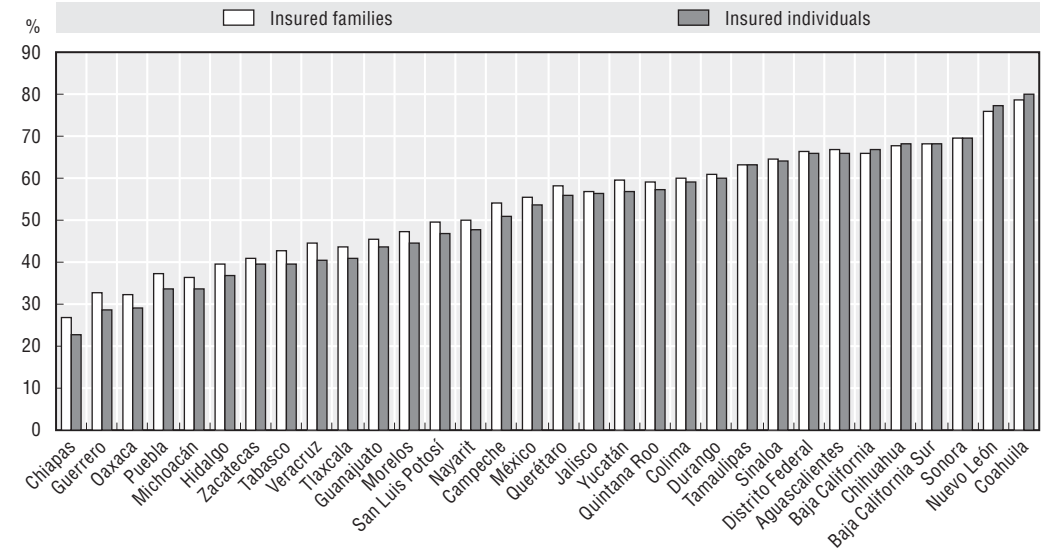


1. Households spending over 30% of their disposable income (total income less necessities) on health care.

Source: MoH (2004b), Encuesta Nacional de Evaluación del Desempeño (ENED) 2002, *http://evaluacion.salud.gob.mx/ened2002/presentacion.htm*; MoH (2004c), Salud: Mexico 2003. Información para la rendición de cuentas, 2nd edition; Insured households: sample of the INEGI (2000) XII Censo General de Población y Vivienda 2000.

Figure 2.2. **Social insurance coverage by state: individuals and households, 2003**

As a percentage of total individuals and households



Note: Population: estimates based on INEGI (2004) XII Censo General de Población y Vivienda. The number of households was calculated using the average household size and population estimates.

Source: INEGI (2000) XII Censo General de Población y Vivienda 2000; MoH (2004a), *Boletín de Información Estadística*, Secretaría de Salud 2002, Mexico.

Box 2.1. **Aspects of inequality in health-care insurance**

The high level of private health-care spending is reflected in a significant share of the population facing catastrophic or impoverishing health-care expenditure in any given period (Sesma-Vásquez *et al.*, 2004). Since the degree of insurance cover is positively linked to income, lower-income groups tend to suffer most. The table below shows the share of the population – by quintile and by social insurance cover – facing catastrophic and impoverishing health-care expenditure on the basis of recent surveys of household expenditure. Catastrophic spending is defined as out-of-pocket spending for health that is higher than 30% of disposable income of the household (*i.e.* net of essential goods and services and health-related taxes). This, however, fails to take into account absolute differences in income levels between quintiles – catastrophic spending may be easier to finance amongst higher-income groups than lower-income groups. Impoverishing health-care spending occurs when the health-related expenditure pushes the household below a poverty threshold and takes into account better the capacity of households to finance expenditure. Both measures, however, probably underestimate the impact on access to care of lower-income groups because the very poor may not have the money available for treatment and may therefore forego health-care spending altogether.

Survey results suggest that just under 20% of households in the first or bottom income quintile have impoverishing and catastrophic expenditure, with the rate falling to under 3% in the top decile. The large share of households in the first quintile with impoverishing expenditure reflects the impact of health spending on poverty at lower levels of income. This is linked to the degree of insurance coverage as the share of households with impoverishing or catastrophic expenditure is only 2.2% among those with social insurance but just under 10% for the uninsured.

Share of the population with catastrophic and impoverishing health expenditure by quintile and by insurance status

Income quintiles/insurance status	By quintile					By insurance status		Total
	I	II	III	IV	V	Insured	Uninsured	
Households with catastrophic spending	4.7	4.2	2.4	2.8	2.9	1.2	5.1	3.4
Households with impoverishing spending	19.1	0.3	–	–	–	1.0	6.0	3.8
Catastrophic and impoverishing spending	19.3	4.2	2.4	2.8	2.9	2.2	9.6	6.3
Share of households insured by the SS	10.8	36.5	50.8	58.3	61.7	. .	. .	. .

Source: MoH (2004c) citing data from FUNSALUD based on the ENIGH survey. Share of households insured from Knaul *et al.* (2003).

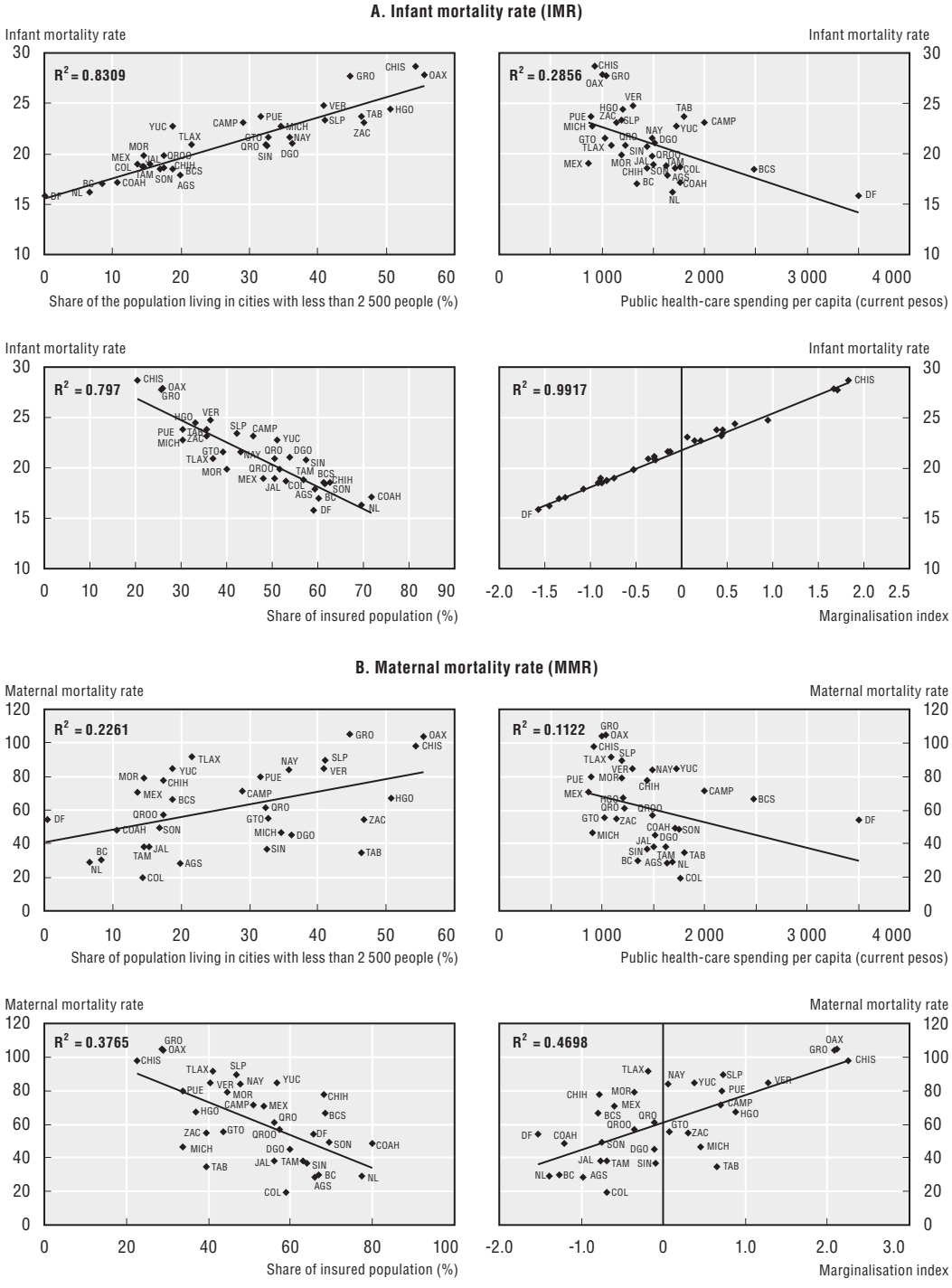
to treat their patients effectively. Judging quality and responsiveness independently from the level of financing and overall health-care supply is, therefore, a particularly difficult task in the case of Mexico. This section first examines health status, underlying risk factors, and subjective indicators of health status. It then looks at information on quality and examines some programmes influencing outcomes in this policy area.

2.2.1. Health status, subjective health and risk factors

Health status

Health status is affected by a wide range of factors in addition to the quality and effectiveness of care: income, education, diet, lifestyle and the epidemiological

Figure 2.3. **Indicators of health status and their relation with selected socio-economic indicators**



Note: Only two state labels have been included in the scatter for IMR *vs.* the marginalisation index because of visibility problems. Infant mortality rates are expressed per 1 000 live births. MMRs are expressed per 100 000 live births.

Source: Infant mortality rate: CONAPO (2004), *Proyecciones de la Población de México, 2000-2050*, Mexico. Maternal mortality rate: INEGI (2004b) based on CONAPO (2004), *Proyecciones de la Población de México, 2000-2050*, Mexico. Marginality index: CONAPO (2004) estimates based on INEGI (2000) XII Censo General de Población y Vivienda, 2000. Public spending per capita and share of insured population: MoH (2004a), *Boletín de Información Estadística*, Secretaría de Salud 2002, Mexico.

Table 2.4. **Indicators of health status in OECD countries, early 2000s**

	Life expectancy: females (years)		Life expectancy: males (years)		Infant-mortality rate[1]	Maternal-mortality rate[1]
	At birth	At 60	At birth	At 60		
Australia	82.6	25.2	77.4	21.4	5	4.8
Austria	81.7	24.1	75.8	20.2	4.1	2.6
Belgium	81.1	23.9	75.1	19.6	6.1	8.6
Canada	82.2	24.9	77.1	21	5.2	7.8
Czech Republic	78.7	21.5	72.1	17.3	4.2	3.2
Denmark	79.5	22.4	74.8	19.1	4.4	13.6
Finland	81.5	24	74.9	19.5	3	5.4
France	83	25.8	75.8	20.8	4.1	6.5
Germany	81.3	23.9	75.6	19.8	4.3	2.9
Greece	80.6	23.1	75.5	20.1	5.9	6
Hungary	76.7	20.9	68.4	16.1	7.2	8.3
Iceland	82.3	24.4	78.5	21.8	2.2	0
Ireland	80.3	22.9	75.2	19.2	5.1	11.6
Italy	82.9	24.8	76.8	20.4	4.7	2.7
Japan	85.2	27.4	78.3	21.9	3	7.3
Korea	80	22.8	72.8	18.1	6.2	15
Luxembourg	81.5	24.2	74.9	19.6	5.8	18.6
Mexico	**77.4**	**22.4**	**72.4**	**20.5**	**20.5**	**65.2**
Netherlands	80.7	23.5	76	19.5	5	9.9
New Zealand	80.9	23.9	76	20.3	6.3	8.8
Norway	81.5	24	76.4	20.2	3.9	5.3
Poland	78.7	22	70.4	17.1	7.5	5.4
Portugal	80.5	23.3	73.8	19.4	5	2.5
Slovak Republic	77.8	21	69.9	16.4	7.6	7.9
Spain	83.1	24.9	75.7	20.3	3.4	4.2
Sweden	82.1	24.3	77.7	20.9	2.8	4.4
Switzerland	83	25.3	77.8	21.4	4.5	6.4
Turkey	70.9	18.1	66.2	16	42.6	49.2
United Kingdom	80.4	23	75.7	19.4	5.3	6
United States	79.8	23.4	74.4	20.1	6.8	9.9
Average	80.7	23.5	74.8	19.5	6.2	8.4
Standard deviation	2.6	1.8	2.9	1.6	7.1	8.8

1. IMR per 1 000 live births. MMR per 100 000 live births.

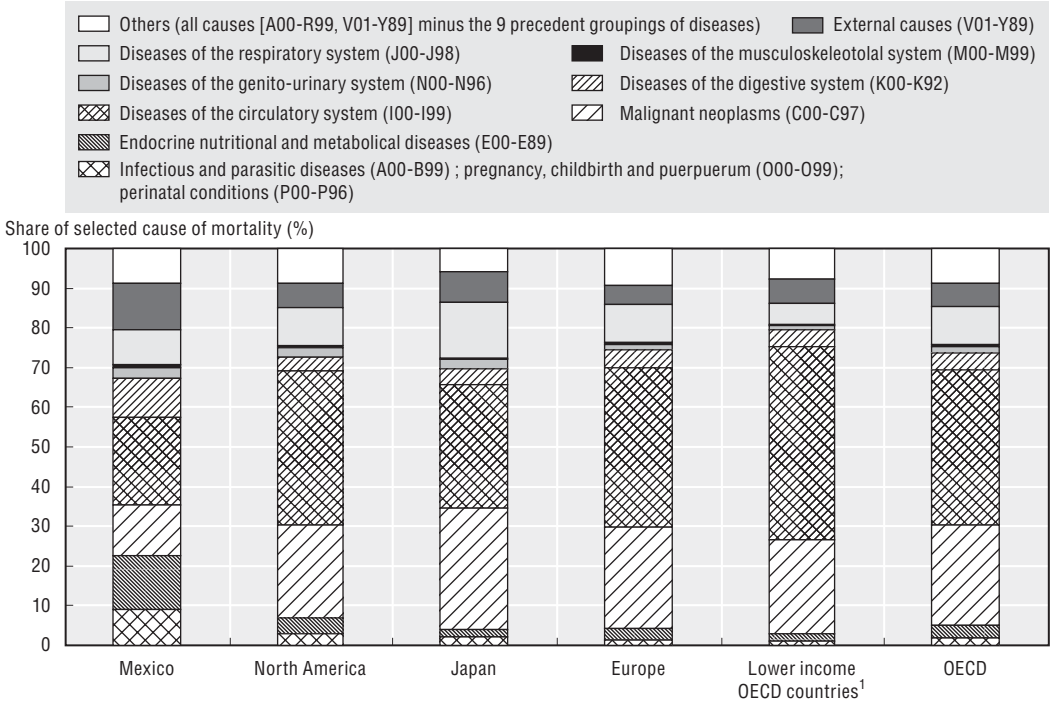
Source: OECD (2004c), OECD Health Data 2004, 2nd edition, Paris; MOH (2004c), Salud: Mexico 2003, Mexico; CONAPO (2004), Proyecciones de la Población de México 2000-2050, Mexico.

environment are all important determinants. Nonetheless, these indicators provide evidence of the most important backlogs and gaps with respect to other OECD countries and hints as to how health outcomes can be improved most effectively.

As noted in Chapter 1, the Mexican population has life expectancies at birth that are two to three years less than OECD averages for men and women and about seven years less than the best performing OECD countries (Japan for women and Iceland for men) (Table 2.4). However, since the average lifespan at age 60 is only one year less than the OECD average, the major part of the difference in life expectancy at birth between Mexico and the rest of the OECD arises from premature mortality.

Despite a continuing shift towards patterns in more developed OECD countries, Mexico retains a very different structure of mortality when compared with most other OECD members (Figure 2.4). Deaths from infectious and child-related diseases remain

Figure 2.4. **Causes of mortality: Mexico and selected OECD country groupings, early 2000s**



Note: Data refer to early 2000 except for Belgium (1997); Denmark, France, Greece and the United Kingdom (1999). Causes of mortality classified by International Classification of Diseases, ICD-10.

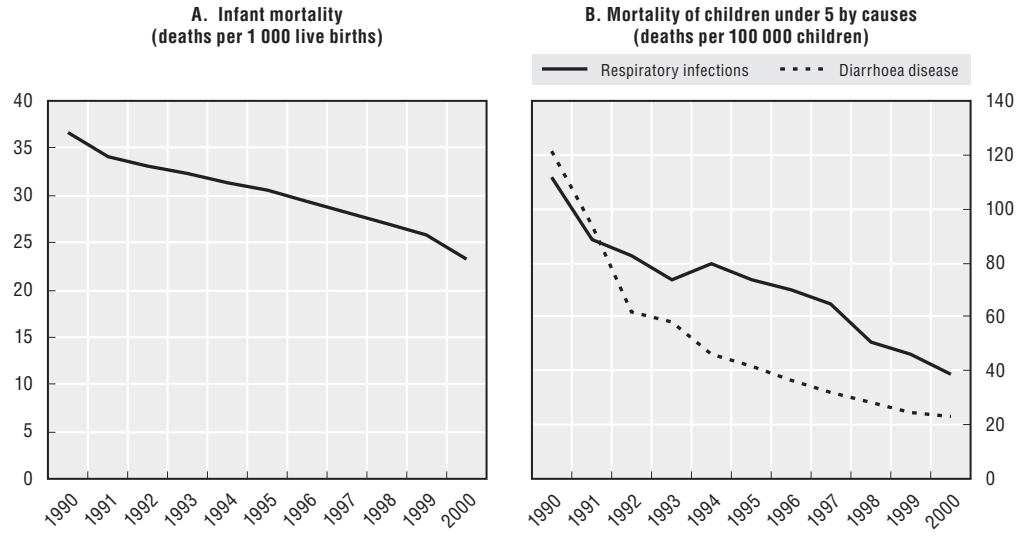
1. Includes Czech Republic, Greece, Hungary, Poland, Portugal and Slovak Republic.

Source: OECD (2004c), *OECD Health Data*, 2nd edition, Paris; Mexican data: MoH (2004e), *SINAIS Estadísticas de Mortalidad, 2001*, Mexico.

comparatively large, along with endocrinal, nutritional and metabolic diseases. Deaths resulting from external causes (*e.g.,* suicides and accidents) are also high and violence is considered as an important public health problem (Soberón *et al.*, 2003). Infant mortality is around 20 per 1 000 live births,[9] over four times higher than the average of the more developed OECD countries and higher than might be expected when compared with a wider range of countries.[10, 11] Maternal mortality at 76 per 100 000 births is also over nine times the OECD average.

Nonetheless, Mexico has made important strides in improving health status. The share of deaths as a result of communicable disease and prenatal, nutrition and reproductive problems has fallen to 14% in 2000 from over 60% in 1960. By 2000, the share of deaths from non-communicable diseases had risen to 73.3% while injuries remained in the range of 12.7% (MoH, 2001a). Patterns of infant and child mortality provide further evidence of this transition: infant (under one year) and child mortality (under 5 years) rates continue to fall (Figure 2.5). Deaths of children less than one year of age in hospitals are now more and more concentrated in the period of 28 days after birth and are linked to non-infectious diseases, many of which require high-technology care to treat (MoH, 2003). This contrasts with earlier patterns where child deaths were largely the result of respiratory problems and diarrhoea, illnesses that are associated with poverty. Since 1990, the number of deaths due to diarrhoea among children under 5 has fallen by 85% and the fall for respiratory-related deaths is similar (Figure 2.5).

Figure 2.5. **Trends in infant and child mortality**



Note: Children dying in the first year of life as a percentage of 1 000 live births.

Source: INEGI (2004c), *Dinámica de la población. Mortalidad*, Mexico; MoH (2004b), *Encuesta Nacional de Evaluación del Desempeño* (ENED), Mexico.

Health status has a distinct regional dimension and this, in turn, is linked to socio-economic conditions and the degree of marginalisation (López-Ríos, 1997; Zurita *et al.*, 2003). With the possible exception of life expectancy at birth – where differences in life expectancy vary across states by only 2½ to 3 years – interstate differences in health status indicators are substantial (Table 2.5). Infant mortality rates vary by a factor of almost 2 and maternal mortality by a factor of almost five reflecting the fact that many women in the poorly-served states give birth without the presence of a doctor or outside a medical clinic or hospital.[12] Health status is also much weaker in rural areas (MoH, 2003). Figure 2.3 shows scatter diagrams suggesting that these backlogs are closely related to a range of socio-economic variables. These data also show that, once the socio-economic variables have been controlled for, some states do markedly better than others. For example, there are wide differences in child and maternal mortality rates across states for any level of per capita public spending on health.

Subjective health status

Subjective indicators of health status can provide information on how the population perceives their need for health care. This, in turn, will influence their desire to use health-care services. Mexican surveys of self-reported health status (MoH, 2003) indicate that two thirds of the total population considers themselves to be in good or very good health. Men consider themselves to be in better health than women and this difference holds across all age groups. There are wide differences in the same indicators across Mexican states. These appear to be weakly related to differences in levels of economic development (Figure 2.6) but not to levels of per capita health-care spending – either public or total. Such measures are difficult to compare across countries, but Mexico is in the lower half of the distribution

Table 2.5. **Indicators of health status by state, 2003**

	Life expectancy at birth (years)		Infant mortality rate[1]	Maternal mortality rate[1]	Marginality index[2]
	Males	Females			
Aguascalientes	73.19	77.95	17.01	55.8	–0.97
Baja California	73.94	78.34	16.15	40.54	–1.27
Baja California Sur	72.97	77.98	17.56	98.98	–0.80
Campeche	71.91	76.75	22.02	58.75	0.70
Coahuila	73.31	78.05	16.2	44.23	–1.20
Colima	72.98	77.72	17.77	28.48	–0.69
Chiapas	70.59	75.91	27.38	112.1	2.25
Chihuahua	73.41	78.1	17.7	51.53	–0.78
Distrito Federal	73.76	78.45	15.03	69.64	–1.53
Durango	72.38	77.23	20.05	61.95	–0.11
Guanajuato	72.34	77.2	20.55	59.99	0.08
Guerrero	70.79	76.19	26.46	119.19	2.12
Hidalgo	71.46	76.72	23.26	69.77	0.88
Jalisco	73.03	77.82	18.02	43.13	–0.76
México	72.93	77.8	18.06	77.4	–0.60
Michoacán	72.07	77.01	21.68	56.77	0.45
Morelos	72.75	77.55	18.88	88.58	–0.36
Nayarit	72.33	77.3	20.58	79.47	0.06
Nuevo León	73.43	78.21	15.38	13.11	–1.39
Oaxaca	70.82	76.12	26.62	65.66	2.08
Puebla	71.75	77	22.67	81.43	0.72
Querétaro	72.44	77.39	19.82	54.77	–0.11
QuintanaRoo	72.76	77.59	18.84	65.33	–0.36
San Luis Potosí	71.9	76.89	22.28	83.97	0.72
Sinaloa	72.52	77.4	19.75	21.42	–0.10
Sonora	73.18	77.87	17.61	38.83	–0.76
Tabasco	71.84	76.83	22.67	54.26	0.66
Tamaulipas	72.93	77.68	17.81	37.94	–0.69
Tlaxcala	72.42	77.52	19.9	77.23	–0.18
Veracruz	71.41	76.59	23.59	71.2	1.28
Yucatán	71.9	76.85	21.56	63.16	0.38
Zacatecas	72.05	76.89	22.04	76.12	0.30
República Mexicana	**72.4**	**77.4**	**20.5**	**65.2**	
Standard deviation	0.8	0.7	3.2	23.8	1.0

1. Infant mortality rates are expresssed per 1 000 live births. MMRs are expressed per 100 000 live births.
2. The higher the index, the greater the degree of socio-economic marginalisation.

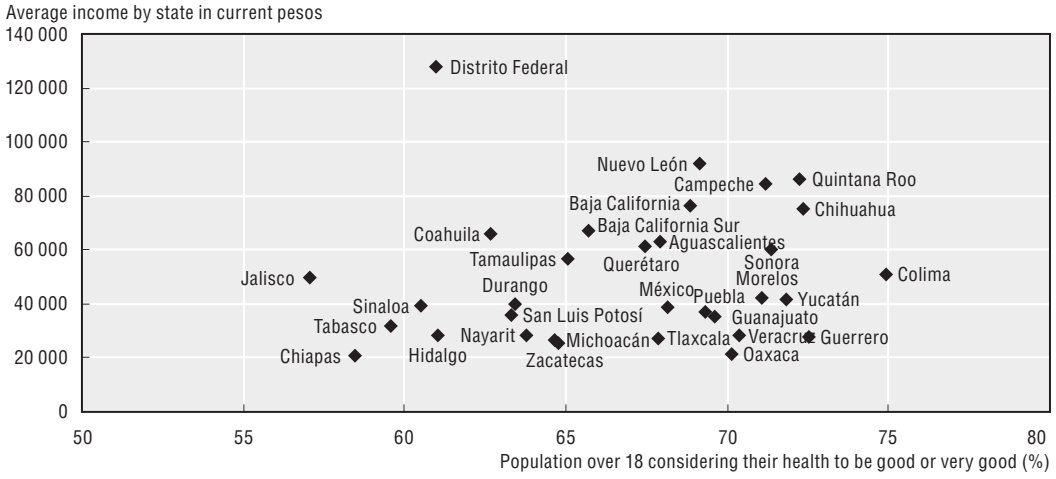
Source: Life expectancy and infant mortality rate: estimates by CONAPO (2004), *Proyecciones de la Población de México, 2000-2050*, based on INEGI (2000) XII Censo General de Población y Vivienda; Maternal mortality rate: INEGI (2000) XII Censo General de Población y Vivienda 2000; Marginality index: CONAPO (2004), *Indices de marginación, 2000*, based on INEGI (2000) XII Censo General de Población y Vivienda 2000.

of OECD countries although still above countries such as Hungary, Italy, Japan, Korea, Poland and Portugal (Figure 2.7).

Risk factors

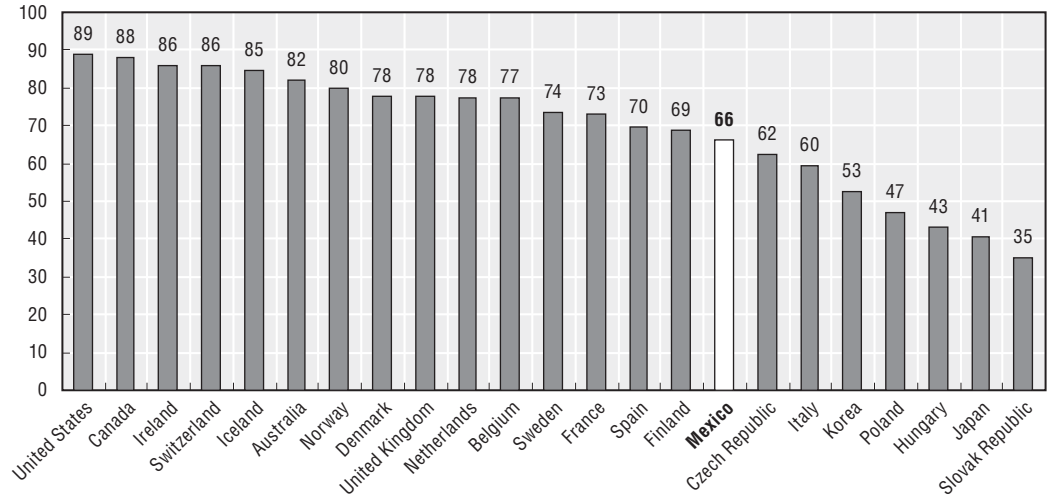
As noted in Chapter 1, the epidemiological transition from communicable to more chronic and age-related disease has presented a number of new challenges to Mexican health policy. High levels of immunisation have been achieved. Nonetheless, the share of overweight and obese individuals has continued to climb over the past decade and a half. Around 30% of the population is obese and nearly 60% obese or overweight – placing

Figure 2.6. **Perceived health status and average income by state, 2002**



Source: MoH (2003), *Salud: México 2002. Información para la rendición de cuentas*, Mexico.

Figure 2.7. **Population considering their health to be good or very good, OECD countries, early 2000s**



Source: OECD (2004c), *OECD Health Data 2004*, 2nd edition, Paris.

Mexico among the countries with the highest rates in the OECD area (Table 2.6). This appears to be associated, as elsewhere, with poor dietary habits (including the increased consumption of soft drinks) and an increasingly sedentary lifestyle (MoH, 2003). Although data are weak, higher obesity may have been reflected in the increasing prevalence of diabetes, which has become the single most important cause of mortality and can be expected to slow progress in the reduction in the prevalence of circulatory problems (MoH, 2001b). The volume of alcohol consumed per capita is almost half the OECD average.

Table 2.6. **Indicators of public health risks in OECD countries, early 2000s**

	Immunisation: Measles-DTP[1]	Alcohol consumption (liters per capita)[2]	Tobacco consumption (percentage of population being daily smokers)	AIDS (incidence per million population)	Overweight or obese population (% total population, BMI > 25 kg/m)[3]
Australia	92.5	9.9	19.8	13	58.4
Austria	80.5	11	36.3	7.9	46.1
Belgium	86.05	9.6	29	18.2	44.4
Canada	85.65	7.8	18	9	n.a.
Czech Republic	98.3	11.9	24.1	0.8	51.1
Denmark	98.5	11.2	28	7.7	41.7
Finland	96.5	9.2	23.4	4	n.a.
France	92.1	10.5	28.6	32.6	37.5
Germany	94.05	10.4	24.7	8.7	47.7
Greece	88	9.1	35	8.6	n.a.
Hungary	99.85	13.4	33	2.6	51.4
Iceland	95	6.5	21.6	0	48.8
Ireland	78.5	14.3	n.a.	3.4	47
Italy	87.65	8.7	24	30.5	n.a.
Japan	92.5	8.2	30.9	2.4	25.8
Korea	93.6	9.2	30.4	1.8	30.6
Luxembourg	n.a.	14.7	30	2.3	51.6
Mexico	**96.1**	**4.6**	**26.4**	**44.8**	**62.3**
Netherlands	97	9.8	34	12.2	45
New Zealand	86.85	9.2	25	4.3	n.a.
Norway	89.5	5.9	29	7.3	42.7
Poland	98.5	8.1	27.6	3.4	n.a.
Portugal	92.85	11.5	20.5	81.8	49.6
Slovak Republic	99.35	8.8	24.3	0.4	57.6
Spain	97.5	11.2	31.7	59	48.3
Sweden	96.5	6.9	17.8	6.7	44.8
Switzerland	86.5	10.8	25.3	27.1	37.1
Turkey	80	1.4	n.a.	0.7	n.a.
United Kingdom	87.9	11.1	27	14.7	61
United States	86.6	n.a.	18.4	148	65.7
OECD average[4]	91.4	9.7	26.6	17.9	47.0
Standard deviation[4]	6.1	2.7	5.2	31.0	9.3

1. Share of children receiving vaccinations. DTP refers to diphteria, tetanos and pertusis.
2. Consumption by individuals over 15 years.
3. BMI stands for Body Mass Index, and is the weight in kilos/square of height in meters.
4. Average and standard deviation exclude Mexico.

Source: OECD (2004c), *OECD Health Data 2004*, 2nd edition, Paris.

Tobacco consumption is about average for the OECD countries but still remains an important public health problem (Tapia-Conyer *et al.*, 2001b).[13]

2.2.2. Patient satisfaction and system responsiveness to patient needs

Even if public spending and levels of resources attributed to health-care are limited, Mexicans appear to be largely satisfied with the care that they receive and levels of satisfaction are high when compared with what is known for other OECD countries (Figure 2.7). Survey results (World Bank, 2004b) from the beginning of the decade indicate that less than 2% of the population considered that the care in their last consultation was poor or very poor and almost 85% found it good or very good, with over 90% willing to go back to the same institution for further treatment. It should also be noted that the level of satisfaction with private suppliers appears to be higher than with public providers (Table 2.7).[14]

Table 2.7. **Perceived quality of care by health-care provider**

Share of individuals, percentage

Health-care provider	Very good	Good	Average	Poor	Very poor	*Average to very poor*
IMSS-Oportunidades	4.2	76.7	18.5	0.6	. .	19.1
IMSS	6.6	65.7	24.4	3.3	. .	27.7
SHS	4.7	82.4	11.7	1.1	0.1	12.9
ISSSTE States	9.4	75	12.5	. .	3.1	15.6
ISSSTE	18.8	64.1	15.6	. .	1.6	17.2
Private	10.7	78.4	9.3	1.6	. .	10.9
TOTAL	**6.3**	**78.2**	**14.1**	**1.3**	**0.1**	15.5

Source: World Bank (2004b), "Universal Health Insurance Coverage in Mexico: In Search of Alternatives", Human and Social Development Latin America and the Caribbean Region, Mexico Colombia Country Management Union, mimeo.

At the same time, measured waiting times, while officially reported, appear surprisingly short. Average waiting time, on the basis of 2003 data, was only 26 minutes for a consultation in a primary care clinic (with IMSS and IMSS-Oportunidades having the lowest) and 18 minutes after arrival for emergency services (MoH, 2004b).[15] Waiting times in IMSS for surgical operations – defined as the time between the moment care is programmed and the actual operation – are 8.5 days for the IMSS and 11.4 for other institutions (IMSS, 2003b). Satisfaction surveys in IMSS in 2001 suggested that just under 30% considered that the waiting times were too long.[16] While these data compare favourably with similar indicators in other OECD countries (Hurst and Siciliani, 2004), the definitions do not always appear to be the same. For example waiting times for surgical operations do not include the time since the patient was put on a waiting list and may cover other operations than just elective surgery. The federal MoH recognises that there are lengthy waiting lists in the SHS system, particularly for specialist services in second-level hospitals and for third-level hospitals and higher technology care. And, even though these response times appear short, a large share of the population still relies on the private sector. Anecdotal evidence suggests that this reflects a general concern over quality and timeliness of care.[17]

Growing attention is being paid to the rights of patients, something that had been often neglected in the past. There were many reports of ill-treatment and discrimination against the poor and, particularly, the indigenous population. Government programmes at the beginning of the decade indicated a desire to establish clearly the rights of patients and codes of ethics with a system of follow-up of complaints and to introduce systems of performance measurement. A system of patient rights has been set up. In addition, patients now have access to a system of dispute resolution through conciliation and arbitration that is free and less costly than going through the civil court system (CONAMED) (Box 2.2).

2.2.3. Quality of care: regulatory and programme aspects

At the federal level, there has been a shift away from day-to-day management of programmes (as these decisions have been shifted to the states) and towards monitoring overall system performance. Data collection has improved, and an agreed set of quality performance indicators has been established with the states. As noted in Chapter 1, many of these show very wide differences across states and narrowing these differences is a high priority for the authorities.

Box 2.2. **Dispute resolution within the National Commission for Medical Arbitration**

Mexico has put in place a unique system of resolving disputes relating to the quality of care. The National Commission for Medical Arbitration (Comisión Nacional de Arbitraje Médico or CONAMED) was created by a federal government decree in 1996 and is a decentralised and independent organisation under the MoH. It provides impartial and objective advice aimed at achieving agreements between professionals and patients where medical errors or malpractice have occurred or where patient rights have been violated. By creating an effective means of dispute resolution between potential litigants, it hopes to further the achievement of the following goals:

- increase pressure to improve medical practice and the quality of care;
- further patients' rights to redress by creating a simpler vehicle to address torts and complaints;
- reduce the incentive for defensive medicine that can occur in countries with high levels of litigation, such as the United States and Australia; and
- channel information back to institutions governing the system (*e.g.* the MoH), where there is evidence of systematic errors or problems.

This service is free, thereby reducing up-front costs of legal fees by the patient. The inclusion of medical specialists in the procedure improves the availability of information to patients and information on systematic problems of quality or those of a public health nature can be fed back to policy makers for action.

Preceding arrangements of seeking redress through the courts were long and costly, and worked against the interests of the patients. Simpler methods of dispute resolution, which are less bound by the procedural requirements of existing legal systems, can reduce overall social costs by releasing resources (*e.g.,* the court system and lawyers) for other uses.

Individuals with complaints or claims first receive counselling and orientation by members of the Commission with a medical background who evaluate the validity of the claim. Where claims of malpractice or medical errors are considered legitimate, the Commission then contacts the provider who can be a private doctor or care institution, proposing its offices as conciliator. These proceedings are completely confidential. In accepting conciliation, the provider agrees to accept arbitration if an agreement cannot be found and rejects any claim for subsequent appeal. In conciliation, the two parties try to find an agreement with the help of a doctor and a lawyer of the Commission. In the case where agreement cannot be found, an arbitration commission takes a decision based on specialist advice and sets the level of damages within the limits set by the law.*

The number of cases is still relatively small – around 6 000 for all of Mexico – but it is increasing by 10% per annum. Efforts are being made to publicise the system through TV commercials, radio and information on the patients' bill of rights. All certified hospitals must show material about the CONAMED and hospital staff must be made aware of the system. Many complaints of abuse of patient rights are often dealt with directly with providers, often with a resolution within a period of 48 hours. Patients appear highly satisfied with the operation, with 96% considering that the services in the areas of treatment, impartiality and time were "good" or better (MoH, 2004a). The procedure would appear to be shorter than the existing courts and the number of resolved conflicts is roughly equal to the number of cases during any one calendar year. Confidentiality of the approach is appealing to providers, because it reduces the risk of loss of reputation. But in

Box 2.2. **Dispute resolution within the National Commission for Medical Arbitration** *(cont.)*

doing so, it also reduces pressure on providers to ensure high-quality care. In general, however, responsibility for medical errors or malpractice by individual doctors in public services is often covered by the employer, although some institutions do provide private insurance coverage for malpractice. In either case, the incentives for limiting malpractice are weakened.

* Limits to compensation are based on legislation concerning worker's compensation in the case of injury. The reimbursement cannot exceed 4 times the value stated in the law. Additional expenses can be claimed – *i.e.* for therapy for trauma. "Moral" damages can also be claimed in states where they are allowed. For example, in the federal district, such damages cannot exceed 50% of the value of the claim for material damages.

Prevention policies

Mexico appears to perform strongly in the area of prevention (Box 2.3). In 2002, the share of children under one year of age having received the full programme of vaccination was around 95% and 98% for children under four years of age, with all states uniformly high (MoH, 2004c). It also has active programmes against tuberculosis, dental health, sexually-transmitted disease including HIV/AIDS, rabies, cholera, malaria, dengue fever, cervical and breast cancer, diabetes, high blood pressure and substance abuse. There is also a strong family planning system and this has been one of the factors underlying the fall in gross fertility rates. A strong system of epidemiological surveillance has been successful in limiting the spread of cholera, rabies and tuberculosis and reducing the incidence of cervical cancer. But success has been less marked in areas such as HIV infections. In addition, the share of the population without clean water remains at 35-40%, ranging from a high of 56% in Chiapas to 1-2% in Quintana Roo (MoH, 2004a).

Mexico's successes in the prevention field have been based on national programmes organised and financed at the federal level by the MoH, with the states often taking on the operative role. Some of these responsibilities have now been taken over by the state-level health ministries, perhaps complicating somewhat the task of policy co-ordination at the national level. The social insurance systems have played a relatively small role in establishing coherent prevention programmes at a national level. This now appears to be changing as both the social security institutions (IMSS and ISSSTE) and the MoH have moved towards a family-care model that includes prevention.

Issues of quality in provision and human resources

Despite little systematic information on the quality of care received (*e.g.*, on the number of medical errors), there has been growing concern about the quality of care in all areas of the health-care system. There appears to be wide variability in quality across both the public and the private sector for health professionals and providers, partly reflecting the fact that many of the schools of medicine were not themselves accredited or certified (Ruiz *et al.*, 2003). Concern about the quality of institutional care is perhaps most marked for the myriad of small hospital units where qualified full-time medical personnel are either absent or in short supply (MoH, 2001b). But there is considerable variation within the public sector as well, particularly within the SHS services, which are less generously financed. There also appears to be – as in all OECD countries – widespread variation in the practice of medicine, suggesting

Box 2.3. **Health-prevention activities in Mexico**

Mexico has placed a strong emphasis on disease prevention and health promotion. Some successful examples are indicated below.

Epidemiological surveillance and control for communicable disease

Mexico has developed over the years a National Epidemiological Surveillance System (NESS) (Tapia-Conyer *et al.*, 2001a). This comprises over 17 000 primary health-care units within all health institutions of the country as well as a "sentinel" network of 133 hospitals with more than 80 beds and an array of special disease-specific surveillance systems (HIV/AIDS, tuberculosis, vector borne diseases, vaccine preventable diseases, etc.). The NESS also includes surveillance of mortality. The system registers over 100 diseases for which notification is compulsory, which were defined by the national and state epidemiologic authorities of all the health institutions (MoH, SHS, IMSS, ISSSTE). Every year around 50 million cases are registered in the system and the information is published on a weekly basis. This system also is intended to limit public-health risks as a result of natural and man-made disasters.

From vertical programmes to an integrated prevention system

Until recently, prevention activities in Mexico have been based on vertical programmes operated by the federal government. More recently, prevention work has been progressively integrated into the care provided by social insurance and MoH providers, particularly in the light of the growing importance of lifestyle-related illnesses. Epidemiologic information, as well as other information generated in the MoH, is used to support the 22 Prevention and Promotion Programmes. These include, among others: childrens' health, maternal health, control of vector-borne diseases, diabetes and hypertension control, HIV/AIDS and other STDs, and tuberculosis. Mexico has also had a long history of improving nutrition for the poor and the population in general (Barquera *et al.*, 2001). A very important strategy to support the operation of these programmes is "*Health through the life cycle*", which defines the main preventive needs and actions for individuals at different age groups. This programme is integrated, where appropriate, with the National System of Health Cards (Sistema Nacional de Cartillas de Salud), which was created in 1993 and acts as the official registry of prevention activities of the federal government. An information system has also been developed ("Caminando a la Excelencia") to assess the quality of the provision of preventive services. This allows programme managers at the national, state and sub-state levels to evaluate their programme performance, both relative to other institutions or states and over time.

IMSS has introduced its own prevention system, Prevenimss, and ISSSTE has introduced a parallel programme. These health programmes, which are valid only for their affiliates, aim at integrating prevention activities into a broader framework of family medicine. The focus of the prevention programmes varies by four age groups depending on the key health problems and health risks that are typically found in each age group, in a manner similar to the Cartillas Nacionales de Salud promoted by the MoH.

Prevention of tobacco use

Tobacco use and dependence has been identified as one of the main causes of preventable and premature deaths. In Mexico, the population that smokes is estimated to reach 26.4% of the urban population aged between 18 and 65. A Mexican smoker consumes an average of 8 cigarettes per day. Smokers are predominantly men (64%), young people between 18 and 29 years (44%), and often belong to less privileged socioeconomic groups (59%).

Box 2.3. **Health-prevention activities in Mexico** *(cont.)*

Policymakers in Mexico have placed strong emphasis on reducing the demand for tobacco and seeking to recover part of the financial cost that tobacco consumption generates for the public health system. In June 2004, the Ministry of Health – through the COFEPRIS – and the tobacco industry signed an agreement to extend tobacco-related regulation. This agreement establishes that, for each cigarette sold, the tobacco industry will make a voluntary contribution to the Fund for Protection against Catastrophic Expenses (*Fondo de Protección contra Gastos Catastróficos,* FPGC), one of the funds created under the System of Social Protection in Health (SPSS) (see Chapter 3). There will be a progressive increase in the price of cigarettes starting in 2004 and a corresponding contribution to the FPGC that will rise to 5 cents per cigarette sold by the end of 2006 by which time state revenue from this agreement is expected to reach around 3.6 billion pesos. On the basis of estimates of the price elasticity of the demand for cigarettes, it is also anticipated that there will be a reduction in the consumption of cigarettes of approximately 280 million packs during the same period.

Prevention of alcohol and other substance abuse

The National Council Against Addictions (Consejo Nacional contra las Adicciones, CONADIC), operating within the Ministry of Health, coordinates efforts and activities related to substance abuse. It promotes prevention, as well as co-operation and information exchanges across governmental institutions, civil society and social institutions working in this field. A separate council, the National Council on Mental Illnesses (Consejo Nacional de Salud Mental) deals with prevention and other activities related to mental problems.

that there is need for establishing best-practice clinical guidelines and putting incentives in place to encourage their use.[18] Existing practice patterns are often not in line with international standards (Cercone *et al.*, 2001). For example, the share of caesarean births has grown rapidly and is just under 38% of all births, more than twice the levels recommended by the WHO (15%). The increases have been most marked in private and ISSSTE providers.[19] Use of antibiotics is also higher than recommended.

Mexico has put in place a system of data collection and surveillance linked to its "National Crusade for Quality of Health Services" that is attempting to fill in some of these gaps in information (Box 2.4). As noted in Chapter 1 efforts to accredit and certify medical institutions are progressing under the aegis of the General Health Council (Consejo de Salubridad General, CSG) which has set criteria for evaluation that conform to principles of science, ethics and quality that govern professional practice. This aims to encourage the introduction of evidence-based medicine, thereby narrowing the wide observed differences in practice patterns.

Independently, IMSS has been moving to improve its own information systems at the primary level, establishing electronic files of patients, and the analysis of performance in terms of quality and efficiency and the impact of health programmes between regions.

Under the current administration the Certification Programme for Medical Care Establishments was established as a core strategy of the National Crusade for Quality of Health Services.[20] This process can apply to hospitals and other medical care, psychiatric, rehabilitation and haemodialysis ambulatory units but is of a voluntary nature. The criteria

Box 2.4. **The Crusade for Quality of Health Services**

The National Crusade for Quality was introduced under the National Health Programme 2001-2006, and is part of an overall vision of the Mexican government for improvements in the quality of health services. The aims of the National Crusade are:

i) to improve quality of care and narrow differences in quality between institutions, levels of care and individual care units;

ii) to ensure responsiveness to patients; and

iii) to improve the professional satisfaction of health-care workers.

The National Crusade measures quality, including both technical quality and attention to patient needs, through a system of indicators. A data system has been constructed (INDICA) to transmit these data, collected on a voluntary basis, and to improve transparency. The system is now used by 7 000 provider units. Indicators are collected in the following main areas: information given to patients and satisfaction for the treatment received; waiting times; supply of drugs and, more recently, indicators of effective treatment of children, patients with diabetes, and other chronic diseases; nosocomial infection; and, caesarean sections. Audits of information from individual providers have been introduced and feedback on the quality of the reported data has drawn on citizen groups (*e.g.*, Rotary-type clubs) who check on what patients report. Special telephone lines have been set up for complaints.

Focus groups are brought together at the state level in State Quality Committees. More recently, Observatories of Hospital Performance have been set up in the states' Ministries of Health to oversee their own hospitals. These units will attempt to gather information in four domains: administration and information systems; clinical efficiency and effectiveness; satisfaction of patients; and, financial performance.

In an effort to improve incentives, national quality prizes have been introduced along with a National Forum for health-care quality to promote best practice examples. More importantly a culture of contracting for quality is beginning to be introduced. Efforts are being made to improve the capacity of the state authorities to negotiate with the state providers. Agreements have been made with the states as regards meeting quality indicators in exchange for some funding for providers. Such management agreements have been introduced at the state level with 400 medical units. These provide targets to be reached with the INDICA system being used to monitor outcomes.

The Crusade for Quality is seen by the authorities as a medium-term process of changing mentalities and provider quality within the health-care sector. In this context, greater attention is being paid to issues of human resources. The programme forms part of a wider effort to improve the quality of providers through accreditation of medical schools and the certification of health-care professionals established under the aegis of the General Health Council. The number of certified specialist doctors has increased from 22 000 in 1990 to 62 000 in 2003. Management training – which has been long neglected – has been recently reintroduced and increased attention is being paid to the link between quality and the working environments of workers.

of evaluation concern the structure and process of care and health-care outcomes. Certification is valid for three years. Evaluations are free and are undertaken by 454 trained evaluators drawn from health institution personnel.[21] From September 2002, 525 hospitals have requested evaluation. Of the 135 that have actually been evaluated, 120 have been

certified. Over the same period, 20 psychiatric hospitals and 137 ambulatory medical care units have registered for evaluation. Of these, 16 have been reviewed with 4 psychiatric hospitals and 12 medical care ambulatory units receiving certification.

As regards medical professionals, certification and re-certification appear to have been a requirement for employment in many private (high-level) sector establishments, but this has not been a requirement for employment in the MoH services or in IMSS (Ruiz *et al.*, 2003), although internal controls over quality of care appear to have been instituted earlier in the latter. As a first step in the direction of better regulation, the authorities will now require that all new medical doctors entering National Health Service institutions graduate from an accredited institution. As a consequence, all medical schools have now applied for accreditation.

Specialist certification has been overseen by the respective professional associations and levels of quality may have been better maintained for this segment of supply. However, there is no generalised system of certification for generalists, and there is concern that quality at this level may be a problem, particularly among those operating in private practice with no connection with either the public or quality private sector.

Considerable scope remains for improvements in quality. A recent survey of 119 SHS hospitals – of which only 30% had been certified by the CSG – showed that only 30 to 50% of specialists in general hospitals were certified. Only between 46 and 60% of general hospitals had practice protocols for standard specialties available (although the level reached 70% in specialist hospitals). Fifteen per cent were found to be low productivity and, on average, only 80% of doctors' requests for pharmaceutical drugs were filled in the medical unit (falling to under 50% in some categories). There were a significant number of hospitals that did not meet Mexican norms for the operation of support services, particularly for X-rays for smaller general hospitals (41%) and for specialist hospitals (20%) (MoH, 2004b).

Quality issues in the pharmaceutical drug sector

Lack of regulatory control for private pharmacies (Chapter 1) creates problems of quality control in the sale of drugs: individuals can obtain drugs without a prescription or doctors may be on staff to provide one, which can encourage over-prescribing or prescribing the highest-cost drugs.

The marked difference in average prices between drugs supplied in the private sector and those purchased by the public authorities has implications for access to health-care services.[22] The lack of availability of drugs in public providers forces patients of public institutions to purchase drugs in the private sector at much higher cost and this places a particular burden on low-income households.

The Mexican authorities have made important progress in improving quality controls for generic products used in the public sector (Chapter 1).

2.3. Assessing the efficiency of the Mexican health-care system

A salient feature of the overall Mexican health-care system is the fact that over half of the total value of health-care supply originates in the private sector. While there are numerous reasons for choosing private health-care services (proximity to the supplier; shorter waiting times; and private preferences for "higher-quality" care), it may also reflect lack of public supply and/or inefficient use of existing public-sector resources.[23] Since increased insurance coverage of the population will, in the Mexican context, require increased supply from public providers, enhancing the efficiency of the National Health System is of key importance.

2.3.1. The supply and use of health-care services in an international context[24]

Despite the low resource levels for the provision of health-care services (see Chapter 1), international comparisons show, paradoxically, that the use of the system is low by OECD standards and that the intensity of use of these resources also tends to be below-average (Tables 2.8 and 2.9). Consultations per capita and the number of hospital admissions, bed days and surgical operations are all at the lower end of the range of OECD countries. It is difficult to discern whether this reflects low demand or inadequate supply. Demand may be low because of the relatively young age structure of the population and associated patterns of disease, attitudes regarding when one should consult a doctor and the degree of cost-sharing – for example, for SHS services. Alternatively, low intensity of use could also signal inefficient use of resources. High levels of private spending on health care may, then, result from a spill-over of un-satisfied demand for public-sector health services.

Table 2.8. **Indicators of use of health-care resources in OECD countries, early 2000s**

	Doctor's consultations per capita	Acute care beddays use per capita	Discharges per 1 000 population	Total surgical procedures (inpatients per day) per 1 000 population
Australia	6.2	1	156.5	91.3
Austria	6.7	1.7	292.1	n.a.
Belgium	7.8	n.a.	162.0	530.2
Canada	6.2	1	90.6	181.9
Czech Republic	12.9	1.7	218.6	n.a.
Denmark	7.1	1	195.8	207.6
Finland	4.3	0.9	251.7	91.2
France	6.9	1.1	252.1	n.a.
Germany	7.3	n.a.	200.6	n.a.
Greece	n.a.	1	159.2	n.a.
Hungary	11.9	1.7	253.0	200.1
Iceland	5.6	n.a.	n.a.	n.a.
Ireland	n.a.	0.9	122.8	197.8
Italy	6.1	1.1	146.8	73.3
Japan	14.5	n.a.	112.2	n.a.
Korea	10.6	n.a.	110.7	n.a.
Luxembourg	6.2	1.4	176.3	214.1
Mexico	**2.5**	**0.4**	**41.3**	**30.4**
Netherlands	5.6	0.8	93.9	75.1
New Zealand	4.4	n.a.	205.6	48
Norway	n.a.	0.9	162.6	n.a.
Poland	5.6	1.4	131.4	n.a.
Portugal	3.6	0.8	78.0	58
Slovak Republic	13	1.5	193.4	n.a.
Spain	8.7	0.8	107.3	67.3
Sweden	2.9	n.a.	160.1	n.a.
Switzerland	3.4	1.2	154.1	118.6
Turkey	3.9	0.4	79.1	n.a.
United Kingdom	4.9	1.1	246.7	133.1
United States	8.9	0.7	98.1	n.a.
Average OECD	7.1	1.1	164.7	152.5
Standard deviation	3.2	0.3	59.6	120.4

Source: OECD (2004c), *OECD Health Data 2004*, 2nd edition, Paris.

Table 2.9. **Indicators of intensity of use of health-care resources in OECD countries, early 2000s**

	Consultations per practising physicians per year	Acute care occupancy rate (per cent of available beds)	Acute care turnover rate (cases per available bed)	ALOS: acute care (days)[1]	Discharges per acute care bed	Surgical procedures per acute care bed	Nurses per doctors
Australia	2 468	71.5	43	6.1	42.2	24.8	7.5
Austria	2 020	76.3	46.9	6	47.8	n.a.	6.6
Belgium	1 977	n.a.	n.a.	7.8	n.a.	n.a.	2.7
Canada	2 938	88.6	32.1	7.3	27.9	56.1	9.3
Czech Republic	3 682	72.1	33.5	8.3	33.5	n.a.	12.9
Denmark	2 144	84	54	3.7	57.7	61.2	14.5
Finland	1 374	n.a.	n.a.	4.3	108.0	39.1	5.4
France	2 066	75.2	13.3	5.7	63.3	n.a.	4.4
Germany	2 188	n.a.	n.a.	11.6	n.a.	n.a.	9.4
Greece	n.a.	68	39.6	n.a.	40.0	n.a.	n.a.
Hungary	3 725	77.8	41.7	6.9	42.5	33.6	12.1
Iceland	2	n.a.	n.a.	n.a.	n.a.	n.a.	20.5
Ireland	n.a.	84.4	47.1	6.5	41.1	66.3	25.8
Italy	1 398	76	39.6	6.9	31.7	15.8	5.8
Japan	7 334	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Korea	7 148	65.2	22.3	11	19.6	n.a.	n.a.
Luxembourg	2 405	71	40.8	7.6	30.3	36.8	12.4
Mexico	**1 645**	**56.5**	**58.3**	**3.5**	**39.9**	**29.5**	**3.6**
Netherlands	1 832	66	28.3	8.6	28.5	22.8	27.9
New Zealand	2 063	n.a.	n.a.	n.a.	n.a.	n.a.	12.7
Norway	n.a.	n.a.	52.1	5.7	52.1	n.a.	11.4
Poland	2 443	77	35	n.a.	28.5	n.a.	50.7
Portugal	1 123	69.9	35	7.3	24.5	18.2	7.4
Slovak Republic	3 641	66.8	30.2	8.1	35.2	n.a.	16.4
Spain	3 031	77.1	39.5	7.1	38.7	24.0	n.a.
Sweden	959	n.a.	n.a.	4.8	65.8	n.a.	17.2
Switzerland	956	84.6	33.7	9.2	39.4	0.4	23.6
Turkey	2 984	57.1	30.7	5.2	37.4	n.a.	2.4
United Kingdom	2 301	83	56.8	6.9	63.5	34.3	14.2
United States	3 740	65.7	41.9	5.7	34.0	n.a.	9.6
Average OECD	2 613	74.2	38.1	7.0	43.1	33.3	13.7
Standard deviation	1 650	8.0	10.2	1.9	18.7	19.0	10.3

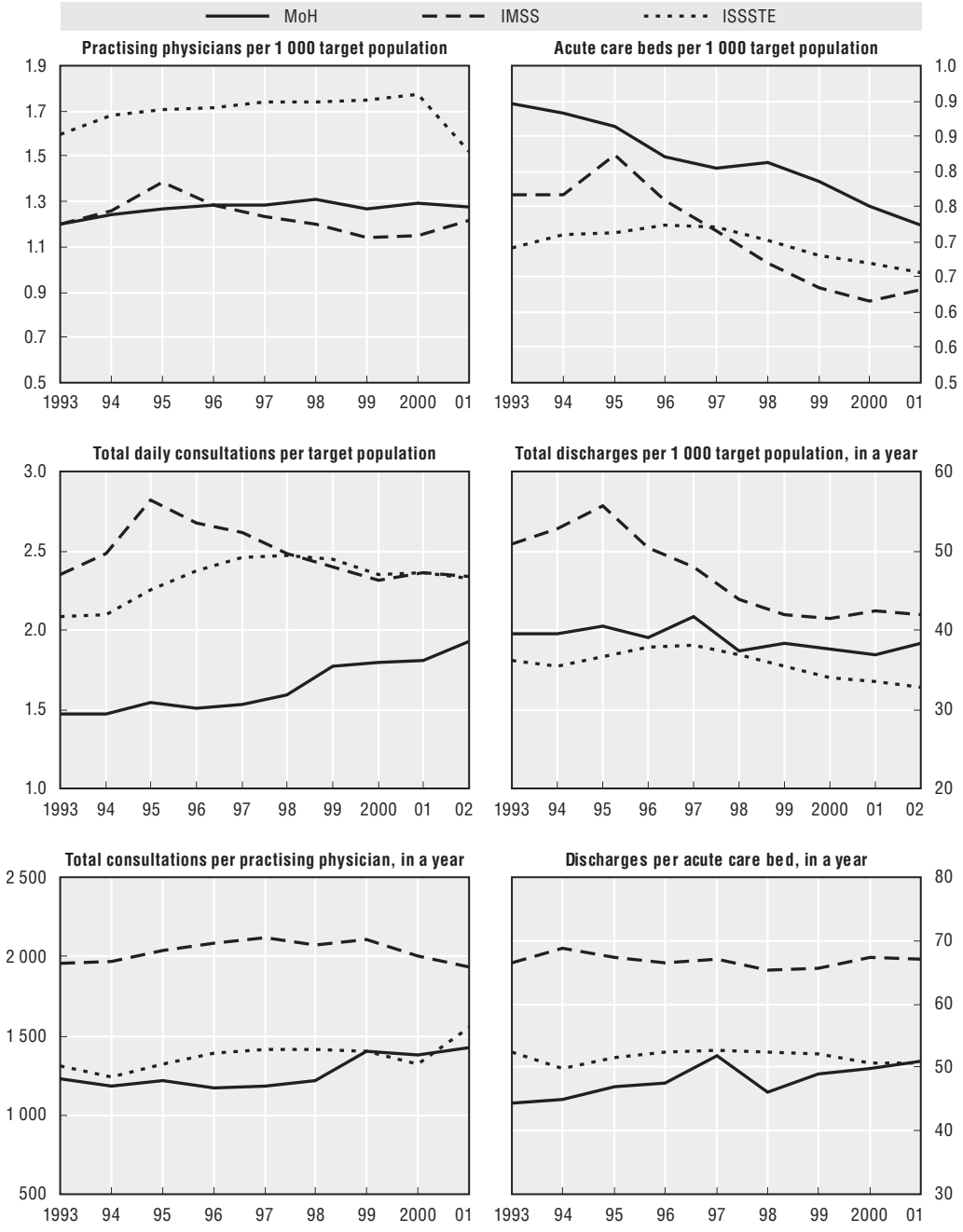
1. ALOS: Average length of stay.

Source: OECD (2004c), *OECD Health Data 2004*, 2nd edition, Paris.

The relative importance of supply and demand factors is likely to vary with the target population and the institutions serving them. Limited data suggest that there may be higher intensity of use in IMSS and IMSS-Oportunidades than in SHS facilities (Figure 2.8).[25] On the demand side, this may reflect the older average age, better education and higher income levels of the insured and the fact that the services are free at point of delivery.[26] With most of the social-insured population concentrated in urban areas, access to care facilities may also be easier. These features, along with the fact that about one quarter of IMSS (and ISSSTE) members elect to take private care, suggest that the social-insurance health-care system may be supply-constrained with an implicit rationing of health-care services.

The lower intensity of use of SHS facilities may reflect lower per capita demand, arising from a target population that is younger, poorer and less educated than the insured

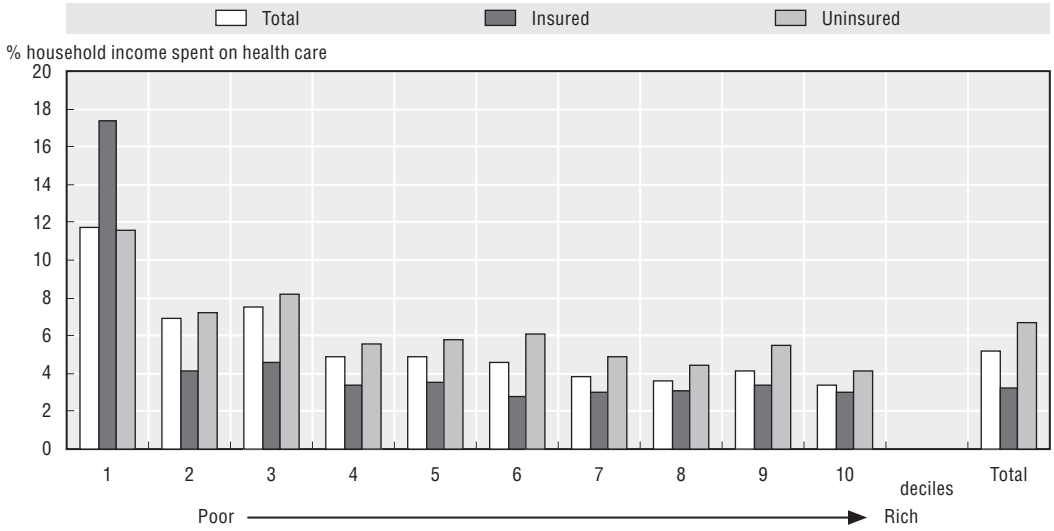
Figure 2.8. **Trends in intensity of resource use by institution**



Note: Data only include institutions from the public health-care sector. Doctors include all medical staff, practising and others.

Source: Uninsured population: estimates for total population based on CONAPO (2004), *Proyecciones de la población de México 2000-2050*, Mexico; Insured population: INEGI (2000) XII Censo General de Población y Vivienda 2000; and MoH (2004a), *Boletín de Información Estadística*, Secretaría de Salud, Mexico, various years.

Figure 2.9. **Household health-care spending by income and insurance status, 2002**



Note: Health expenditure as a share of household income is calculated on a yearly basis. The Encuesta Nacional de Ingreso y Gasto de los Hogares, 2000 (ENIGH National Survey on Household Income and Expenditure), is carried out every two years and reports the income and expenditure of the third quarter of the year of application. Annual health expenditure in total income is calculated for each household as quarterly health expenditure/income multiplied by four. The ratio is calculated as total health expenditure per household divided by total income per household. All households with health expenditure greater than zero are included in the sample.

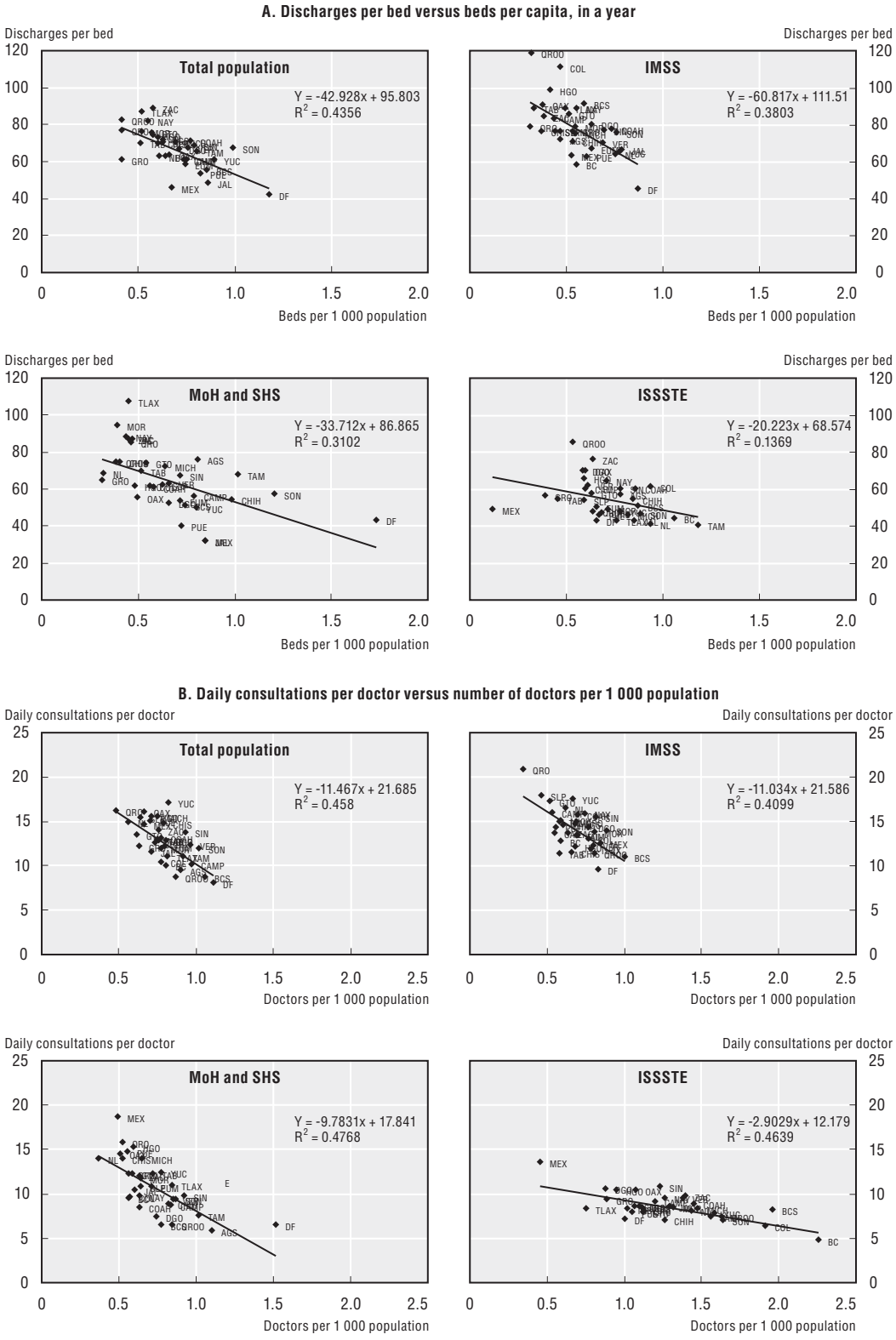
Source: World Bank (2004b), *Universal Health Insurance Coverage in Mexico: In search of Alternatives*, Washington DC.

population with a larger share living in rural areas (Figure 2.8 and endnote 26).[27] Cost sharing for MoH services is not estimated to be large on average – around 5% of the revenue of providers (Barraza-Llorens *et al.*, 2002). However, some payment is made by around half of SHS patients obtaining ambulatory care, half having had medical tests, and 80% receiving hospital treatment (World Bank, 2004b). While the extent of this cost sharing is not known, health-care costs are generally higher for the uninsured, particularly in lower income groups, and cost sharing bites more sharply among the uninsured population given their lower average income (Figure 2.9). Supply factors may also influence the aggregate intensity of use of SHS services. The uninsured population is more widely dispersed in rural areas such that the geographical distribution of supply may not always be in line with need, particularly where transport links are poor. Activity rates appear to be lower in smaller hospitals, which are more prevalent among MoH providers than in the social security system (Hernandez-Avila *et al.*, 2002).[28] Nonetheless, lower-income groups also make extensive use of the private sector, suggesting that at least some of the SHS services face capacity constraints or are otherwise unresponsive to patient needs (Figure 2.9).

2.3.2. Some indicators of efficiency

Differences across the states in the intensity of use of the system provide some idea of the scope for efficiency gains. As noted earlier, a salient feature of the Mexican system is the large differences in supply between the richer north and the poorer centre and south. Practicing doctors in the public sector per thousand population range from 3.0 in the federal district to 0.8 in Chiapas while the number of beds per capita ranges from 2.3 to 0.8 (Table 2.1). Scatter diagrams (Figure 2.10) that juxtapose indicators of supply (*e.g.*, doctors

Figure 2.10. **Health-care resources and intensity of use by state, 2002**



Source: MoH (2004a), *Boletín de Información Estadística*, Secretaría de Salud 2002, Mexico.

per thousand) and intensity of use (*e.g.,* consultations per doctor) across states show that, where supply is lower, there is increased intensity of use. These diagrams also show that there is significant variability across institutions and across states in the intensity to which these resources are being used for any chosen supply level. This suggests that there is scope for increasing efficiency by raising the performance of the weaker states and institutions. Perhaps more importantly, there has been little change in these indicators over time – *i.e.* there has been no significant improvement in measures of efficiency of resource use over the past decade (Figure 2.8).

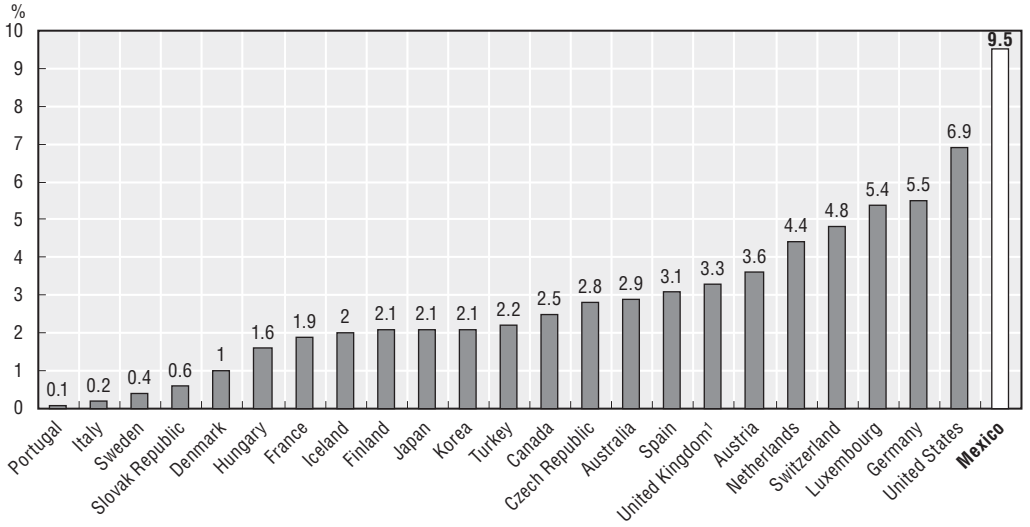
While cross-country differences in definitions may weaken international comparability,[29] available data suggest that administrative costs (including the governance function of the MoH) are high, even when compared with other countries with federally decentralised health-care structures (Figure 2.11).[30] This possibly reflects the multitude of institutions and providers and poor management of resources.[31] Mexican data indicate that 23% of total spending for the federal MoH and the SHS combined and 17% for the social security system are devoted to administration and stewardship (Figure 2.12).[32] IMSS is attempting to reduce overheads and it has reduced management personnel by 10 300 between 2000 and 2003. However, moving more quickly to reduce overhead amongst lower-level employees is likely to be restricted by labour contracts. Total investment – at only 2% of total expenditure – appears low for a country with an important backlog in service demand.

2.3.3. Institutional factors affecting efficiency

Coexistence of numerous vertically integrated insurer/providers

Differences in system efficiency and equity (either between Mexico and other OECD countries or between states) may be partly the result of the way the system is organised, financed and run, although it is not possible to isolate the importance of each. The presence

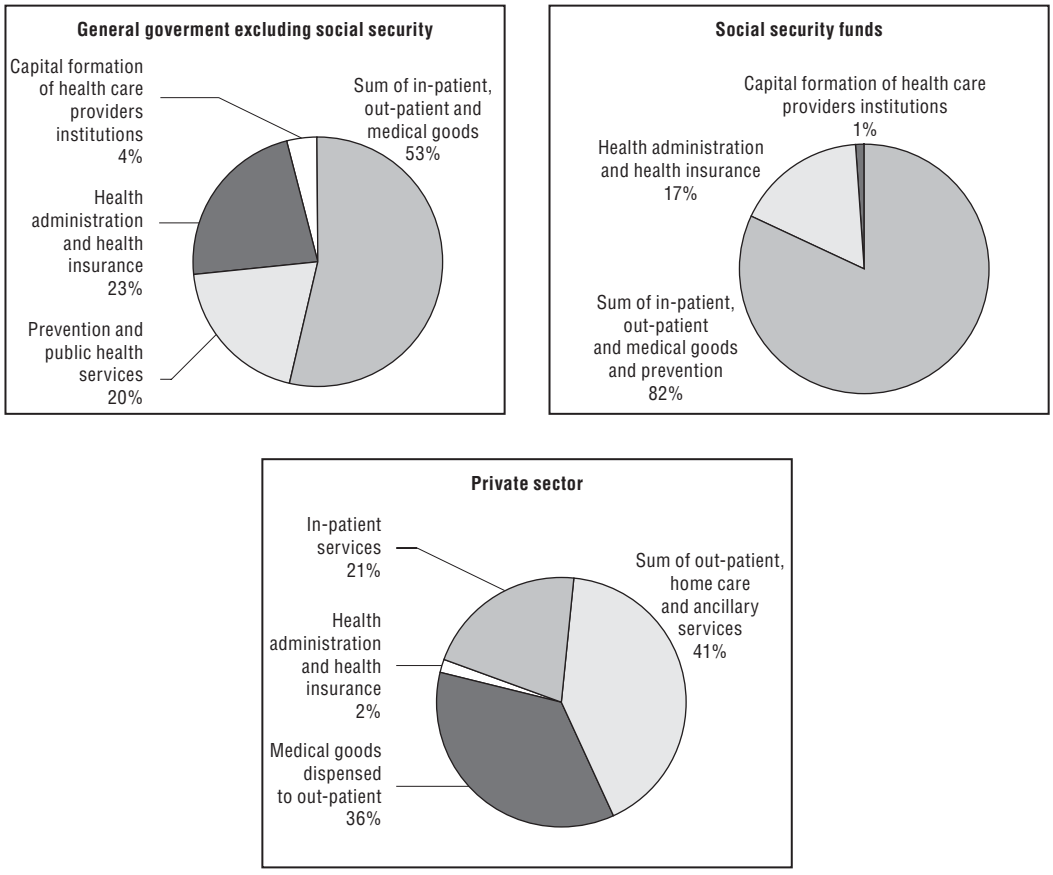
Figure 2.11. **Share of administrative spending in total health-care expenditure across OECD countries, early 2000s**



1. UK data refer to 1999.

Source: OECD (2004c), *OECD Health Data 2004*, 2nd edition, Paris.

Figure 2.12. **Structure of health-care expenditure by sector of supply**



Note: All the information includes public and private expenditure. Social security funds include expenditure of IMSS, ISSSTE and PEMEX. Private sector includes out-of-pocket expenditure corresponding to expenditure of private providers. Health-related expenditure includes federal and state governments and social security institutions.

Source: MoH (2004d), *Sistema de Cuentas Nacionales, cuenta de bienes y servicios 1995-2001*, Mexico.

of many providers (each servicing their own target populations) may lead to the situation where excess demand in the provider units of one insurer can coexist with excess local supply in others.[33] For example, lack of inter-organisation agreements can mean that special equipment or operating theatres in some hospitals units may go unused while there is no available supply in others.

There is growing interest in local agreements between providers but these are not widespread and are often limited in scope. Agreements or "convenios" exist between institutions but 70% of them concerned agreements by the IMSS and ISSSTE with the SHS for services for the insured without easy access to IMSS or ISSSTE facilities and for mental health services. Only 20% concern the reciprocal supply of services. These agreements, where they have occurred, are often ill-defined, lacking, in particular, definition of the methods of payment and levels of quality. Since 2003, the MoH, IMSS and ISSSTE have formally agreed to ensure that the future collaboration agreements would follow a common framework. In addition, an element of the SPSS reform in 2003 allows states to make agreements among themselves so as to optimise service use. These new arrangements have

been little employed as of now, possibly reflecting the continuing segmentation between providers, the absence of a national policy on setting prices for services, weak incentives for the introduction of contracts and lack of familiarity with the concepts and their use among the various institutions. Making progress in this area confronts a more widespread problem of the absence of appropriate cost data for individual health-care services, although IMSS has recently made some progress in this area.

The role of decentralisation/deconcentration of management and control

As a probable reflection of the centralised approach to health-care policy that predominated in Mexico prior to decentralisation, the shift in responsibilities to the states was applied uniformly despite very different levels of capacity to administer the new programmes.[34] State health ministries have been progressively strengthened but progress has been slow in many of the less-developed parts of the country, particularly as there had been relatively little investment in management capacity in the MoH and the hospital system.[35] Some of the smaller states may also have found it costly to maintain health-policy-making teams. In the light of this, management practices in some states may have replicated the tight federal controls typically in place before the decentralisation and hospital management may continue to have little operational flexibility or incentives to respond to the local needs. State health ministries, in addition, face a number of residual restrictions on their capacity to exercise their new powers. First, while the federal workers have been transferred to the states, they have remained under a federal labour contract that is negotiated and administered centrally. This has created problems between lower-paid state employees and the former federal employees who benefit from higher-pay scales. Finally, IMSS-Oportunidades remains a separate organisation paid for out of federal funds for those states that decentralised in the 1990s and responsibilities and mechanisms for the organisation and oversight of this programme are unclear. With these workers now integrated into the more generous IMSS labour contract, a reorganisation of state health systems to take account of all available resources will be more difficult in the future.

Some decentralisation of decision-making to lower administrative levels has occurred in IMSS beginning in 2000. Four regional Medical Zones have been established and below them there are 37 "Delegations" that oversee a number of primary clinics (that deal with approximately 85% of health-care demand), generalist hospitals organised at the level of zones or regions (12% of needs) and specialist hospitals (3%). Full management control has now been given to the third-level hospitals. While it is intended to extend this to other levels of the system, these changes will be introduced slowly. The Delegations are progressively being given control over purchasing of materials and drugs and the centre now only controls 4% of total spending (IMSS, 2004). Nonetheless, administrative costs – at 17% of total spending – remain very high, suggesting that important savings in this area are possible.[36]

One objective of these changes within IMSS was to engineer a clearer split between insurance and financing of the system on the one hand and the supply of services on the other. While the centre in Mexico City has taken on a stronger role in system oversight and control rather than detailed management decisions, further decentralisation appears to be limited by its governing statutes (LSS). As regards increasing local management control, Mexican health-care experts generally consider that management capacity is stronger in the IMSS system and IMSS appears to have had greater success in implementing new management and financial control tools. However, there is no assurance that controls at the regional level are permitting adequate operational flexibility at the provider level.

Despite deconcentration, there is no assurance either that, where greater independence is given, local units have the capacity to take on these roles effectively. Restraints imposed by collective labour agreements can and do hamper management attempts to introduce productivity-improving measures at the level of individual providers.[37]

Weak financial incentives

There are few financial incentives in the system to improve efficiency. Hospitals and primary-care clinics continue to be paid largely on the basis of fixed budgets that are, generally, historically based. This provides little incentive to increase efficiency and quality of care to the users: patients that switch providers because they cannot obtain timely and quality service only reduce the costs to the hospital or clinic while efforts by management to increase throughput and improve the quality of care may bring institutional costs in the form of union resistance. There is virtually no use of DRG-type (prospective) payment arrangements, even though these are widely recognized as improving the incentives to providers to increase throughput,[38] or consideration of alternative payment arrangements at the level of the ambulatory clinics – for example, that combine capitation with fee-for-service or provide wage rewards for meeting quantity and quality targets.

But even if a prospective payment system were introduced to determine hospital budgets, remuneration is salary-based virtually everywhere throughout the NHS, reducing the incentives for increased flow-through of patients. Incentives may also be weakened by the fact that public-hospital doctors regularly practice in the private sector as well to supplement their salaries. If patients are unable to obtain satisfactory and timely treatment in the public sector, they will then be inclined to search for it more readily in the private sector, sometimes receiving care from the same doctor. This could encourage doctors to under-serve patients in the public sector to encourage a shift to the private sector.[39]

Specific supply-side problems

Budget constraints may limit the capacity to treat patients. The National Health System has been confronted by tight budget constraints subsequent to the successive peso crises. In the light of the much lower levels of per capita spending for the uninsured, the SHS system has probably suffered the most.[40] Budget restraints often tend to fall on inputs other than labour. As a consequence, the capacity of hospital services to perform efficiently may have been restricted because of, for example, lack of material to carry out operations or pharmaceutical drugs. Some reports also suggest that many hospitals are under-equipped with outdated and broken material needing replacement (NERA, 1998; OECD, 1998; Whitaker, 1999; Cercone *et al*., 2001). Supply problems appear to be particularly acute for the uninsured population in rural areas, where it remains difficult to attract and keep medical professionals or to provide timely supply of medical materials. Despite efforts in a few states to explore other contractual arrangements, there is little scope for paying higher wages to attract individuals to outlying areas within SHS services because salaries and employment conditions are largely set by national collective agreements.[41]

Although some progress is being made in this area,[42] lack of pharmaceutical drugs remains one of the areas of greatest dissatisfaction of patients in SHS clinics or hospitals and is the key reason for high out-of – pocket spending by low-income groups (Torres and Knaul, 2003).[43] Such problems of supply have arisen from inefficient and overly centralised arrangements for the purchase and distribution of pharmaceutical drugs and medical supplies. Until the recent decentralisation to the states, these were handled by the federal

MoH. Subsequent decentralisation may have improved the situation in some states. However, in others, hospitals and primary clinics still do not always have the drugs or other materials needed to treat their patients.

As noted, international comparisons show high levels of both doctors and nurses relative to hospital beds and relatively few nurses relative to doctors (Tables 1.8 and 2.9) The fact that these ratios have remained virtually unchanged over time may reflect budgetary practices fixing the number of posts. But it also suggests that there is little exploration of different skill mixes to free up scarce qualifications, in spite of the fact that there is a large supply of nurses available, many of whom are not currently practising in the health sector (Ruiz *et al*., 2003) (Table 2.8).

Finally, system efficiency – particularly in the MoH/SHS hospital sector – may also be affected by poorly enforced referral policies. Patients can bypass the primary-care sector entirely by requesting specialist treatment in emergency departments while many hospitals do not impose the need for referral by a primary care doctor. This places heavy loads on the outpatient departments of second- and third-level hospitals and may partly explain the short waiting times for ambulatory care consultations. Referral policies controlling access to second and third-level hospital appear to be more tightly enforced in IMSS.

2.4. The sustainability of health-care spending

Efforts to increase coverage and to engineer a switch from private out-of-pocket spending to public expenditure are hampered by the current fiscal environment and the lack of consensus on tax reform. Over a medium-term time horizon, expanding the insurance coverage of the health-care system through the SP programme will require either reallocation from other entitlement programmes or tax increases. Over the longer term, financing of the health-care system will come under strain as a result of two additional effects: *i*) unfunded pension liabilities of public sectors workers; and *ii*) the more general effect of population ageing on the demand for care. This section examines these three issues in succession.

2.4.1. The broader fiscal environment and the distribution of resources across states

A key feature of the current policy environment in Mexico concerns the low levels of both government spending and tax revenues (OECD, 2004b). General government spending was only about 20% of GDP in 2002. It is one of the lowest in the OECD area. Roughly one third of existing spending is entitlement-based or payments of interest on the public debt – *i.e.* determined by existing arrangements for revenue sharing with state and local governments or existing debt levels and therefore not easily shifted to new programmes.[44] Given the size of liabilities related to bank and debtor-support programmes, investment schemes with deferred payments (and the recent law channelling more funding into education), the government has virtually no scope for increasing public-sector deficits. Specific safeguard rules have been established to prevent unexpected economic events from undermining fiscal consolidation. Cyclical movements in tax revenues or in oil-related income are followed by automatic adjustments in ministry budgets. As a result the authorities have little room for manœuvre for an autonomous increase in spending for health care.

Health-care resources for the uninsured population are poorly distributed across states. Limited tax capacity at the level of the states has meant that the overall level of resources available to provide services to the uninsured population has been largely determined by transfers from the federal government. As noted, the earmarked transfers

remain almost entirely determined by historical patterns of budget allocations at the time of decentralisation. Virtually none of these transfers were allocated on the basis of health-care needs, although poorer states did receive some additional federal funding through other channels and programmes (Merino, 2003). Some states have supplemented the federal transfers by additional state resources and since this has largely occurred in states with the strongest economies (and which also have higher shares of the population socially insured), this tended to augment further the inequalities in the overall financing of care across the country. Furthermore, changes in the allocation of resources within FASSA have not necessarily shifted in favour of the states with the lowest levels of development (Moreno, 2001).

2.4.2. Financial health of the social security institutions

With formal employment currently representing about three quarters of the workforce, health-care coverage and resources could be increased if a larger share of the workforce were paying contributions. This share has recovered from the peso crises in the 1980s and 1990s, partly reflecting the 1997 reforms to IMSS that reduced contribution rates. Rules to ensure that firms declare their employees were strengthened by reforms in 2001 and 2002 (IMSS, 2003a). Nonetheless, a number of underlying structural factors in the labour market may make it difficult to extend the share of health care financed by social insurance contributions under the assumption of unchanged policies (OECD, 2004b).[45] Furthermore, even with some extension of the social insurance system, the authorities will still need to look for other sources of funding for the uninsured through budget reallocation or tax reform.

Overall, the IMSS system of financing is near balance if abstraction is made of the unfunded pension liabilities (Box 2.5). However, current employee contributions of the ISSSTE cover only about three quarters of total expenditure, leaving a deficit of around a quarter of a per cent of GDP to be financed by the federal budget.[46] Both IMSS and ISSSTE are already facing increases in pension payments. In the absence of reforms, these pressures are projected to increase as large unfunded public pension liabilities come due. These will need to be financed through substantial increases in contribution rates, through increased federal government transfers to the social insurance system (ISSSTE, 2003; IMSS, 2004) or a squeeze on the resources available for providing health-care services to their members. Programmes to expand health coverage such as the SP will need to compete with these rising demands on overall government resources.

2.4.3. The impact of ageing on public health-care costs: estimates to 2050

On the basis of data received from the Mexican Authorities, the OECD Secretariat has constructed scenarios for public health-care spending to 2050, following the methodology currently used at the OECD and the European Union. These estimates provide some rough orders of magnitude of the fiscal costs of population ageing (see Box 2.6 for the assumptions and methodology).

Population projections of CONAPO point to a fall in fertility until the middle of the current decade after which it stabilises at a level slightly below replacement levels (Table 2.10) (CONAPO, 2004). Average lifetimes increase by seven years over the period (men and women combined). As a result, the population over 65 grows by approximately 4% per annum to around 2030 compared with around 1% for the total population. Nonetheless, the continued rapid growth of the working-age population in the first quarter century

Box 2.5. **The financial situation of IMSS and ISSSTE**

Following reforms in 1995-1997, the pension system for private sector workers covered by IMSS is based on a system of individual accounts (see Queisser, 1999). Public employees covered by ISSSTE (about half of total public sector employees) and the employees of IMSS retained their more generous defined-benefit schemes, largely financed on a pay-as-you-go basis.

Taking into account current revenues (employer and employee contributions and government grants) and direct spending, the IMSS had a small surplus in 2003. However, once the imputed cost of pension rights accrued in the preceding year and other adjustments are allowed for, the system was in deficit to the extent of 15% of revenues. Virtually all of this deficit is attributed to health-care insurance, reflecting the fact that most IMSS employees work in the provision of health-care services. Projections show a marginal increase in the deficit over the period to 2006 to 17%. The ISSSTE accounts for 2002 are in substantial deficit but revenues only take into account employee contributions. Prior to reform, unfunded pension liabilities associated with the pay-as-you-go systems were estimated at 5-6% of GDP for IMSS workers and at 36 to 52% of GDP for ISSSTE in 2002-2003.[1]

Until recent reforms, pension benefits were generous and, for IMSS workers, extremely so. IMSS workers could take retirement with a pension after 27 years of service for women and 28 for men, with no minimum retirement age. Replacement rates are of the order of 130% of final salary (including benefits and wage supplements). Workers reach the required minimum number of years of work at an average age of 53, at which time they can expect to receive pension for an average of 20 years, while widow and child benefits can extend the payout period further. Pensions increase in line with the salaries of IMSS workers. The ISSSTE pension system, with replacement rates for a typical worker of 70%, is less generous than that of IMSS but it has larger fiscal implications because, as noted, it covers half of all public sector workers and not just ISSSTE health-care workers.

Proposed reforms to the IMSS pension arrangements for existing employees and pensioners have been under discussion for some time. Congress has recently reformed the laws governing the IMSS pension arrangements for its own employees (Régimen de Jubilaciones y Pensiones, RJP). The reforms preclude that such pensions be financed from surpluses of other insurance funds within IMSS. Retirement benefits for new workers will be aligned with the arrangements for private sector workers covered by the IMSS but with a higher pension than for private workers.[2]

However, proposals currently under discussion between the IMSS management and the unions would largely "grandfather" pension benefits for existing workers and pensioners. This would be accompanied by increases in employee contribution rates of 12 percentage points of wages (spread out over 12 years). While increased contributions should reduce substantially the net costs of financing of the pensions for existing employees, some pressures from the RJP on the capacity of IMSS to provide health-care services are likely to remain (IMSS, 2004).

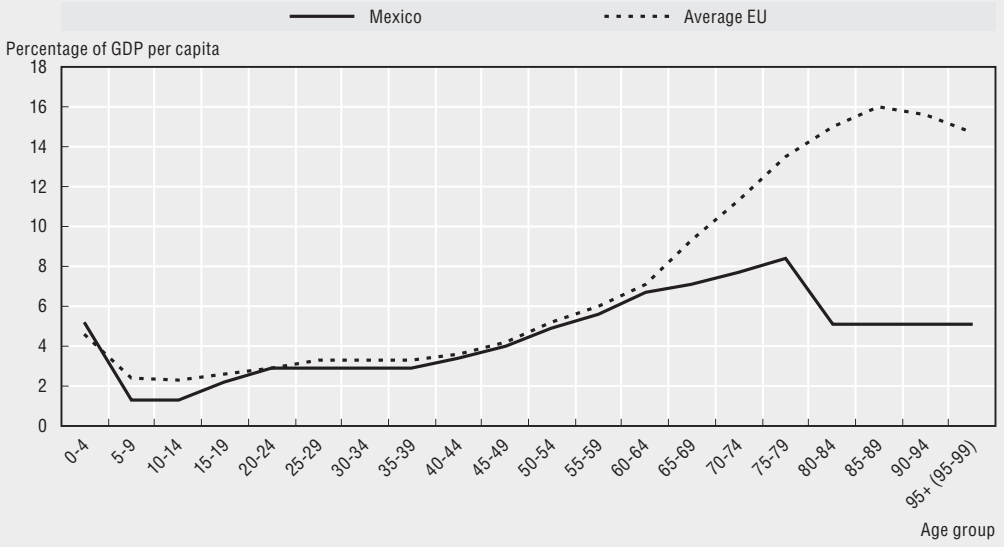
1. Estimates by the Sphere Institute and the Universidad Iberoamericana (2004) suggest that the total unfunded pension liabilities for the public sector as a whole could be of the order of around 85% of GDP (4% discount rate) of which 75 % is the responsibility of the federal authorities.
2. All new employees to IMSS will be covered by a fully-funded individual pension account in line with the system already introduced for private employees (AFORES) in the early 1990s, although the benefits will remain more generous. For example, the pension for someone having worked until age 65 would be not less than 7.5 times minimum salary but cannot be higher than the basic salary. The possibility of including additional benefits and their extent is still under discussion.

Box 2.6. **Projecting public health-care spending to 2050**

The method for projecting public spending on health and long-term care spending presented here replicates the procedure carried out for around 20 OECD countries in 2001 and 2003, described in Dang *et al.* (2001) and Bains and Oxley (2004). Simply put, these projections assume that public health-care costs as a share of GDP are essentially driven by the changing age structure of the population. An estimate for the base year is established by multiplying the number of individuals by the average annual health costs per person in each age group and then summing these products across age groups. This estimate of total public health-care cost was then multiplied by a coefficient to bring the spending in line with public spending on health care on a national-accounts basis in the base year – in this case in 2003.

On the basis of CONAPO projections of population to 2050 (CONAPO, 2004), spending was then calculated for every year to 2050 assuming that the health-care costs per capita in each age group remain unchanged over time. In this case, only the age structure of spending impacts on health-care costs and the size of this impact will depend on the difference in the health-care costs between the young and the old. In this context, the Mexican Authorities estimate that the per capita health-care costs by age group do not rise as markedly with age when compared with other OECD countries, possibly reflecting the much lower level of use of high-technology medicine (Figure 2.13).* The cost of those in age groups aged 65 and over is estimated to be approximately 1.7 times the cost of those aged 15 to 64 compared with 3.8 times for an average of 11 EU countries. This ensures that the impact of ageing populations on health-care costs in Mexico is notably less marked than in most other OECD countries.

Figure 2.13. **Health-care costs by age group in Mexico and EU countries, 2003**



Note: EU countries include Austria, Belgium, Denmark, Finland, France, Germany, Italy, the Netherlands, Spain, Sweden and the United Kingdom.

Source: OECD calculations based on CONAPO (2004), *Proyecciones de la población de Mexico 2000-2050*, Mexico.

Box 2.6. **Projecting public health-care spending to 2050** *(cont.)*

These projections are presented relative to GDP, which provides a measure of the capacity of the system to finance the changing health-care costs, assuming that the tax base and tax revenues rise in line with GDP. The estimates of GDP presented here are constructed on the basis of growth of employment and of productivity. Employment is established by multiplying the population by age group and by the corresponding participation rates by age estimated in Burniaux *et al*. (2003). These projections of participation rates are estimated by cohort with the overall participation rates converging progressively to the rates in the latest cohort by age group in the first years of the current decade. They therefore do not assume catch-up in participation rates over time for women to high-participation countries such as Sweden and the United States: by 2050, Mexican women have participation rates of 50-60% compared to over 80% in Sweden. The unemployment rate was assumed to remain at its level at the beginning of this period (3%). The growth rate of productivity was set at 1.75% per annum (as in the previous OECD projection) and wages in the health industry and total economy were assumed to rise in line with this. This implicitly assumes that the wage share remains roughly constant over time. Because expenditure on health care and GDP are both indexed on productivity growth, the rate of productivity growth chosen has no effect on the outcomes.

The projection framework for Mexico allows for the presence of four different sets of payers – IMSS, ISSSTE, other social security (*e.g.*, Pemex) and the non-insured covered by the Ministry of Health/SHS providers. On the basis of the data received from the authorities, per capita spending per individual "covered by" the insurance or services of the four providers differs substantially (*e.g.* see Table 1.5). It is assumed that the relative costs by age and by institution and the relative size of the four groups remained constant over time.

Note that these projections do not take account of the potential impact of lengthening lifetimes on the cost of health-care. A number of recent studies (see Bains and Oxley, 2004 for a review) show that a large share of lifetime health-care costs occur in the two years before death. If it is assumed that the high cost of health care among the elderly reflects the number of deaths – because health-care costs are highest in the period just before death – the projected increase in average life expectancy at birth of seven years over the period to 2050 may lead to less rapid increases in health-care costs than projected here because these "death-related" costs are pushed further into the future.

* For both France and the United States increases in health-care spending by age group have been concentrated among the elderly. This appears to reflect more intensive use of high-tech medicine.

counterbalances this effect and the age-dependency ratio rises from 9.1% in 2000 to around 20% in 2030. However, there is a sharp increase in this dependency ratio thereafter as the growth of the working-age population slows markedly and the dependency ratio is projected to rise to just under 40% by 2050. This increase is nonetheless less marked than for most European countries and the total dependency ratio (*i.e* including children 0-14) remains virtually unchanged between the beginning and the end of the period.

This framework for policy simulation suggests that the impact of population ageing is unlikely to be as large in Mexico as in other OECD countries. The key results are as follows (Table 2.10).

- Because the age structure of the population is young, employment grows more rapidly than the population until around 2040, assuming that new entrants into the working

Table 2.10. **Public health-care expenditure in Mexico: projections to 2050**

	Projections[1]								
	2000	2003	2010	2015	2020	2030	2040	2050	Average growth rate 2003-2050
Baseline	2.58%	2.75%	2.60%	2.54%	2.56%	2.69%	2.91%	3.14%	0.39%
Simulation 1: European pattern of spending by age, and with average per-capita spending of Mexico	2.58%	2.75%	2.61%	2.56%	2.60%	2.82%	3.17%	3.57%	0.82%
Simulation 2: Baseline cost of SPSS	2.58%	2.75%	3.29%	3.20%	3.22%	3.37%	3.62%	3.89%	1.14%
Simulation 3: European pattern of spending by age and average per-capita spending progresively reaching European levels by 2050		2.75%	2.68%	2.68%	2.76%	3.11%	3.67%	4.45%	1.70%
	Underlying population assumptions: per cent growth and ratios per 1 000								
	2000	2003	2010	2015	2020	2030	2040	2050	Growth 2003-2050
Infant-mortality rate	23	21	15	13	11	8	6	5	–17.9
Global fertility rate (gross) average over decade			2.1		1.9	1.9	1.9	1.9	–0.3
Mortality rate (gross) average over decade			4.5		4.9	5.8	7.3	9.4	4.9
Average life expectancy (men and women at birth)	74.0	74.8	76.6	77.6	78.5	79.8	80.7	81.3	7.3
Life expectancy at birth, men	71.6	72.4	74.2	75.2	76.1	77.5	78.4	79.0	7.5
Life expectancy at birth, women	76.5	77.4	79.1	80.0	80.9	82.1	83.0	83.6	7.1
Average growth rates over decade ending in years indicated									
Total population			1.4%		1.0%	0.5%	0.1%	–0.2%	–0.016
Population 20 to 64			2.2%		1.4%	0.4%	–0.1%	–0.5%	–0.026
Population 65+			3.7%		4.1%	4.4%	3.5%	2.3%	–0.014
Age-dependency ratio (pop. aged 65+/pop. aged 15-64)	7.5%	7.9%	9.0%	10.24%	12.2%	18.2%	26.2%	34.8%	27.3[2]
Total dependency ratio (pop. aged 0-15 + pop. aged 65+)/(pop. aged 15-65)	61.4%	57.3%	48.6%	45.60%	45.0%	48.5%	54.1%	62.0%	0.6[2]

Note: Infant mortality rate is defined as the number of deaths of infants under one year over 1 000 live births. Global fertility rate (defined by CONAPO) measures the average number of children a woman can give birth to during her reproductive life. Mortality rates per 1 000 population.

1. The *Baseline* estimates the change in spending under the assumption that the relative costs per capita by age group in 2003 (as defined by the Mexican Authorities and shown in Figure 2.13) remain unchanged in 2050. *Simulation 1* estimates the change in spending to 2050 under the assumptions of: *i)* a wider difference between the per capita costs of younger and old patients (based on data on costs per age group for a set of European countries in the late 1990s (see Figure 2.13); and, *ii)* that the average per capita costs across all age groups remains the same as in the Baseline. This simulation shows the impact of higher relative costs of the elderly on projected spending. *Simulation 2* assumes, in addition to the baseline, an increase in the average per capita costs of health care for the uninsured up to average levels of the current levels of the insured by 2010. *Simulation 3* assumes, in addition to wider differences in relative per capita costs across age groups used in *Simulation 1*, that the average per capita cost of health care (relative to GDP per capita) by age group increases progressively to reach European country levels in 2005.
2. Difference 2000 to 2050.

Source: OECD calculations based on CONAPO (2004), *Proyecciones de la población de Mexico 2000-2050*, Mexico.

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population find jobs. This, combined with the relatively small difference in health-care spending between the young and the old (when compared with EU countries), suggests, other things held equal, that public-health-care spending will rise by only 0.5% of GDP over the period to mid-century, with virtually all of this increase occurring in the second half of the period (Table 2.10, Baseline). This rise would be more marked if fertility fell by more – or life expectancy increased by more – than assumed in the CONAPO population projections. But these effects would still impact on results only after 2025. This suggests that, if conditions of rapid growth and higher employment can be achieved, increased ageing of the population does not appear to be an important problem for financing future public health-care costs in Mexico.

- However, these optimistic results could reflect the effects of Mexican estimates of the health-care costs by age group. As noted, differences between the young and the old are much narrower than estimates for the EU countries (Figure 2.13). To assess the importance of a widening in the difference across ages, the projections were recalculated imposing the *relative* health-care costs by age group of the EU (Table 2.10, *Simulation 1*).[47] (The average per capita health-care cost for the whole population was kept unchanged.) This widening led to an estimate of the increase in health-care spending to around 0.75 to 1% of GDP which is not far off the average projections for Europe but less than some of the fast-ageing countries such as Italy and Germany (Bains and Oxley, 2004). Thus, the projected modest increases in health-care spending would appear to reflect the assumptions regarding the relative differences in per capita health-care costs across age groups.
- These age-related projections assume that the current patterns of demand for public health-care will remain unchanged. The introduction of the SP will increase spending further and *Simulation 2* shows an estimate of this effect assuming full enrolment is reached in 2010 and that the per capita costs per enrolee are equal to the average of the social insurance institutions. These results suggest that the increase in total public health-care costs by 2010 might be of the order of 0.8% of GDP. Taking into account the additional effects of ageing, the total increase in public health-care costs might be of the order of 1 to 1.25% by mid century. While a number of important factors have not been taken into account, their net impact on the outcome is difficult to judge.[48]
- The current epidemiological transition, rising education levels, greater awareness of treatment possibilities, changing behaviour and more widespread use of technology could lead to a quite different configuration of demand by mid-century. *Simulation 3* shows the spending levels if Mexico progressively reached – by the end of the projection period – the patterns and levels of spending per capita across age group as in the European Union. This differs from *Simulation* 1, which only takes account of relative differences in per capita spending by age group between Europe and Mexico. *Simulation 3* assumes, in addition, that average health-care costs per capita (relative to GDP per capita) increases to average European levels over the projection period. Since the higher average levels of public spending per capita also reflect the wider public-insurance coverage of the population in European countries, this increase in per capita spending implicitly assumes a higher rate of coverage by public insurance than is currently the case in Mexico. As a consequence, a larger share of total health-care expenditure would be public. Under these assumptions, total public health-care spending could well increase more substantially by, say, 1.75% of GDP (ageing-related effects included) by 2050.

In sum, while these projections are subject to several important caveats, they suggest that the impact of ageing on health-care costs is unlikely to pose problems for policy until after 2025. Nonetheless, important variables affecting the longer-term demand and supply of care have been ignored in these calculations and these create additional reservations concerning future spending levels. No allowance has been made for any increase in the cost of pensions within IMSS and ISSSTE on health-care costs. No allowance has been made, either, for the effects of technological change. Progress in medical technology over past decades has increased welfare, but it has often pushed up costs at the same time. Recent developments in imaging, biotechnology and pharmacology suggest that these developments are likely to continue (Aaron, 2003), and changes in technology can be expected to be an important driver of future health-care demand. These effects may be reinforced if such cost increases are concentrated in older age groups, as has been the case over the past few decades in a few countries (*e.g.,* France and the United States) and could reinforce any catch-up to cost levels in other OECD countries, as described in *Simulation 3*. It should also be noted, however, that these projections do not take into account the impact of lengthening lifetimes on health-care costs (Box 2.6).

2.5. The longer-term development of the system and system governance

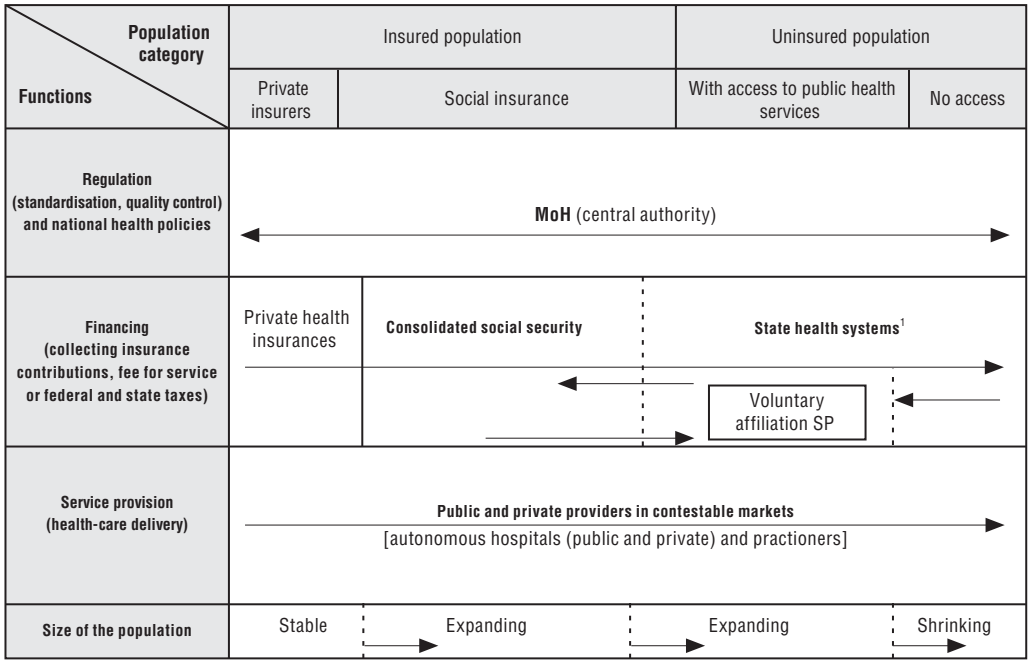
In light of the segmentation of insurance and the fragmentation of providers (see Figure 1.9), the aim of the authorities since the 1990s has been to move progressively towards a system which is organised horizontally on the basis of health-system functions (Frenk *et al.*, 1998; OECD, 1998). The first function, which is represented by the top layer in Figure 2.14, concerns the governance of the system. Under this function – which would normally be taken by the Ministry of Health – the authorities are given the role of designing an appropriate overall framework for insuring and providing health care, establishing public health-care policies, setting the appropriate regulatory framework and monitoring the performance. The arrow indicates a widening in its coverage to include the entire health-care system.

The second level concerns the insurance of health-care risks which could occur through social security, private insurance or other insurance models such as those proposed within the SPSS. In this framework there would be a progressive increase in the size of the population covered by either the social security or the Seguro Popular while the private sector would remain present but probably not take on a larger role in the system.

In contrast with the existing "silo" approach, there would be no necessary link between the insurers and the providers (represented in the third level). Indeed, insurers should purchase health care from providers on the basis of price and quality of care and not on the basis of the institution that they belong to. This separation between purchaser and provider has been a key policy change in many countries with integrated systems (Docteur and Oxley, 2004 and Box 4.1). It also potentially permits the patient to choose between providers. With money following the patient, this would increase the "democratisation" of the health-care system, a goal which underlies much of the recent policy formulation in Mexico.

As discussed above, the existing system remains at a considerable distance from the authorities' "ideal" arrangement as expressed in Figure 2.14. As regards to the first level, the current governance structure may not facilitate movements in the direction desired by the MoH. First, there is no one institution able to set the overall parameters of the health-care system. While the Ministry of health "organises, controls and oversees" health services for

Figure 2.14. **A longer-term vision of the Mexican health-care system**



1. Integrated with IMSS-Oportunidades.

Source: OECD.

the MoH and the private sector, its role with respect to the health component of the social insurance system is confined to "coordination, assessment and monitoring". This partly reflects the "bundling" of health insurance with other components of social insurance cover, which has brought the social security system as a whole under the ambit of the Ministry of Labour. Nonetheless, this potentially limits the capacity to develop coherent over-arching policies for the entire health-care sector, although system coordination has been enhanced through the CSG which brings together the main actors of the system.

A second constraint on overall policy setting concerns decentralisation of responsibilities for health-care provision to the states. In principle, this provides scope for useful experimentation at the state level so as to tailor supply better to the needs of the population in each state. However, such freedom can create future system co-ordination problems if state systems move in quite different directions (see Chapter 3). For example, different approaches to contracting and pricing of services across states can restrict the eventual freedom and portability of the new SP insurance arrangements. While the CNS also plays a role of coordination, the capacity of the federal Ministry of Health to influence the direction of change of the system has been weakened. In addition, there are also concerns that a number of states have not yet been able to build the strong administrative capacity to control the system and that in some cases transparency needs to be improved. States having decentralisation in the 1990s are also faced with an additional problem concerning the links with and control over IMSS-Opportunidades health providers which are administered by IMSS.

Notes

1. Study carried out by the National Centre for Technological Excellence (CENETEC) in preparation for the Master Plan for Infrastructure (Plan Maestro de Infraestructura).
2. Despite the marked urbanisation of the population over recent decades, the share of the remaining population living in towns and small urban areas remains high.
3. However, even within richer states, there can be considerable inequality between cities, towns and municipalities (see Lozano *et al.*, 2001).
4. Reforms to the contribution structure of IMSS in 1997 reduced the cost of contributions of workers at higher income levels. While the total coverage appears to have increased by roughly 3% over the period 1996 to 2000, the share of those covered in the top two quintiles increased by 3-4%, while those in the bottom two quintiles fell 1-2%.
5. Out-of-pocket payments tend to be larger for poorest families relative to income. According to data from the Household Income and Expenditure Survey (Encuesta Nacional de Ingreso y Gasto de los Hogares, ENIGH), households in the lowest income decile spent out-of-pocket 6.3% of their income on medical services, compared with 2.6% for the highest income group. Torres and Knaul (2003) find that the key factors explaining the level of out-of-pocket spending are social insurance coverage, the presence of children and, especially, older persons in the household.
6. The low level of formal public health-care insurance coverage shows up in a poor ranking in terms of the WHO index of fairness in financial contribution (WHO, 2000). On the basis of 1995 data, it ranked Mexico 144th lowest out of 191 countries covered, and behind a number of other Latin American countries such as Argentina, Costa Rica, Venezuela and Uruguay (although ahead of Brazil and Chile) (MoH, 2001b). These rankings may have changed since 1995 as a result of the worsening economic environment in many developing countries including those in Latin America. See Wagstaff (2001) for a discussion of the meaningfulness of these measures.
7. Public health expenditure per capita also varies across states by a factor of six between the richest and poorest states and is positively correlated with levels of insurance coverage and negatively correlated with the marginalisation index (Mexican Commission on Macroeconomics and Health – MCMH, 2004).
8. Van Doorslaer *et al.* (2004) estimate need-standardised use – *i.e.* the distribution that one observes after need has been statistically "equalised" across income groups. This inequality can be "pro-rich" or "pro-poor". While levels of use (doctor visits per capita, hospital admissions and length of stay) in Mexico are low by international standards, such standardized use is higher for the Mexican rich than for the poor.
9. Defined as child deaths within one year of birth and estimated as the number of such deaths per 1 000 live births.
10. Recent improvements in the accuracy of registry information may show up in erratic movements in the data for infant mortality in recent years.
11. On the basis of a model using data from 195 countries, Gutiérrez and Bertozzi (2003) find that the level of infant mortality is higher than would be expected in Mexico after allowing for differences in per capita GDP and women's education and the share of public health-care spending in GDP. The authors suggest that this is indicative of under-performance of the health-care system.
12. Four out of every 10 births do not take place in a public service of the National Health System. Many of these are in small private hospitals (but may be unattended by a qualified medical person) and around one fifth take place in the woman's home and are unattended by a qualified medical person. In some indigenous municipalities within Chiapas and Guerrrero, only one fifth of births take place in public sector units (MoH, 2001b).
13. Levels of consumption may be underestimated because the data exclude home production of tobacco or alcoholic beverages.
14. One possible reason for this puzzling result may be the fact that many patients may be grateful for the care that they receive rather than being discerning consumers. However, results comparing countries and institutions are difficult to interpret, as the target populations are likely to have different expectations concerning care quality.

15. The performance of institutions (first two rows in minutes) is as follows:

Indicator	MoH/SHS	IMSS	ISSSTE	IMSS OP	Other
Waiting time ambulatory care	28.4	15.6	40.5	24.1	37.5
Waiting time emergency	18.8	14.7	21.5	14.9	. .
Share satisfied with ambulatory waiting times %	91.4	86.3	84.7	95.6	85.9
Share satisfied with emergency waiting times %	67.5	85.2	84.6	94.4	. .

16. Like most indicators for Mexico, waiting times show wide variations across states: for SHS external consultations, waiting times ranged from less than 13.5 minutes in Quintana Roo to over 66 minutes in the state of Baja California. Limited information on waiting times directly available from IMSS suggest that the average waiting time for care in a primary-care setting is around one hour (IMSS, 2003b).

17. Survey results (ENSA, 2000) indicate that just under a quarter of the insured population elects to take care outside of IMSS or ISSSTE. This share increases with income.

18. Indeed, the IMSS system began evaluating performance of its medical system in 1956 and it has put in place practice guidelines to reduce variation in practice patterns.

19. In the federal district, which concentrates a large share of all medical facilities, the share of caesarean births is 45% and, in Nuevo León, it is almost 50%. Caesarean births are very high in the private sector where it is just under 60% and among the insured, particularly for households covered by ISSSTE (MoH, 2004b).

20. For the in-patient sector, a National Certification Programme for Medical Care Establishments had already been established under the CSG during the period from 1999 to 2001. Under this regime, 519 hospitals were assessed and, of these, 425 were certified.

21. The certification methodology comprises two stages: a self evaluation of the structure of care; followed by an assessment of the process of care focusing on quality, user satisfaction, compliance with existing regulation, performance measurement and actions undertaken to promote continuous improvement, on the basis of the basic principles of quality management defined by ISO-9000.

22. Drugs on the positive list of IMSS and MoH are purchased under a public bidding process, leading to low prices. An indication of the differences in prices between the public and private sectors is suggested by the fact that the public sector accounts for half of the volume of purchases of drugs but this only represents 18 to 20% of the total value of expenditure on drugs (González Pier and González Hernández, 2004). However, the basket of pharmaceutical drugs is not the same and public sector purchases may not be the most effective drugs available on the market.

23. It may also reflect perceived quality by the user, particularly in cases where there is cost sharing.

24. Data in this section have been drawn from OECD Health Data and results may not be fully comparable across countries. In addition, most data refer to the entire health-care sector rather than the public sector.

25. Selected data for 2003 on intensity of use by institution show the following (MoH, 2004c):

Institution	SHS	IMSS OP	IMSS	ISSSTE	PEMEX
Consultations per consulting room	17.2	17.3	42.9	25.2	12.5
Operations per operating theatre	2.4	3.8	4.7	2.4	1.87

26. The average age of the population covered by social insurance is higher and the share of the elderly in the population is about double that of the uninsured. For example, the share of the population over 65 is roughly 5% for the uninsured population and around 10% for IMSS and ISSSTE.

27. For example Gómez de León *et al.* (1995) find that the likelihood that a person with a health problem would seek curative care drops more than proportionally with the distance to the health-care provider.

28. Hernández-Avila *et al.* (2002) have shown that capacity utilisation of hospitals is lower in hospitals with fewer beds, where there are lower numbers of doctors per bed and where social security hospitals are close by.

29. Mexican authorities may not follow the same definitions for administrative costs as in other countries. The administration costs for the IMSS and other social insurance institutions (which are included here) may be overestimated somewhat because the administrative costs for its health-care system are not separated from the non-health elements of social insurance covered by that institution. Very rough estimates suggest that this might reduce the share of administrative costs in total health spending of IMSS alone by 0.5% of total health care spending.

30. This cost burden is 2.6 percentage points above that of the United States, which is known to have high administrative costs because of the operating expenses of private insurance. It is 7 percentage points higher than Canada where delivery is a provincial responsibility.

31. It may also reflect "scale" effects. Effective governance of the health-care system may require a minimum administrative structure in terms of costs. These costs may rise less than proportionally as overall health-care spending increases.

32. Note that recent estimates by the MoH focusing exclusively on administrative costs indicate that for the uninsured population administrative costs represented in 2001 13.8% of total expenditure for the uninsured. For the insured population these shares were: 15.6% for IMSS, 13.4% for ISSSTE and 8.3% for PEMEX. IMSS suggests that this high level may also reflect the relatively generous wages given to administrative personnel when compared with medical staff.

33. It may also prevent possible improvements in quality through greater specialisation of hospitals in specific clinical areas.

34. These outcomes appeared to have depended to some degree on the management capacity of the state systems in the new policy environment. Individual studies of states showed very different abilities to develop policy and implement them, and this is not always associated with the level of economic development or whether the state had been decentralised or not (Nigenda *et al.* 2002; Birn, 1999).

35. The last concerted effort to improve hospital management in the MoH dates from over two decades ago. A new management programme for state CEOs was started in 2003 and it is hoped that this will have a subsequent cascade effect at the hospital level.

36. ISSSTE and PEMEX have maintained a centralised framework (Organización Panamericana de la Salud, 2002).

37. It should, however, be noted that a number of significant changes have been carried out after discussions with the unions, for example the recently developed family health-care policy.

38. The IMSS is now using a DRG arrangement to provide a small part of hospital finance. However, this is currently limited to part of spending on material inputs. Such payments currently represent approximately 2% of total hospital spending, rising eventually to around 8%. DRGs are based on those used in the United States and are not specific to the structure of costs or treatment pathways used in Mexico.

39. Some recent efforts have been made to establish more flexible contractual schemes: social security institutions such as IMSS have been outsourcing to extend access of certain health-care services to areas where they lack facilities; and, time-limited contract or contracts for the provision of specific health-care service are taking place among different SHS. Contracts of these kinds have been mainly established with: *i)* business organisations of medical doctors, paramedics or nurses for care services; and *ii)* private non-profit care institutions (IAPs) which may provide infrastructure. Efforts are underway to develop the legal framework to strengthen flexible contracting at the state level.

40. Public spending per insured individual is roughly 87% greater than that for the uninsured (Table 1.5).

41. Nonetheless some innovative arrangements are being experimented with. For example, the Chihuahua SHS is beginning to contract for some services with non-profit associations and NGOs. At the national level public-private partnerships – along the lines employed in the United Kingdom – are being explored.

42. The MoH reports some progress in this area. For example, the measure "share of prescriptions supplied up to 100% in the health unit" is said to have increased significantly.

43. For example, Gómez Dantés *et al.* (2001) found that, in a random sample of 18 health districts, around half of a package of 36 essential drugs was unavailable on average and supply was particularly poor for drugs aimed at treating communicable diseases such as antibiotics, TB and malaria.

44. Discussions with the SHCP.

45. These factors include high non-wage labour costs due to the social insurance and INFONAVIT (a scheme for financing housing); other programmes financed out of contributions particularly for

low-wage workers); a perception by informal workers that social insurance benefits are not worth the costs; restrictive labour market regulation, high severance pay and restrictions on part-time and short-term contracts.

46. Comparisons of deficits between ISSSTE and IMSS should also take into account the Social Quota for each person insured under IMSS. This is not extended to ISSSTE.

47. This use of a wider distribution of costs per person across age groups is supported by recent data by IMSS that show increases of the cost of care of the elderly of around 15 times for external consultations and just over 3 times over the period 1986 to the present (see IMSS, 2004, Figures 1.33 and 1.44).

48. The overall increase will depend on the assumptions concerning the share of the population covered by the social security. Assuming only 45% coverage (see Box 1.2), the increase over the period could be 0.1 percentage point of GDP more than estimated. It also does not allow for the fact that some part of the uninsured population may not take up the programme (which is voluntary) or that individuals may decide to shift from IMSS to the SP. This underlying increase in health-care spending resulting from the SP also assumes no upward adjustment in the SP programme costs to compensate for wage increases in the health sector. The impact of the increase in the level of spending for SP on the spending share in GDP over the period to 2010 is partly compensated by an assumed rapid increase in employment and in GDP over the period. As can be seen from the baseline, health-care costs (not taking into account the introduction of the SP) would fall slightly as a share of GDP for this reason over the transition period to 2010.

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Chapter 3

Recent Reforms: Impact and Prospects

This chapter reviews the main reform of the current decade. It begins by describing the System of Social Protection in Health (SPSS), looking at some of the reasons for the reform as well as the problems that it intends to address. It then reviews the mechanisms of financing the reform and the way the resources are to be channelled to different goals of the health-care system. It subsequently examines the potential impact of the reform on health-care goals highlighted in the introduction of this paper and discusses some of the key transitional problems that the reform is likely to face. Finally, it considers the implications of the reforms for system governance and the extent to which it will promote greater system coherence.

This chapter focuses on the most recent major reform to the health system – the System for Social Protection in Health (Sistema de Protección Social en Salud, SPSS) – that came into effect at the beginning of 2004. It first examines the key recent reform package. It then looks at the possible impact on the health-care goals discussed in Chapter 2.

3.1. System for Social Protection in Health (Sistema de Protección Social en Salud, SPSS)

The Mexican authorities see the SPSS as part of continuing efforts to move away from a system of vertically-integrated insurance/provider institutions towards a more universal system with coverage for health care for the entire population and where there is a horizontal integration of functions distinguishing between stewardship, financing and delivery. This broader vision is described in Section 2.5.

3.1.1. The objectives and main thrust of the reform

The SPSS attempts to achieve several important objectives which would better align the health-care system with the authorities' longer-term goals:

- First, the reform aims to strengthen the stewardship role of the federal Ministry of Health.
- Second, it creates a system of family insurance based on the piloted Popular Health Insurance or Seguro Popular de Salud (SP) to ensure that all individuals have access to affordable health-care insurance, particularly those who are poor. The SP is available to all the uninsured, is portable and contains standardised coverage that includes an explicit package of cost-effective health interventions, including pharmaceuticals. Family contributions to obtain the insurance will be progressive so as to improve financial equity.
- Third, it intends to inject new resources into the currently under-funded government health-care system and to use these funds to rectify the interstate inequalities built into the pre-reform system of earmarked transfers from the federal authorities to the states. This is to be mainly drawn from the federal budget but states as well as households are required to contribute to the new system. It attempts to make the programme financially sustainable by phasing in the new insurance vehicle over a seven-year period (2004 to 2010). Resource redistribution will be based on the number of households enrolled in the new Seguro Popular de Salud.
- Fourth, it intends to establish a mechanism to provide a pooling at the national-level of insurance for those risks that are non-diversifiable for populations at the state level through the Fund for Protection against Catastrophic Expenditures (Fondo de Protección contra Gastos Catastróficos, FPGC).[1]
- Fifth, it attempts to protect public-health spending through an accounting separation between: *i)* "public-good-type" community health services (such as vaccination schemes) and *ii)* personal services that mainly benefit individuals and have minimal positive spill-over effects on overall social welfare.

- Finally, by making the new insurance system voluntary and linking additional finance to the number of families affiliated to the SP, it creates incentives for the states to improve services in order to attract new members and retain current affiliates, thus making the system more "consumer driven".

3.1.2. New resources to rectify inequalities in financing

A key aim of the SPSS concerns re-establishing financing equity within the National Health System. Financial inequalities are of three types (Frenk *et al.*, 2004):

- *Between the uninsured and the insured*. Average per capita public spending of those covered by social insurance is 85% greater than those without (Table 1.5). The IMSS receives a direct subsidy per affiliate (in the form of a quota similar to the SPSS), while the uninsured and the other social security institutions do not. The share of the population covered by social security is much higher in the richer states than in the poorer states, thereby accentuating the inequity at the level of total health spending for social insurance. This is also reflected in the regressivity of coverage (Box 2.1).
- *Among the states for the finance of State Health Services*. Richer states tend to be better resourced with SHS providers (Table 2.1). The main source of income for the SHS is made up of earmarked transfers from the federal government which were established in 1998 as part of the decentralisation process. These reflected initial endowments that left differences of 5 to 1 across the states in the size of the federal transfers per uninsured household.[2]
- *Between the financing of health care by the state's own budget resources*: additional state financing of per capita health spending by the states varies across states by over 100 to 1 (MoH submission).[3] In general, the poorer states spend less as they have lower overall fiscal resources available.

According to MoH simulations, these differences will be progressively reduced as an increasingly larger share of the uninsured join the SP scheme. New resources will be contributed on a tripartite basis. The federal government will make a per-capita contribution (the "Social Quota") to states for each enrolled family. This contribution corresponds to the federal quota to the SPSS that is already paid to the IMSS for each insured worker, so that all families in the SP will receive the same grant. The federal and state governments will also make a "solidarity contribution" for each family joining the scheme. These three components (*i.e.* the Social Quota, the Federal Solidarity Contribution and the State Solidarity Contribution) are intended to bring all states up to the same minimum amount per newly insured family of just over MXN 7 000 per annum (USD 625). In addition, the sum of the Social Quota and the Federal Solidarity Contribution will add to the existing resources under FASSA and will exceed it by 180% when the system is fully matured.[4] Finally, individuals pay a small, income-related premium (see Box 3.1 for more details).

In principle, at the end of the transition period – currently programmed for 2010 – there will be broad equality across the states in both the federal and state allocations for health per household. Under the new reform, the transfer of funds from the federal authorities to the states is to be re-balanced in such a way as to bring the financial resources per household up to the same level. To this end, the Federal Solidarity Contribution will be allocated on the basis of a complex formula that takes into account: the number of families taking up the SP, the health-care needs or backlogs in individual states and, possibly at a later stage, the importance of state health-care efforts and the performance of their health-care system.[5] The total amount of resources going to each of the states as Federal Solidarity Contribution

Box 3.1. **Sources of financing within the SPSS**

The new SPSS system will be financed from a combination of existing and new resources.

Existing financing includes those earmarked transfers from the federal government through the existing budget line (Ramo 33/FASSA) plus a portion of resources from the existing federal Ministry of Health budget (Ramo 12), which is channelled to the states through specific programmes.

Additional funds will flow into the system to fund the Social Quota. In the case of the Federal and State Solidarity Contributions, additional funds will flow to the states only when the value of the mandated Federal Solidarity Contribution (ASF) and State Solidarity Contribution (ASE) exceed the existing resources from both the federal and the state governments. New sources of financing comprise, therefore:

- The *Social Quota* (Cuota Social, CS), which is equivalent to 15% of the minimum wage (federal district) as of 1 January 2004, when the SPSS reform to the General Health Law came into effect. This amounts at present to MXN 2 477 annually per newly insured family. This figure will be updated quarterly for inflation. The Social Quota will be entirely funded with new resources.
- The *Federal Solidarity Contribution* (Aportación Solidaria Federal, ASF), which is equal, on average, to 1.5 times the annual Social Quota, or MXN 3 715 per insured family as of 1 January 2004. This is redistributed to the states depending on a formula that takes into account four components: *i)* a per family component; *ii)* a health-needs-adjusted allocation per family; *iii)* a "states effort" component that allocates resources on the basis of additional contributions made by states from their own budgets; and *iv)* a performance component. Only the first two components will be mainly used in the initial stages. In 2004, the formula gave an 80% weight for the per-family component and a 20% weight for the needs-adjusted per family component. Federal Solidarity Contributions ranged between approximately 1.4 and 1.6 times the Social Quota. The amount mandated by the new system is compared with the funds each state already receives through FASSA (Ramo 33) to fund personal health-care services (FASSA-P). Additional resources will be transferred to the states only when the existing resources are less than the resources mandated under the new system – *i.e.* when states already have resources in excess to the amount determined by the formula, no additional resources are to be provided.[1]
- The *State Solidarity Contribution* (Aportación Solidaria Estatal, ASE), which equals in all cases 0.5 times the annual Social Quota, or MXN 1 238 as of 1 January 2004 for each affiliated family. As in the case of the federal transfers, the size of the additional contribution for each state will depend on how much they already contribute to health-care from their own resources. Thus, where existing state spending exceeds the mandated amount, the state does not need to allocate greater resources to health care – although they are free to provide additional resources to fund complementary interventions.
- Finally, the family contribution (Cuota Familiar, CF) is based on a sliding scale depending on the income level of the household. In 2004, this will range from zero in the lowest two deciles to MXN 12 620 for households in the 10th decile.[2] Deciles I and II are subject to a non-contributory regime and a large number of future members are expected to come from this group. Thus, the family contribution is not expected to be a significant source of funding and will be allocated to a fund in each state for the purchase of drugs and other material inputs. While the lowest two income groups

Box 3.1. **Sources of financing within the SPSS** *(cont.)*

obtain cover for free, they will nonetheless have to agree to participation rules associated with good health practice (*e.g.,* health education and regular health visits).[3]

1. It should be noted that the SPSS does allow for transitional funding to ensure that there are sufficient resources to provide care to households that remain uninsured.
2. The rates were roughly halved (except for the top decile) from those applied under the piloted Seguro Popular de Salud because surveys suggested that many households were unwilling to pay that much. The average contribution is MXN 3 561 across all deciles excluding deciles I and II. Excluding the 9th and 10th deciles, the average contribution is MXN 1 810 across those deciles that would be actually paying.
3. In the case of deciles I and II, the government subsidises their family contribution. For example, it is expected that beneficiaries of Oportunidades (the most important poverty alleviation programme which targets the poorest families) would be part of the SP beneficiaries subject to the non-contributory regime. These families receive a monthly payment and one of the listed components could include the value of their family contribution, even though it is not in fact paid out.

will take into account the amount that they already receive through the earmarked transfers in FASSA: states currently receiving only a small earmarked transfer from the federal budget will receive correspondingly more (and *vice versa*). MoH simulation of this effect (Figure 3.1) indicates that no state loses resources under this programme. States with continuing public health problems (most often the poorer ones) may also receive a larger share of resources through the community health-care fund, further re-balancing the overall level of resources.

The amount of additional state government contributions (through the State Solidarity Contribution) will depend on the existing resources they allocated to health care before the reform began its implementation. They will contribute additional funds only when the total of mandated contributions – *i.e.* the number of households enrolled in the SP multiplied by the value of the State Solidarity Contribution – exceeds the amount they are already spending on health care from their own resources. The simulated impact of the application rules (Figure 3.2) suggests that many of the poorer states will need to find additional resources for health care or shift resources from other purposes.

As regards geographical access, the authorities are also aiming to reduce imbalances in access to secondary and tertiary hospitals. An indicative master plan for service supply is currently being established and areas where the availability of health care is weak have been identified.[6] The master plan has also identified 10 catchment areas for second and third-level services/hospitals on the basis of health-care needs, socio-economic, demographic and epidemiological characteristics. Only institutions recorded in the master plan will be able to supply services to the SP affiliates. New providers and investment in new high-cost technology will require a certificate of need from the federal authorities and priority will be given to areas of the country where current health-care services are most inadequate.

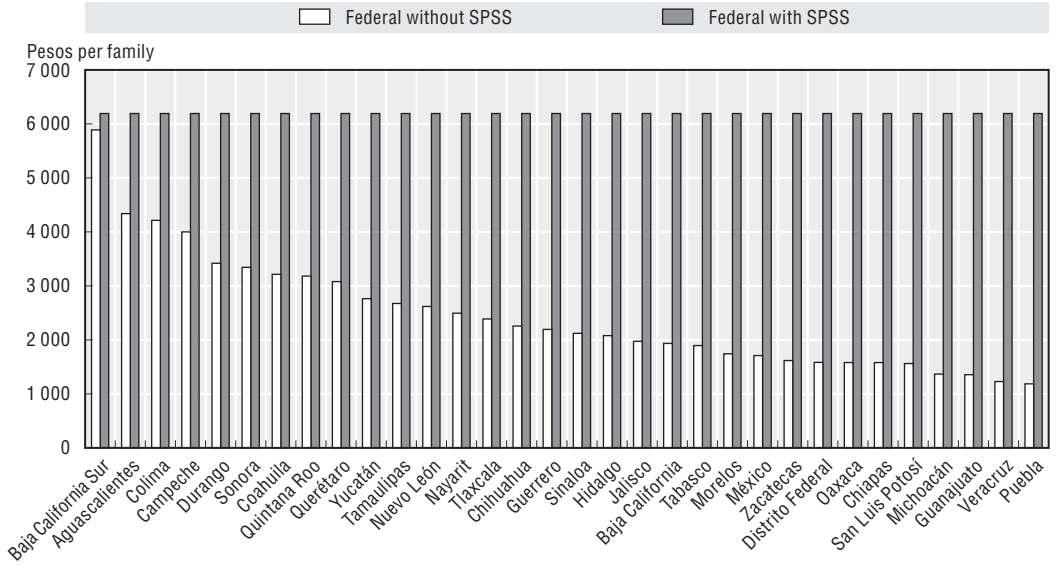
3.1.3. The new structure of care financing and the insurance package

The framework for structuring health-care finance

A key element of the new system is the creation of separate funds for allocating the new resources to specific health-care services within the MoH and the SHS (Box 3.2):

- *Services of a "public-good" nature*. These include the stewardship/governance function of the health system – *i.e.* overseeing the architecture of the system, its regulation and the

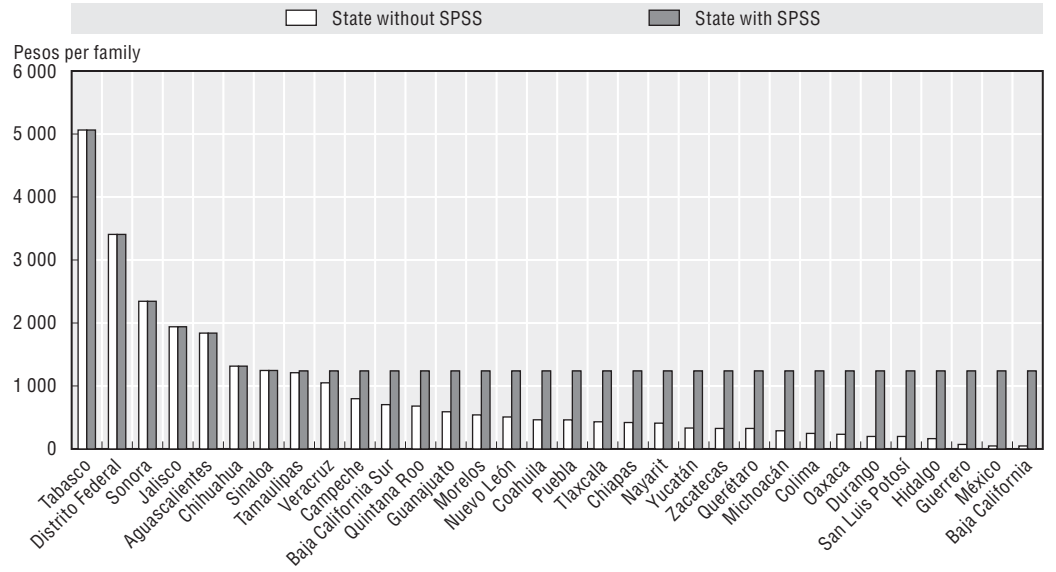
Figure 3.1. **Federal health-care transfers to states for the uninsured, before and after the SPSS reform**



Note: These figures are the portion of FASSA (Ramo 33) that corresponds to personal services, *i.e.* the Fondo de Aportaciones para los Servicios de Salud a la Persona (FASSP), according to the budget authorised for 2004 by the Congress and the Ministry of Finance. Federal resources include the Federal Solidarity Contribution and the Social Quota.

Source: MoH (2004c), *Salud: México 2003. Información para la rendición de cuentas*, Mexico.

Figure 3.2. **State resources for the uninsured before-after the SPSS reform**



Source: MoH (2004c), Salud: *México 2003. Información para la rendición de cuentas*, Mexico.

Box 3.2. **Allocating resources to funds for different health-care needs under the SPSS**

Resources for the SP, plus funds for the community health services, are allocated between separate funds as illustrated in Figure 3.3. An underlying aim of these different funds is to ensure that public spending on health of a public-good nature is identified and allocated a defined budgetary component. This is to ensure that actions – for example, in the area of preventive community medicine – are protected against future budgetary difficulties. This may avoid negative experiences in many countries where budgetary cuts often fell on such programmes. These funds are:

- *The fund for community health services (Fondo de Aportaciones para los Servicios de Salud a la Comunidad, FASSC)*. This fund is intended to finance public health and community health services – *i.e.* services that have a public-goods nature. This fund will be made up of the portion of FASSA (Ramo 33) used to fund state public health and community services (so-called FASSA-C), potentially complemented by the Ministry of Health own budget (Ramo 12) where the services at a national or regional level are of a "public good" nature. FASSC resources are to be allocated to the states on the basis of a formula containing as variables: population, public health needs and public health risks and the efficiency of state public health programmes.[1] Since the backlogs in health status are highest in the poorer states, a larger part of this fund would presumably go to the lower-income states, thereby making the financing system depicted in Figure 3.3 yet more progressive.The method of monitoring the use of these funds at the state level has yet to be established.
- *The fund for personal health services (Fondo de Aportaciones para los Servicios de Salud a la Persona, FASSP)*. The insurance component for "private-type" health-care services covered by the Seguro Popular is to be publicly funded by the sum of the Social Quota, the Federal Solidarity Contribution and the State Solidarity Contribution. The total amount of resources is separated in three components:
  I. A first component (89% of the total personal health-insurance fund) will act as an insurance pool – decentralised at the state level – for low-risk high-probability health expenditure. As noted above, this provides an essential package of primary and secondary care in ambulatory settings and in general hospitals that are judged to be cost-effective. Care under this package is provided free at point of service.[2]
  II. The *Fund for Protection against Catastrophic Expenses (Fondo de Protección contra Gastos Catastróficos, FPGC)* (8% of the total personal health insurance fund) pools risks at a national level of low-probability but high-cost procedures most often requiring treatment in tertiary-level hospitals.[3] The risks covered by this fund – which concern nine groups of illness – will, in principle, be decided on the basis of cost effectiveness, social acceptance, as well as technology and availability of supply and financial resources.[4] Currently, six high-cost treatment diseases are included and coverage will be progressively expanded depending on available resources. Widening the coverage of diseases will be a slow process.
  III. The Budgetary Provision Fund (Fondo de la Previsión Presupuestal or FPP) (3% of the total personal health-care services fund) is aimed at facilitating the operation of the system and the relations between the states. This fund provides a financial "cushion" in the case of excess demand for care, guarantees payment between

Box 3.2. **Allocating resources to funds for different health-care needs under the SPSS** *(cont.)*

states for care to out-of-state individuals and will help finance infrastructure in areas where basic health-care services are in restricted supply.[5]

1. This formula is yet to be defined.
2. These include primary care at the ambulatory level, and outpatient consultations and hospital treatment in five basic specialties: internal medicine, general surgery, obstetrics and gynaecology, paediatrics, traumatology and orthopaedics and rehabilitation. At present 165 drugs and 91 medical interventions are included in the Catalogue of Essential Services (CASES). The package of "essential" services is defined by the National Commission of Social Protection in Health (Comisión Nacional de Protección Social en Salud, CNPSS). This will be supplemented by 35 preventive measures financed on an earmarked basis by the federal government from a separate fund for community services (see FASC in Figure 3.3).
3. The logic underlying the separation between the essential services and the catastrophic expenditure fund is that, as the health events are much smaller in frequency of high cost and spread randomly across the states, pooling across the overall population would be more efficient.
4. These nine categories are cancers (20 types), cerebrovascular diseases (3 types), cardiovascular problems (2 types), severe accidents (5 types), long-term rehabilitation (6 types), HIV-AIDS (prevention, antiretroviral and hospital treatment for opportunistic infections), neonatal intensive care (14 types), organ transplants (6 types) and dialysis (2 types). The choice of the illnesses to be potentially covered in the catastrophic fund will be defined by a specific medical commission under the CSG, although, the ultimate decision about diseases feasible to be covered under the FPGC remains with the CNPSS. The criteria for choice will be based on: the effectiveness and costs of the associated care; the burden of disease; security and efficiency; social acceptability; ethical norms and the progression of the disease. Current coverage has been largely based on cost-efficiency – but also political and population acceptability-related – considerations. For example, the inclusion of treatment for premature babies is linked to another priority government programme "Equal Start in Life" ("Arranque Parejo en la Vida"), while AIDS remains a high-priority issue as in many other countries.
5. 1% of the 3% of the Social Quota + Federal Solidarity Contribution + State Solidarity Contribution will go towards: *a)* financing differences between actual spending of the affiliated people and the initial projections of expected demand for essential services (DI); and *b)* to provide a warranty payment to state insurers (Garantía de Pago, GAPA) where individuals in one state receive treatment in another. The DI will have precedence in the use of the money. The remaining 2% will be used to increase investment in infrastructure for primary and hospital care in poor areas that offer services from the basic package (Apoyo a Necesidades de Infraestructura en Zonas de Mayor Marginación Social, ANIMAS).

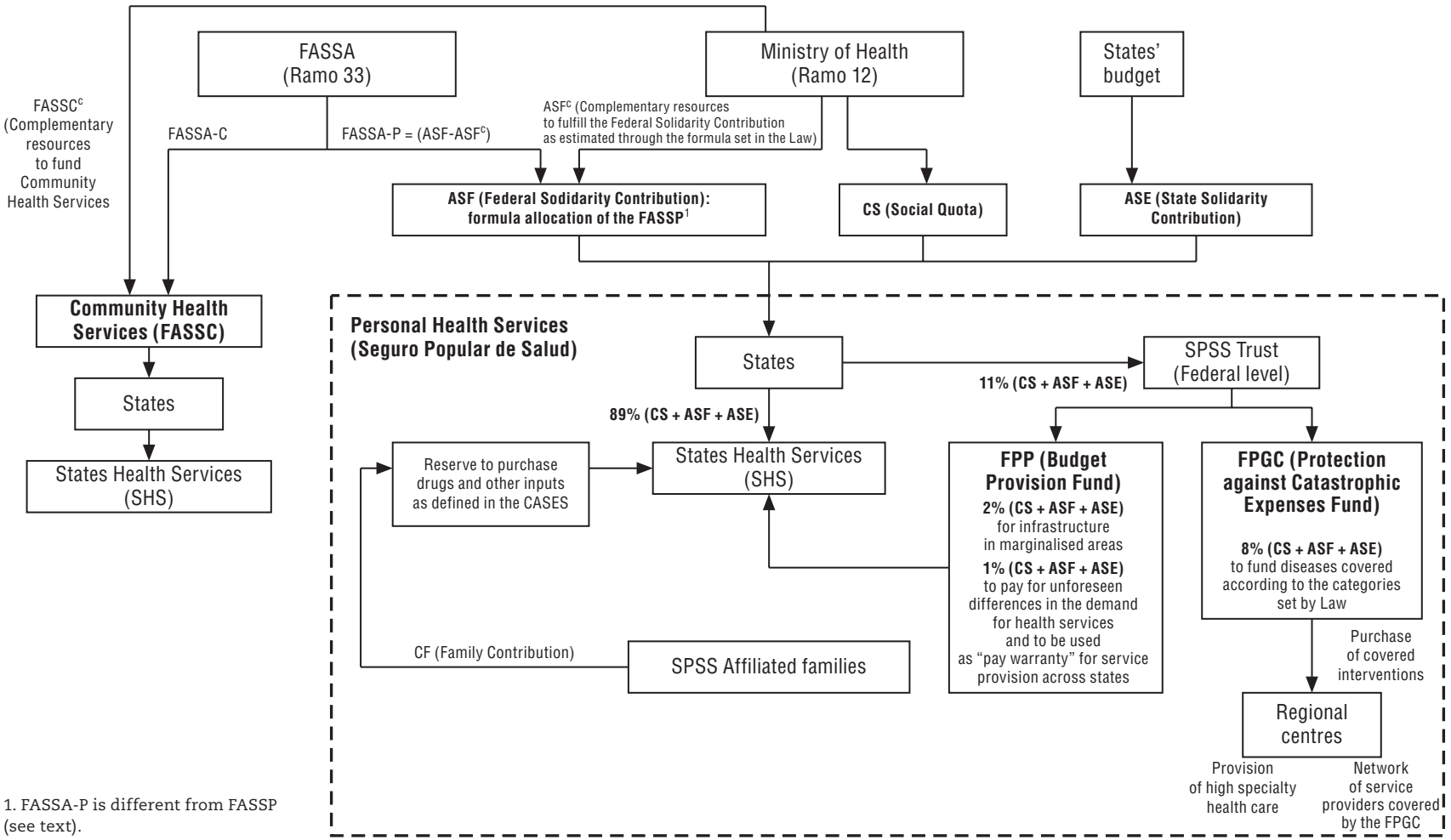
monitoring and evaluation of performance – and community health services such as prevention, control of public health risks, research and development and epidemiological surveillance. These will be funded through a specific fund but the size of this fund has not been fixed.

- *Health services of a "private" nature – i.e.* those that do not have any direct public-good effects and which should be financed through some form of insurance arrangement. The main vehicle for this is the voluntary Seguro Popular de Salud (SP) or Popular Health Insurance.

The financing/insurance of private-type health services has been further decomposed into two insurance funds:

- A basic package of "essential" and cost-effective primary and secondary medical interventions that have a high probability of occurring and form the bulk of services to the population (these represent roughly 85% of total medical services demanded in Mexico). This is to be financed by 89% of the sum of the Social Quota and the Federal and State Solidarity Contributions. This insurance function will be under the responsibility of individual state authorities for SP insurees.
- A national catastrophic-insurance fund (Fund for Protection against Catastrophic Expenditures, FPGC) financed with 8% of the sum of the Social Quota and the Federal and State Solidarity Contributions, aimed at covering illnesses that are of low

Figure 3.3. **Sources and uses of financing within the SPSS**



1. FASSA-P is different from FASSP (see text).

frequency but are individually of high cost and, for this reason, are better pooled at a national level. For financial and supply-related reasons, only a selected number of catastrophic illnesses are currently included, although others will be added if financial and supply conditions permit (Box 3.2).

The insurance package

The insurance package covers a selected number of primary care and secondary hospital interventions, chosen on the basis of their cost-effectiveness and provided free at point of service under current policies.[7] These are universally accessible to the entire population of the SP-insured. This basic package for health services of a private nature includes 91 different medical treatments, covering roughly 90% of ambulatory care but only two thirds of hospitalisations. This package is complemented by the 35 community health services aimed at prevention and public health that will be financed separately. This package will cover the spouse, children up to the age of 18 and parents over 65 years of age who are economic dependants. Single people over 18 will be covered as a single-person family.

The illnesses covered in the Fund for Protection against Catastrophic Expenses (see Box 3.2) largely entail specialised treatment at third-level hospitals offering highly specialised medical services. This fund currently covers the *marginal* (*i.e.* additional current) costs of six specific illnesses, out of a potential 58 grouped into nine illness groups. The current 8% of funding attributed for the FPGC is estimated by the MoH to be just sufficient to cover the marginal costs of the medical conditions that are currently covered. Extending coverage will require either a significant increase in the 8% or new and important sources of finance. Initial evaluations of only the *marginal* treatment costs[8] of 32 of the 58 high-cost, low-frequency illnesses suggest that this might represent 1.1 times the total budget for the coverage under the basic SP package. This suggests that the overall costs (including additional labour and infrastructure) are likely to be considerably more. In addition, there appear to be a number of medical conditions and treatments that are not included in either the basic package or the FPGC.[9]

3.2. The potential impact of the SPSS on health-care goals

This section provides an assessment of the possible impact of the SPSS on the health-care goals listed in the introduction. To the extent that the new financial resources can be found, the new programme will be a major step forward in achieving universal access to health-care insurance, a key weakness of the existing Mexican health-care system. However, the new system will confront a series of difficult challenges in implementation. Even when these are overcome, the system will still remain somewhat distant from the longer-term vision of a horizontally-constructed system, based on the functions of governance, insurance and provision.

3.2.1. The impact in terms of insurance coverage for health-care costs

The SP is clearly attractive to the lowest two deciles in the income distribution – for whom the package is essentially free – and the third lowest decile – where the costs of the family contribution in terms of income are very low. Virtually all of the current members of the SP programme belong to these income groups. If SP insurees are given preference in care – because they bring in extra federal money – this may provide an additional reason for individuals to join the system.[10] However, take-up by other socio-economic groups will

depend on the costs and benefits of alternative insurance packages: private insurance (with care by private practitioners and private hospitals); full coverage under the various social insurance schemes (with care by the respective social insurance providers); and partial coverage under the SP package (with care largely from SHS providers). Some elements that may govern individual choices are:

- Given current perceptions concerning the quality of care in the SHS, broader social class attitudes and the larger share of hospital expenditure among higher-income groups, it seems likely that higher income groups will probably continue to self-insure fully or partially – *e.g.*, self-insure ambulatory/primary care accompanied by a catastrophic private insurance policy or, alternatively, choose full coverage under the SSF policy of IMSS or the system of voluntary affiliation (IVRO). Currently, private health insurance and the SSF cover under 4% of the population and, given the cost of private insurance, this share is unlikely to increase significantly in the future.[11]
- Those in formal employment will continue to obtain medical cover automatically from the social security institutions but a significant share of the care will probably continue to come from out-of-pocket spending for private care, possibly reflecting implicit rationing within the SS system.
- There may be some competition between SP and IMSS in terms of potential membership. Total social insurance charges are much higher than the family contribution of the SP – although this covers a wider range of risks than just medical care. Both employers – and workers themselves – may find it financially attractive to join the SP and choose a non-salaried labour arrangement – yet still within formal employment. For example, this could be particularly the case of employees payed on a commission-basis or workers in rural areas paid through other remuneration arrangements.
- As noted in Chapter 1, there is a large informal economy where salaried employees are not declared to IMSS and compliance in this area remains weak. By paying their workers for the SP, employers may face less pressure to declare their employees. Such illegal arrangements may be particularly attractive to younger individuals in good health who may not value highly the fuller coverage of health-care from IMSS or the non-health components of social insurance.

While the impact of the incentives described in the last two bullet points on household choices are unknown, they could place additional competitive and financial pressures on IMSS.

The existing package of health-care risks is wide and probably well adapted to the structure of morbidity of the target population. Figure 2.3 on the pattern of mortality in Mexico points to different patterns from the rest of the OECD countries, as do the high levels of infant and maternal mortality. It is critically important to focus attention on these basic needs as a first priority. However, this will leave an important number of illnesses uncovered, and since these illness groups make up an important share of mortality in Mexico, the coverage of this system is – at least for the present – significantly truncated. This contrasts with the global coverage of risks (at least nominally) under social security. Even if there is implicit rationing within the social insurance system, such that the effective coverage is likely to remain *de facto* broadly the same, the insurance arrangements will remain segmented and the new programme will not provide full cover for health-care risks, even if (and when) the FPGC covers all of the 58 listed diseases.

The attractiveness of the SP will also depend on how well the SHS services respond to the new insurance scheme. Surveys suggest that those insured under the SP consider the availability of drugs – along with lower waiting times for ambulatory care, being well treated by medical staff and receiving appropriate information – as key factors in their willingness to join the SP programme. As it stands, the SHS system purchases only 5% of the total amount of drugs bought by the main public institutions of the National Health System, with the remainder bought by the social insurers (González Pier and González Hernández, 2004). At the same time, the share of individuals' out-of-pocket spending going to purchase pharmaceuticals and primary care is higher for lower-income deciles than for higher-income deciles (Nigenda *et al*., 2003).[12,13] This obliges a larger share of poor and less-well-off households to purchase them privately, often at markedly higher prices than the government would pay.[14] In addition, primary carers are not seen as responsive to the demand for care, either in terms of opening hours or care provision.[15] Thus, the success in the SPSS system will strongly depend on improving performance of the existing SHS system.

3.2.2. The SPSS and the quality of health-care

The impact of the SPSS on the quality of care is likely to occur through the incentives built into the financing of the new system. As noted, the states will only be able to obtain additional federal funding if enrolment in SP is increased. To the extent that enrolment will depend on the perceived quality of care, the states have an incentive to improve the functioning of the SHS providers.

The "National Crusade for Quality" (Chapter 2) is likely to help in this context by providing a framework for improving overall provider quality. Efforts to better measure the performance of the health-care system will allow benchmarking and the identification of best (and worst) performers. Health-care units already providing high-quality care will be identified and poor performers will be encouraged to improve. At the same time, several dispositions of the new reform should create useful synergies with the Crusade for Quality. The SPSS will provide the basis for a national health-care register. The associated data on SP members and their affiliates will provide information on the area of residence and the socio-economic characteristics of the household, permitting, amongst others, better targeting of needs and siting services to population needs over the longer term. The rules of the SPSS provide for continued system evaluation to identify problems and to assess whether the system is achieving its goals. However, these policies are not backed up by financial incentives or by the process of certification, which remains voluntary.[16]

Compulsory accreditation for SP providers – one of the quality-related innovations within the SPSS – is aimed at ensuring that providers achieve the human resource and health infrastructure levels needed to provide quality care. In addition, institutions providing care under the catastrophic care fund (FPGC) will also need to be certified.[17] The list of the 91 medical benefits of the SP, as well as those included under the FPGC, will need to follow best-practice medicine – although narrowing unnecessary variation in practice patterns is known to be difficult in countries where it has been tried. Quality may also be improved by an enhanced system of complaints. While these measures are likely to have a high rate of social return over the longer haul, they will require up-front investment that may be difficult to find under current resource constraints. The authorities expect that it will take some time to train personnel, establish the appropriate software and develop measures that provide an adequate measure of quality. The decentralisation of the MoH services to the states, and the need to collect data from 32 state providers, presents a

particular challenge to the authorities in the construction of the new data systems, although some progress is being made in this area (for example, the implementation of a national and states health accounts system over the past four years).

Despite these positive elements and apparent high levels of satisfaction from those treated in the National Health System (Chapter 2), SHS providers continue to work under an image of substandard care and poor responsiveness to patient needs. Improving this image will depend on whether the MoH and SHS administrations can provide adequate direction and whether the new money to the states coming from the SPSS is channelled to providers in ways that provide incentives to improve the quality of health-care.

3.2.3. The SPSS and increased system efficiency

As suggested in Chapter 2, there is scope for important efficiency gains. Both the level of use and the intensity of use of resources vary widely throughout the country and across institutions. Administrative expenses are extremely high. At the same time, the capacity of the states to carry out their new mandates following decentralisation appears to be heterogeneous, management at the provider level is said to be weak in many cases and, as noted, the supply of materials and equipment may be at levels that limit effective functioning of the system. Incentives facing providers both at the individual and institutional level do not favour the search for efficiency gains.

Nonetheless, the SPSS provides important incentives for the states to improve the supply and quality of care in order to encourage enrolment. This incentive is all the stronger for states that have been poorly served under the previous financial arrangements as the "per household" transfer from the federal government will be weighted in their favour. The assessment in Chapter 2 suggests concerns about the capacity of the existing SHS system to supply the package of services to the new SP insurees. Take-up of services may be high because they feel that their newly-acquired rights should be used, because the services are now free at the point of delivery, and because of self-selection (for example, pregnant women entering the programme for a short period).[18] In light of the tight financing situation in the government sector, ensuring the necessary increase in supply to sustain affiliation remains a key policy challenge. Experience with the SP pilot programme in five states suggests that it is possible to achieve the needed increase in supply for the new SP affiliates and maintain re-affiliation rates over 90%.[19] However, this pilot programme was far from covering the entire target population of the uninsured and supply constraints may become more important if and when the majority of the uninsured choose to join the new insurance scheme.

To obtain the maximum productivity, payment systems for providers – both at the individual and institutional level – need to be closely tied to increases in supply. The SPSS allows the state ministries of health to purchase services from other providers within the National Health System as well as from other states but has given states a free hand in allocating resources. The federal authorities see the states moving towards purchasing from alternative providers on the basis of cost and quality only gradually and under different contractual arrangements, although the law requires that a general model for this type of agreement/contract be followed to ensure a minimum set of key elements (quality, price, etc.). It will certainly be difficult to change the mind set of the state authorities to shift from supply-based systems of control and finance to consumer-based systems where money follows the patient. Under these circumstances, there is the risk that states may fall back on existing arrangements, using additional funds to increase, simply, the existing budgets of

SHS providers without tying these funds to productivity gains. And until states move towards purchasing of services from suppliers outside their own SHS systems, no progress will be made, either, towards a more fully integrated health-care system.

States can also purchase services from the private sector and this may be an appropriate way to allocate resources, particularly where local supply is lacking or where it may be more efficient to outsource selected services – such as radiology or laboratory tests. Indeed some states are moving in this direction. However, where unutilised capacity in the public supply exists, contracts with private providers may create complex incentives arising from the fact that many public-sector doctors also have a private practice. Greater demand for care in the public sector seems likely to reduce their private income. Under these circumstances, some doctors might reduce their productivity when working in the public sector, particularly if this increased the chances for contracts with the state MoH for private supply. In the light of this, transparency in contracting in this area will be particularly important.

This raises wider issues concerning the contractual relations between health-care professionals and the state MoHs and the best approach to deal with multiple job holding (Berman and Cuizon, 2004). Policies regarding human resources remain in the hands of the states MoH, although their room for manoeuvre in this area is limited by a federal labour contract that existed prior to decentralisation, and which continues to set wages and working conditions. Thus, moves to introduce changes from the current salary-based system are likely to be difficult. Discussions with the authorities suggested that inadequate attention is paid to hours worked for the medical staff. Some efficiency gains could come from closer attention to enforcing the respect of contractual conditions.

In the absence of methods of linking funding to output, important institutional tensions are likely to arise. It can be expected that the medical personnel will argue for increased salaries.[20, 21] Pressure for wage increases may be all the more intense if those public-sector doctors having private practice face declines in their private incomes as demand switches to the public sector. At the provider level, SHS suppliers and unions can be expected to fight hard to capture the lion's share of new resources, to resist the introduction of payment on the basis of services provided, and to avoid competition with other providers such as IMSS-Oportunidades or the social insurance system providers.

3.2.4. Financial sustainability of the SPSS and equality across states in the resources for health care

The authorities estimate that there will be a major increase in public spending on the uninsured population over the period from 2004 to 2010. Assuming that all uninsured households take up the SP cover and the current share of the insured population in the total population remains unchanged, spending per capita on the uninsured would increase by around 85%, reaching levels slightly above the average per capita public spending for the currently insured (MoH submission). Government calculations suggest that the increase in spending at the end of the period could be in the range of 0.8% of current GDP and 0.6-0.7% of GDP, once allowance is made for economic growth between now and 2010. The precise amount will depend on the take-up of the system – not all of the uninsured will join the SP system – and whether the number of uninsured is currently higher than assumed in these projections (Box 2.6). Nonetheless, there will be a substantial increase in federal and state spending on health care for the currently uninsured from around 0.9% of GDP in 2002 to around 1.6% in 2010.[22]

There are four main issues regarding the financing of the new reform. First, in the light of the fiscal constraints already highlighted in Chapter 2, it will remain very difficult to free resources from existing entitlement arrangements. There is also the very important fact that the federal authorities have no room for fiscal manœuvre. Indeed, the agreement of SHCP will be required before the programme can be extended. In the current conjuncture, growth is expected to increase. This, combined with a fillip from higher oil prices, may provide some increase in federal government resources. Nonetheless, the longer-term completion of the reform will probably depend on an increase in revenues through tax reform.

Second, total additional resources coming into the system may be less than anticipated if the take-up of the SP is less than expected. As discussed in the Section 3.2.1 above, middle and higher-income groups may combine self-insurance for ambulatory care with private catastrophic insurance or join the SSF. This can have a significant effect on the additional resources that will flow into the system. Simulations suggest that if, for example, 20% of the currently uninsured population do not insure in the SP, the *additional* resources for the uninsured at the end of the transition period will be lower by 30%. Until the choices of the middle-income groups can be observed, there remains some uncertainty over the extent of available resources to increase supply.

Third, some inconsistency in timing is likely to occur between the increase in demand from the new families in the SP on the one hand and the new financial resources and associated supply of health-care services on the other. Under current arrangements, the Social Quota will be paid for each new enrolee into the system. However, new funding from the Federal and State Solidarity Contributions – which represents two thirds of the additional funding – will be allocated only once the mandated amounts of the solidarity contributions exceed the amounts currently spent on the system (Box 3.1). Assuming that the increase in SP enrolment is spread evenly over the transition period, new federal resources from this second source will not arrive in most states until after 2006 when roughly half of the uninsured are assumed to be members of the SP.[23]

While transitional budgetary provisions will help, filling the increase in demand will still require significant increases in efficiency in the early years of the transition period. In this context, two specific problems are likely to arise. As noted, purchases of drugs by the MoH and the SHS are currently at low levels and will need to be increased early on in the transition period. While the associated financial cost for this is difficult to judge, spending on pharmaceutical drugs would need to increase by around 0.2 percentage points of GDP to bring per capita spending in the MoH system up to the current levels in social security. In addition, improvements in efficiency in the SHS system may require increased supply of medical supplies and some investment in the repair of old equipment or the purchase of new.

On average, the State Solidarity Contribution represents 6.3% of general transfers from the federal authorities to the states (Ramo 28). However, states that spend relatively little on the system at present will need to find significantly larger budgetary resources to pay for their solidarity contributions. These are states where average incomes are low, where the share of potential SP insured in the total population is high and where the need to contribute additional resources under the SPSS will come the earliest. Six states will have a solidarity contribution which is above 7.5% of their general spending (net of earmarked transfers). The economic impact of this, however, will be partly offset by larger shares of the overall solidarity contribution going to states which have received lower per capita transfers from the federal authorities (through FASSA) in the past.

3.2.5. Governance and implications for the longer-term development of the system

The SPSS has enhanced the governance role of the federal MoH. The requirement that providers to SP enrolees be accredited and/or certified as meeting certain minimum standards enhances the oversight role of the federal authorities in this area. While supply constraints are likely to limit the speed at which these policies are introduced, such provisions give further impetus to improving quality as certification has remained voluntary up to now. The SPSS also gives the central authorities greater control over the investment in and distribution of new supply. The establishment of new health-care units will require a certificate of need and resources will be channelled towards underserved areas on the basis of information contained in the Master Plan for Infrastructure. Finally, the SPSS requires continuing evaluation and assessment of results and, in this context, gives greater powers to the federal MoH for the collection of information.

While the current reforms should lead to important achievements for extending the health coverage of the system and correcting inequalities in the level of state financing, the reforms in their current form will not lead to greater unification at the level of stewardship and system governance. As noted in Chapter 1, the federal MoH lacks full authority over the design and setting the parameters of the overall health-care system, having only a coordination and consultation role *vis-à-vis* the social insurers. Recent reforms will not change this situation.

The recent reforms and longer term objectives

In the light of this, a consensus needs to be forged among the various actors concerning the best way to overcome the current segmentation or fragmentation of the system at the level of insurance and provision. This task is made more difficult by the different mandates and objectives of the various institutions insuring and providing health care. The social insurers provide a broad package of social insurance in addition to health care and the IMSS, in particular, has nurtured the objective of extending a broader social insurance package (including pensions and other risks in addition to health care) to the wider population. In contrast, the concerns of the Ministry of Health are more closely tied to improving the performance of the health-care system, for example by reducing the inefficiencies inherent from segmentation of health insurance. This in return would almost certainly require breaking out health care from the other components of social insurance. For example the establishment of a less segmented system could entail an unbundling of the health component from the rest of the social security system and creating a broad-based health-care system with a single insurance package, potentially a single insurer and a unique source of finance.

In the absence of consolidation, the existence of yet another insurance package will tend to augment rather than reduce the existing segmentation of the system at the level of health insurance and, as noted, may potentially create problems of migration from one programme to another. On the other hand, the SPSS and the SP may help create a less fragmented environment at the provider level. The outcome, in this context, will depend on the capacity and willingness of the various "insurers" to move to a model of purchasing, in which the money follows the patient rather than being used to finance supply. While the reforms and the agreements within the CSG have put in place the building blocks for contracting, it is not yet clear that the "insurers" will be willing to purchase outside their own providers. Ensuring high quality in all providers will be an important condition for success in this area.

There appears to be considerable variation across states in their capacity to introduce such policies. For these policies to succeed, the federal authorities need to take on a stronger role in establishing the appropriate institutions at the state level – for example the state insurance regimes (Regímenes Estatales de Protección Social en Salud) and coordinating a common approach to the development of policies in this area, particularly in the area of pricing.

Notes

1. In the future this pooling may eventually include risks faced by the social security institutions that may be worth pooling at a national level (*e.g.* HIV/AIDS).
2. According to a submission to OECD by the Ministry of Health.
3. The ratio excluding the federal district and Tabasco, which have significantly higher state spending per capita than the other states, is 110 to 1.
4. According to a submission to OECD by the Ministry of Health.
5. On average, all families affiliated in the SP will receive as Federal Solidarity Contribution 1.5 times the Social Quota. But for each state this per-family contribution may vary on the basis of the formula.
6. This has been carried out by a new body, the Centro Nacional para la Excelencia Tecnológica (CENETEC), which also provides policy makers with information on technology assessment.
7. While the current approach is to provide services for free at point of service, the new law does allow for cost sharing (*cuotas reguladoras*), for example, were overuse of certain services to arise. As the share of the SP in the total uninsured population increases, the existing cost sharing (*cuotas de recuperación*) – which bears no relation with costs and varies across individual care institutions – will be progressively reduced in scope and applied only to those individuals who are not enrolled in the SP and to services that are not included in the SP insurance package.
8. Note that reimbursements to hospitals under the catastrophic fund will only cover the marginal costs associated with treatment of the disease (such as medicines or materials for operations), but will not pay for the wage and salary component or infrastructure costs. Labour cost and infrastructure are already covered by the regular budget that hospitals belonging either to the SHS or to the federal government receive but this will need to be increased in the future as the catastrophic fund expands.
9. This partly reflects the fact that coverage is included only where the treatment is considered to be cost-effective and shown to have medical benefit.
10. The reaction of those individuals currently obtaining care from the IMSS-Oportunidades programme – for whom care is free – is unknown. The quality of IMSS-Oportunidades services appears to be better than the SHS services even though the SHS services are better equipped and staffed (Kroeger and Hernandez, 2003). Those with access to these services may have less of an incentive to join the SP.
11. However, as noted in Chapter 2, the SSF programme does not appear to be financially sustainable and premiums may need to be raised further. As the premiums of the SSF are considerably higher than for the SP, this could encourage a switch from SSF to the SP programme.
12. For the first decile, the share of pharmaceuticals in total out-of-pocket health-care spending is just under 60%, rising to 65% in households that have catastrophic expenditure.
13. The peculiar structure of spending of the first decile should be noted. The high share of private pharmaceutical spending in the total and the low level of private ambulatory and hospital spending compared with the higher income deciles suggest that individuals may not have access to drugs (financially) but they may receive treatment in MoH hospitals.
14. This importance is confirmed by simulations which show that a shift from private sector purchases to free public supply for drugs and ambulatory care has the largest impact on fairness in financing. Knaul *et al.* (2003) find that the share of households that have catastrophic spending would fall from 3.4% to 1.9% and 2.2% for drugs and ambulatory care, respectively, if health care that is currently purchased privately were provided for free in the public sector. This also reflects

the fact that private hospital and maternity care is more concentrated among better-off households where the risk of catastrophic spending is less.

15. This can reflect weak incentives associated with current budgetary arrangements for hospitals, the prevalence of salary-based payments for health-care professionals and the importance of private practice for many doctors.

16. For example, synergies could be created by making accreditation/certification reviews mandatory for low quality providers and by offering targeted funds for achieving measurable improvements in individual provider units.

17. Accreditation in Mexico is an obligatory process for health-care units that wish to supply care, at least under the SPSS. Accreditation focuses on the availability of the necessary infrastructure, human resources and minimum process of care and the capacity to provide the necessary services. Accreditation is generally required only once. Certification is a voluntary process coordinated and promoted by the CSG that all health-care units in the NHS can apply for and concerns whether all of the care that the unit provides reaches certain established standards. A larger set of criteria are established for evaluation and the result is time limited (two years for Mexico). Thus, certification can be seen as a programme for continuous quality improvement. Mexican providers of specialised care under the Fund for the Protection against Catastrophic Expenditure need to be certified as well as accredited.

18. Discussions with state officials indicated concern – based on the experience of states where the SP had been piloted – over a possible surge in demand from individuals who, on obtaining insurance and (in some cases paying for it), would demand unnecessary treatment. They reported discussions with colleagues who found that this had occurred in some states where the SP system had been piloted.

19. It may also be the case that SP affiliates were given preference in treatment to ensure higher levels of satisfaction.

20. Additional pressures are likely to arise from the fact that a number of states have recently hired workers on temporary contracts at lower wages and sometimes without social insurance coverage. (These are estimated to be 40 000 persons or just under 20% of total reported MoH employees.) Integrating these workers into existing labour contracts will increase overall wage costs for the SHS providers.

21. In recent years a number of countries – including Canada, Ireland and the United Kingdom – have found that a significant portion of increased public spending on health-care has been absorbed into higher salaries of health-care professionals.

22. The allocation of resources to the SPSS will need to be consistent with available resource and macroeconomic and budget constraints. The introduction of the new system may therefore be more drawn out than the current seven-year transition plan.

23. According to OECD estimates, a significant share of the total ASF will not be paid out until late in the transition period (Box 3.1), although the effects of this on the capacity of states to fund their new obligations under the SPSS may be attenuated by additional temporary funding over the transition period. For 2004, 1.2 billion pesos have been allocated to the states for this purpose.

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Chapter 4

Policy Challenges and Options for Further Reform

This chapter provides some broad conclusions on the performance of the Mexican health-care system and the challenges facing policy makers. It also makes some policy recommendations for future improvements in the system.

Health status in Mexico has improved…

The Mexican health-care system has come a long way over the past two decades and there have been important achievements. Improvements in a wide range of health status indicators and morbidity have occurred and patterns of mortality are moving progressively towards those found in most other OECD countries. Lifetimes have lengthened, infant and child mortality continue to fall and progress has also been made in reducing maternal mortality.

… and policies have addressed a number of important problems.

These successes reflect not only the outcomes of rising living standards, but also the efforts of successive administrations aimed at improving the health status of the population. Over the past few decades, particular emphasis has been placed on prevention programmes. These programmes appear to have achieved a large degree of success. Very high levels of vaccination have been reached, while progress has been made in controlling other communicable diseases and ensuring better basic hygiene. In addition, programmes such as Oportunidades and PAC – with its mobile health units – have significantly increased access to health services in outlying areas.

But Mexico still lags behind most OECD countries…

Despite this progress, there remains a considerable way to go before Mexico reaches average OECD levels of health status. Deaths from infectious and child-related diseases remain comparatively high, as do endocrinal, nutritional and metabolic diseases and deaths resulting from external causes (*e.g.,* suicides, violence and accidents). Measured infant mortality and, particularly, maternal mortality remains significantly above the OECD average.

… and there are wide differences in health status across the country.

There are also wide differences in patterns of mortality and morbidity across states, linked to a range of socio-economic factors. The high correlation, for example, between infant mortality and the index of marginalisation by state is an eloquent reminder of this fact. Richer states have patterns of mortality and morbidity close to those in more developed OECD countries, while the poorer states in the centre and south of Mexico appear closer to countries that are much less developed.

The health-care system is unnecessarily complex…

Mexico has a notably complex institutional structure for public health-care provision. Several vertically-integrated insurers/providers (IMSS, ISSSTE, PEMEX and the MoH/SHS) broadly serve their own target populations. In addition, there is a patchwork of additional federal programmes often aimed at specific population groups. This diversity adds to overhead costs, prevents rationalisation of supply at the operational level and detracts from the capacity to govern the system. The private sector is largely unregulated, even though it provides over half of the overall supply in value terms.

The decentralisation to the states of responsibilities for health-care for the uninsured aimed at breaking down the highly centralised approach to health-care provision for this population group. This may have provided states with stronger health policy making teams the flexibility to adapt programmes to local needs. But the dispersion of responsibilities and powers under the new arrangements makes policy co-ordination more difficult and may contribute to relatively high administrative costs.

An under-funded/ inefficient public sector is reflected in high private spending…

The level of total health-care spending is not far off what might be expected for a country at Mexico's level of economic development. However, the large share of out-of-pocket spending stands in marked contrast with almost all other OECD countries, suggesting that the public system may be either under-funded and/or inefficient. Lack of public supply or inefficient use of existing resources is leading to a spill-over of demand for care into the private sector.

… access to quality care is inequitably distributed across states and institutions…

The social insurance system receives considerably more resources to care for its members than does the MoH and the SHS services. Richer Mexican states benefit from higher levels of social insurance coverage as well as greater resources for the uninsured. Urban areas, particularly Mexico City, have the bulk of health-care facilities while rural areas are under-served.

… and the cost-efficiency of the system is weak.

There is scope for important efficiency gains in the system, even if these are difficult to quantify. The system still appears marked by a history of centralised decision-making and inefficient bureaucratic methods – for example, in the delivery of pharmaceutical drugs to providers. Based on OECD comparative data, administrative and health system governance expenses also appear high by the standards of other OECD countries, even those with a federal structure.

The degree and intensity of use of resources vary widely across states and across institutions. The capacity of the states to carry out their new mandates arising from

decentralisation appears to be heterogeneous. Management at the local level is weak in many cases and the supply of materials and equipment may not be sufficient for providers to function effectively. Incentives facing providers, both at the individual and institutional levels, do not favour the search for efficiency gains. In light of the tight financing situation in the government sector, it is important to exploit these efficiency reserves as soon as possible.

4.1. Access to care and financing issues

The Seguro Popular should markedly increase access to care for the uninsured…

Issues of poor access to care in Mexico are closely linked to the low public financing for health care. In this context, the recent introduction of the SPSS and, in particular, the Seguro Popular has created the prospect of achieving, over the short- to medium-term, a marked improvement in the effective cover against the financial risks of health-care costs. The new Seguro Popular package, when fully introduced, will increase substantially the affordability of health-care to those currently without formal social insurance and will largely resolve the issue of inaccessibility to health-care services for financial reasons. As it is almost entirely financed from taxes, it should be progressive in terms of its distributional impact. In addition, it introduces a method of minimising – if not eliminating – the differences in public financing between those covered by social security and those who are not; between the levels of federal transfers to the different states; and, in the states' budget allocations to health. Finally, by establishing a master plan for health-care infrastructures, it provides a vehicle for achieving a better distribution of health-care services.

… but the availability of care services needs to be further improved.

Increased insurance coverage will not, in itself, increase the available supply of health-care services. This will depend on providers' capacity to extend care to regions with inadequate supply, particularly in rural areas where posts often go unfilled. The continuation and possible expansion of mobile health-care services is probably needed, as well as better access to high-tech equipment and third-level hospitals. The master plan for infrastructure is a first step in this direction and this will be aided by the additional funds reserved within the SPSS for investment. Nonetheless, there is probably a considerable way to go to improve access to services among the rural population and urban poor and particular policy attention needs to be given to this goal. Focussing new resources on areas where health status is currently low may be the most cost-effective way to improve health outcomes.

The take-up of Seguro Popular is uncertain…

While the Seguro Popular appears to be very attractive to lower-income groups (virtually all current enrolees are in the bottom three income deciles), middle-income groups that are currently uninsured may prefer other arrangements – such as self-insurance for ambulatory care with private catastrophic insurance or the Seguro de Salud para la Familia. Less-than-full coverage will mean fewer transfers from the federal authorities, thereby limiting the

amount of new financial resources entering the system. The level of take-up will, thus, depend on ensuring that the services are accessible and of quality.

… and financing the reform will be difficult.

Additional federal fiscal resources equivalent to around two-thirds of a percentage point of GDP need to be found over the period to 2010 according to estimates made by the Mexican authorities under the assumption that all of the uninsured take up the SP. As emphasised in preceding chapters, the room for fiscal manoeuvre is limited, reflecting the low share of taxes in GDP and the constraints imposed by existing entitlement programmes and public debt-interest payments. Full implementation of the reform by 2010 may, therefore, require building a consensus for tax reform and an increase in tax revenues from their current relatively low levels. Failure to do so will likely require lengthening the transition period beyond 2010. At the state level, the financing of the State Solidarity Contribution for the Seguro Popular may also pose problems, particularly for states which currently spend little of their own resources on health-care. As these are often the poorest, these extra budgetary resources are likely to be that much more difficult to find.

4.2. Efficiency and quality issues

Cost-sharing is unlikely to be required in the short to medium term.

Given the inequality in access under the present system, the absence of cost-sharing under the current approach is appealing. Low use of the health-care system suggests that the population is not "abusing" the system. Indeed, the opposite may be the case. Over the longer term, and depending on how patterns of demand develop, some increase in cost-sharing may become desirable. Such instruments are allowed for in the law. These should be structured so as not to negate the essential aim of the SSPS *i.e.* affordable access to prepaid health-care insurance for all. If cost-sharing were to be introduced, it should exclude lower income groups.

Improving efficiency of public health care is a key challenge.

The SPSS and its system of financing contain a number of appealing incentives. With enrolment in the Seguro Popular being voluntary and additional federal money conditional on enrolment, states have a strong incentive to ensure that the currently uninsured population is enrolled and that they remain so. A significant share of the overall resources for financing the additional care will only become available later in the transition period to 2010. This may make it difficult to provide care of high quality to SP enrolees during the early years of the reform. Thus, improving efficiency rapidly is of key importance for the success of the new programme. Analysis suggests that there are large potential productivity gains to be reaped in the existing system, both within the SHS and, to a lesser degree perhaps, within the social security system.

High administrative costs require urgent attention.

The current system does not appear well-governed or managed. Administrative costs are very high and measures should be taken to shift these resources towards more productive uses. Such efforts might be facilitated if the authorities used some of the freed-up resources for investment in human capital in modern management practices, particularly for the SHS services. The IMSS has already achieved some success in this area by reducing management level staff by over 10 000 persons since the beginning of the decade.

Providers need an appropriate level of inputs to function.

Low efficiency in provision may reflect the effects of the severity of past budget constraints on supplies of materials and pharmaceutical drugs, rather than simply a management or programming problem. Additional health-care personnel are also likely to be needed (technical staff in hospitals and in SHS units in rural areas). Providing adequate supplies of drugs is particularly important for the attractiveness of the Seguro Popular, as is their distribution to providers. This is an area that may be ripe for outsourcing with delivery services operated by private firms. Costs in this area can be substantial. Even with the lower prices for generic drugs, the SHS will need to spend as much as 0.2% of GDP alone just to bring itself up to the current per capita spending levels for drugs within the social security system. This will take an important bite out of the expected increase in resources from the SPSS. The federal government's "Social Quota" should help ensure that adequate resources are available early in the transition period, but there may be need for more up-front spending.

A better balance of doctors and nurses may be more cost-efficient.

Compared with OECD countries, there is a low level of doctors per capita and a relatively high ratio of doctors to nurses. As nurses are generally paid less than doctors, expanding the numbers of nursing staff relative to doctors and increasing their responsibilities in the provision of services may permit the additional funding coming from the SPSS to achieve higher levels of health-care provision. International experience suggests that nurses can take on a wide range of tasks, so there would appear to be ample room for exploration.

A clearer purchaser-provider split and contracting with providers is needed…

Institutional arrangements in individual segments of the Mexican health-care system parallel the vertically integrated systems that were typical of national-health-type services of many northern European countries or in the United Kingdom and New Zealand prior to their reforms (Box 4.1). As is well-known, provider incentives are weak in such systems. To bolster these incentives, reforms were introduced in a number of these OECD countries to

Box 4.1. **International experience with contracting between purchasers and providers**

A wide range of countries with integrated systems have moved towards a separation in the role of purchasers or payers of health care and the providers, with contracts linking the two (Australia, the United Kingdom, New Zealand, Sweden, Italy, Portugal and more recently Greece and the Slovak Republic). More active purchasing has also occurred in countries with social insurance models such as Germany and Belgium, while the role of purchasers has been strengthened within the managed-care model in the United States. Most countries have focused on the hospital sector, but the United Kingdom and New Zealand have experimented with such arrangements in the ambulatory sector as well.

Contracts permit the establishment of goals in terms of cost-control, efficiency and quality of care and usually define both the supply and quality levels that the hospitals are expected to provide over the budgetary period and the method of payment. Increasing attention is being paid to the incentives inherent in the payment arrangements. Absence of information on the true resource costs of individual items or care episodes has been a particular problem. As a result, a range of contracting methods has been used – ranging from block grants to more sophisticated prospective payment arrangement *e.g.,* Diagnostic-Related Groups. This split between purchasers and providers is normally accompanied by more managerial and operational independence for individual providers who are made responsible for results.

Despite difficulties in implementation, most countries have recognised the benefits of these arrangements. There is now greater awareness on the part of providers of the need to be cost effective in an environment of budget constraints. They have also become much more conscious of the need to respond to patients' demands for quality and timeliness of treatment. More information on system performance has become available. As a result, purchasers are now better able to assess performance, allocate resources in a more coherent manner and ensure that quality targets are achieved.

Nonetheless, while most countries embarking on this approach have stayed the course, there is less agreement over how best to create the appropriate provider incentives within these contractual relations. There has been an ongoing debate over: the legal status of the provider entity and the degree of financial risk it should assume; the method of paying providers; the management model and the degree of managerial independence at the level of the provider; the degree of patient choice; and the desirability and degree of quasi-market-type competition between providers. As regards the latter, effective competition in such markets has proved, in practice, very difficult to create and more difficult to sustain, as the recent US experience with managed-care suggests.

An alternative approach, with successful results in a few countries, is to allow patients the freedom of choice over provider combined with a prospective payment arrangement. This means that it is more difficult to contract selectively with providers. But it encourages hospitals to provide high quality and timely care to attract patients (Docteur and Oxley, 2003).

Reforming countries have not found the move from command-and-control-type systems to contractual arrangements to be an easy process. In the early stages, the roles of each of the two contracting parties seem artificial because the people are the same, even if the roles are different. A lengthy period of adaptation has often been needed: management skills have had to be built and considerable resources had to be directed to new administration and management functions. There is also need for a marked change in approach to human-resource management and tense relations between management and staff/unions have often occurred with attempts to introduce a performance-based institutional culture.

Box 4.1. **International experience with contracting between purchasers and providers** *(cont.)*

Information remains a key factor for progress in this area (and it has a resource cost). Lack of appropriate data on the unit costs of care episodes means that the providers cannot judge what the most effective mode of treatment is while the purchasers have no means of benchmarking the performance of individual providers.

distinguish between: *i)* the insurer/payer as purchaser of services (acting as the agent of the insured); and *ii)* the providers of health-care. Relations between the two parties are bound by contracts specifying the quantity and quality of services to be provided in return for payment. This policy appears to have had some success and should receive close attention by Mexican policy makers. Indeed, the IMSS appears to be moving progressively in this direction.

The SPSS allows the state MoHs to purchase care from any providers within the National Health System and contractual relations should be established with all available providers – social security as well as the SHS – with the choice of provider based on the quality and price. There is no reason why this could not be extended to private sector providers for selected services. While contracts already exist between some payers and providers – *e.g.,* between IMSS, ISSSTE and some SHS institutions – such arrangements are little used and contracts are often poorly specified. Agreements between the various insurance institutes and the MoH (within the General Health Council) on the minimum content of such contracts are a first step in this direction. Efforts need to be made to expand the use of such arrangements in both the social insurance system and at the level of the states.

… while more output-based payment incentives are required.

Particular attention needs to be paid to the incentives that payment systems can give to improve performance. Virtually all of the Mexican institutional providers are financed through capped budgets. Historical budgeting systems have been a key reason for the inequality in federal allocations at the state level. However, it is likely that similar problems affect the financing of hospitals within states. Thus, finding better methods of allocating resources between institutions at the state level will probably be needed, as well as at the federal level.

There are certain advantages to output-based or prospective payment systems – *e.g.,* DRGs – which are used in a significant number of OECD countries to pay hospitals. These provide prospective payments for treatments to encourage higher levels of output on the one hand, and cost-minimisation by the care institution on the other. They are generally thought to enhance efficiency. However, such arrangements can lead to undesirable provider behaviour (such as cream-skimming of patients) and most systems have established methods of attenuating this risk at a cost of weaker provider incentives. The introduction of such a policy instrument in Mexico would be an important step along the road towards an operational purchaser-provider arrangement.

While attractive as a method of enhancing cost efficiency, such output-based systems can face a delicate trade-off between unlocking efficiency gains on the one hand and maintaining tight budget controls on the other. As the experience of other OECD countries, such as Sweden and Norway, shows, the incentives may rapidly lead to increased output and quickly absorb budget margins. In this context, unit prices for care need to be set just high enough to encourage increased supply and low enough to limit the risk of exceeding budget limits.

States may lack the capacity to reform the SHS…

A large number of states may lack the skills to start this process and the risk is that they may fall back on existing budgeting arrangements that provide little pressure for efficiency gains. State Ministries of Health will also need to review the degree of administrative independence of providers and explore new management and control systems which permit a more decentralised system to be monitored. This, in turn, will require developing new data systems and investing in information technology so as to ensure transparency.

… and regional purchasing agencies might facilitate progress in this area.

Progress in this area might be furthered if the supply of care was organised at the level of catchment areas rather than the states. Such zones have been defined in the master plan for infrastructure and these are being used to site third-level hospitals. IMSS, as well, divides the country into four large regions that cover several states and these are used for structuring overall health-care supply. Improvements in efficiency and effectiveness may be achieved in the SHS by applying the same logic to care provision at the primary and secondary levels, for example, by using state-governed agencies at the level of the catchment area to allocate supply and contract with providers, including those belonging to the social insurance system. Such arrangements could help break down institutional barriers between providers, save on scarce management resources and permit more intensive use of existing supply. Regional hospital agencies exist in a number of countries and could serve as possible models for Mexico.

Greater attention to implementation is needed by federal authorities.

While the federal authorities can set the framework for insuring and providing health care, they have few levers to encourage states to enhance performance – although this may change somewhat with the advent of the SPSS. Longer-term processes aimed at strengthening the capacity of the states to oversee their new mandates will be important. The federal authorities appear to have a key role to play in fostering this process by providing information on contracting methods, measures to improve incentives and, particularly, gathering information to help in price setting.

Staff remuneration should be linked to efficiency and quality goals…

Most international evidence indicates that salary-based systems lead to lower output (for example, fewer consultations per doctor) than do systems that pay on the basis of output. Nonetheless, remuneration of staff through salaries has distinct advantages in a system where budget resources are limited. Aggregate public spending has been notoriously difficult to control in systems with fee-for-service payment arrangements. Finding ways to encouraging greater throughput, while respecting overall resource constraints, will be of key importance.

In this context, the authorities should ensure that any increased salaries or other benefits are compensated by increased public health-care supply. Close attention will also need to be paid to ensuring that private practice times do not encroach on contractual working hours in the public service. In addition, any changes to remuneration systems will undoubtedly need to be examined within the context of revamping the existing collective labour contracts. Existing labour contracts appear to limit the flexibility of management and unions tend to exert a significant degree of control over internal decisions and work organisation. In addition, most SHS staff are covered by a single federal labour agreement that may restrict the capacity of the state ministries of health to innovate. Restrictive labour practices, where they exist, need to be renegotiated with unions and adapted to present-day circumstances so as to better channel human resources to where they are most needed, both within and between individual institutions.

Designing better payment arrangements for individual staff needs to take into account the tensions created by recent reforms and the specific characteristics of the Mexican supply system. For example, public ambulatory care takes place in ambulatory clinics, with care provided by teams of doctors and nurses rather than doctors operating in solo practice. Focusing on doctors' remuneration alone may be less productive than arrangements that provide encouragement for increased and better quality care from the institution or production unit as a whole. For example, improved incentives could be built into management frameworks or "contracts" that provide wage supplements for all staff if goals of both quality of care and level of service are achieved with a certain amount of budgetary resources set aside for this purpose. Such initiatives require, however, well-developed information systems and agreement over the identification and measurement of the target indicators, something that has proved difficult in the past.

Additional reforms to the social security pension schemes will be necessary.

The capacity to provide adequate health-care services to social insurance enrolees is becoming constrained by the pension system for IMSS employees and the ISSSTE pension system for public employees. In the past, budget constraints of IMSS may have been less stringent, reflecting the fact that the institution has its own sources of revenue and had, in addition, earmarked support from the federal budget. However, IMSS is already facing pressure from increased pension payments to its retired employees and, in the absence of reform, this would significantly limit its capacity to provide care. Reform proposals have been under discussion between IMSS management and unions for some time and,

following recent legislation, there may soon be agreement on new pension arrangements that would significantly improve the longer-term outlook. But if pension costs keep on increasing over the short to medium term – because benefits to current employees and retired staff have been largely "grand-fathered", further adjustments to the IMSS pension arrangements may be in order so as to ensure the institutions capacity to provide services to its enrolees. Reforms to the pensions systems for ISSSTE workers and for other public sector employers at large are also needed as higher pension payments from these programmes will inevitably place increasing pressure on the federal government budget (and on health and other social spending *pari passu*).

Quality issues have begun to be addressed…

The authorities have made progress in a number of dimensions of health-care quality: a "National Crusade for Quality" was established; more attention is being paid to family health care with a large preventive component; greater importance has been attached to the accreditation and certification of medical schools and provider institutions; and efforts were made to improve safety through better regulation of drugs. The governance role of the Ministry of Health has been strengthened, particularly in the areas of data collection and dissemination and co-ordination with other health-care institutions and the states.

… but further attention is required…

Policies aimed at enhancing quality have now achieved considerable momentum, although not enough time has passed to see whether the various initiatives have had their desired impact. It is important that these programmes – such as certification of providers – are extended and reinforced along with improved avenues for addressing complaints of unsatisfactory care. Such an approach can also be introduced into contractual arrangements between payers and providers, as has been done in other OECD countries. Indeed, the SPSS includes incentives in this direction – only accredited and/or certified institutions can provide services to SP enrolees – but the scope of such policies can be extended to other areas. Greater efforts could be made to widen the acceptance of "evidence-based" medicine and to narrow the variation in practice patterns "on the ground".

… and prevention needs to focus on emerging problems.

As noted, Mexico has made important advances through investment in prevention. Additional challenges are appearing as the share of morbidity and mortality shifts towards chronic disease and attention in care institutions needs to shift accordingly. The growth in obesity is a worrying phenomenon requiring increased policy attention that is not limited to Mexico. But its importance and possible impact on a number of costly diseases (such as diabetes and heart disease) suggests that prevention policies may pay high dividends over the longer haul. The integration of prevention into a family approach to medicine, as is now occurring in IMSS, is a step in that direction. More may need to be done in the area of prevention of HIV infection and AIDS as this imposes important treatment and social costs.

4.3. Systemic issues

The governance function needs to be strengthened.

Progress is also being made within the Ministry of Health in its stewardship role. Regulatory frameworks – for example, concerning quality – are being put in place, targets are being established, data gathering is increasing and there are growing pressures for improved performance within the system. It seems evident that responsibility for the architecture of the system and the overall framework for governance should lie with the federal Ministry of Health and this role should be reinforced. Common governance structures also need to be introduced or strengthened at lower institutional levels as purchasing across institutions increases. In this context, the experience in the IMSS may provide useful lessons to other parts of the system for setting up more effective arrangements concerning administration, financial control and the improvement of health-care quality.

In the longer term, the fragmentation of the insurance system needs to be addressed.

If the state ministries of health are successful in setting up contracts and purchasing arrangements with all providers, perhaps on a regional basis (see above), a major step will have been made in breaking down the institutional barriers at the provider level. The extent of this development may, nonetheless, be constrained by the continued existence of a variety of state insurers that will probably continue to largely serve their own clientele within their own institutions. Fuller progress towards a system of providers serving all patients on equal terms is likely to require moving towards a unified public-insurance system.

A single insurance package would provide equal coverage...

A consolidation of the insurance system will require decisions at four levels. First it would require unbundling health-care insurance from the social insurance, thereby permitting the integration of the different health insurers in the system. This, of course, would leave open the important issue of the need for, and timing of, extending the remaining components of social insurance – and, in particular, age pensions – to the rest of the population.

Second, a single package of insurance cover would need to be established. In this context, the current approach of the SPSS with its focus on providing a well-defined range of cost-effective and essential treatments is probably well adapted to the present needs of the currently uninsured, particularly those at the bottom of the income distribution. It is less clear that this approach is the best one for a more broadly-based programme intended to provide health-care insurance to half of the population. It may be seen as arbitrary in its application – some treatments are covered, while others are not. With "full" coverage under the social insurance system, it may also be difficult to sustain politically. And with the financial resources going to the personal health-care services segment of the SP, at full regime, roughly in line with that of the social insurance system on a per household basis,

Box 4.2. **Policy recommendations for the Mexican health system**

1. Ensure adequate funding of the health system by:
   - *a)* Introducing fiscal reform, permitting higher tax revenues.
   - *b)* Implementing public-sector pension reforms to ensure that social insurers have adequate resources to finance health-care services.
2. Encourage take-up of insurance under the Seguro Popular and tackle remaining barriers to access to services for those not covered by social security by:
   - *a)* Improving availability and quality of services in state health service facilities, including availability of pharmaceuticals.
   - *b)* Progressively expanding the health-care package covered by the Seguro Popular to ensure adequate coverage of catastrophic illnesses.
   - *c)* Improving service availability to rural areas, for example by encouraging doctors and nurses to operate in outreach and remote areas.
   - *d)* Ensuring adequate financing for cost-effective "public health goods" such as prevention or epidemiological surveillance.
3. Encourage greater efficiency of hospitals and other institutional providers by:
   - *a)* Re-channelling unnecessary administrative costs towards increased supply of health-care services.
   - *b)* Introducing a clearer purchaser-provider split, contracts with providers and output-based payment mechanisms.
   - *c)* Combining greater management freedom at the provider level with adequate monitoring and oversight.
   - *d)* Organising the purchasing of all heath-care services on the basis of catchment areas covering more than one state.
4. Encourage greater productivity of health-care professionals by:
   - *a)* Linking staff remuneration to efficiency and quality goals.
   - *b)* Ensuring that private practice of doctors does not conflict with or reduce service availability in public institutions.
   - *c)* Reviewing labour contracts to eliminate restrictive practices that limit gains in efficiency
5. Promote quality and cost-effectiveness of care by:
   - *a)* Furthering illness prevention and health promotion initiatives (*e.g.* controlling obesity and limiting HIV infection).
   - *b)* Strengthening quality measurement and improvement initiatives, such as the "National Crusade for Quality".
   - *c)* Expanding certification of care institutions, health-care personnel and medical schools and use such mechanisms to encourage quality improvements in underperforming care units.
   - *d)* Enhancing efforts to ensure safety and efficacy of pharmaceuticals.
6. Improve governance of the system by:
   - *a)* Strengthening common information systems and reporting and accountability frameworks for all institutions.
   - *b)* Investing in managerial capacity at all levels of the system.

there seems little financial reason for this difference in coverage. The authorities may therefore wish to consider – over the longer term – fuller (or even full) coverage for the SP programme and the creation of a unique insurance package available to the entire Mexican population.

Third, the authorities will need to address how rights to insurance should be established. As it stands, rights to social insurance are employment-based and limited to those in the formal labour market, while rights to the SP are citizen-based and open to all the uninsured. Recent experience with the social insurance system suggests that it would be unlikely to cover the entire population in its current form and citizen-based rights may be, by default, the only way of achieving a universal system. This is the approach followed in many European countries with national-health type systems and in Australia and Canada.

… but would require alternative ways of financing health-care.

Finally, the financing of the system will need to be addressed. Financing arrangements that are administratively simple with low overhead costs are appealing and international experience suggests that systems based on citizenship-rights to health care combined with tax-financing perform better in these dimensions. They also permit tighter budget control to be exercised over the system, which would be particularly important in an environment of fuller insurance coverage. However, it does carry the risk of budget cuts for the health-care sector if Mexico continues to face, periodically, troubled economic conditions and sluggish economic growth.

Mexico has made much progress but several serious challenges remain.

In sum, Mexico has made considerable progress in moving towards a health-care system that achieves the four broad goals outlined in this paper. While progress has been made in a number of areas since the beginning of the decade, the greatest achievement, however, has been the introduction of the SPSS and the Seguro Popular. Once this programme is fully introduced, the problem of inadequate insurance coverage for a large part of the population, currently the most glaring weakness of the current system, will be largely resolved. In addition, a rebalancing of public resources for health care across institutions and across states will have been achieved. However, the introduction of the reform faces a number of transitional challenges. In particular, extra financing for the new insurance system will need to be found and the efficiency of supply in the public health-care rapidly improved.

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Glossary

Coverage Extension Programme (Programa de Ampliación de Cobertura, PAC)

This programme was started in 1996 with the objective of extending access to basic health services for the population. Its beneficiaries were mainly rural and indigenous populations, and its main strategy was to provide an essential package of low-cost and high-effectiveness services. This programme was financially supported by the World Bank. At present, it has been discontinued and decentralised to the states. The corresponding resources have been internalised as part of FASSA resources transferred to the states.

Education, Health and Nutrition Programme (Programa de Educación, Salud y Alimentación)

Poverty alleviation programme, whose implementation started in 1997 and finished in 2001. It has been one of the main strategies or targeted social policies in the recent decades. It preceded the current Oportunidades programme.

Family Fundamental Development System (Sistema para el Desarrollo Integral de la Familia)

Created in 1986 jointly with the Law on the National System of Social Assistance, this is a decentralised public entity to promote social assistance and provide services in this area such as: rehabilitation and special education, care to the disabled and vulnerable population (abandoned children, elderly and homeless). Each state has a state DIF, whose operation is undertaken through the public, social and private sectors.

Family Health Insurance (Seguro de Salud para la Familia, SSF)

Created in 1997, this IMSS programme targets independent workers and those in the informal sector of the economy, as well as their dependants. It provides in-kind benefits for Sickness and Maternity Insurance, but exclusions and waiting times for access to certain medical services may apply. People voluntarily affiliated to the SSF pay an annual fee rated by group of age.

Family Quota (Cuota Familiar)

One of the sources of funds of the Seguro Popular. Annual contribution per family, proportional to its economic condition.

Federal District (Distrito Federal, DF)

Mexico's capital and geographical district, which includes the Federal government branches: legislative, judicial and executive) according to the Constitution. It was created

as an administrative jurisdiction in 1824 under the name of Federal District Department (Departamento del Distrito Federal, DDF). The Chief of the DDF was directly appointed by the President. In 1987, a Representatives Assembly was created in the Distrito Federal and since 1996 the Constitution allows the direct election of Chief of the Government of the Distrito Federal. Since 1997, the name of the local government was changed into Government of the Federal District (Gobierno del Distrito Federal).

Federal Solidarity Contribution (Aportación Solidaria Federal, ASF)

One of the sources of funds of the Seguro Popular. The Federal Solidarity Contribution equals, on average, to one and a half times the Social Quota. The General Health Law defines the per-family amount of the Federal Solidarity Contribution, by state. This is calculated by distributing the resources in the FASP (Fund for the Allocation of Personal Health Services) according to a formula which takes into account the following components: *i)* number of beneficiary families; *ii)* health needs; *iii)* additional contributions by the states.

Fund for Allocations for Health Services (Fondo de Aportaciones para los Servicios de Salud, FASSA)

Federal resources channelled to the states to finance health-care provision in the states. This fund is part of the federal resources comprised in the budgetary line (called Ramo 33) of the Federation's expenditure budget. This fund was created in 1998 as part of the decentralisation of health services to the states.

General Health Council [Consejo de Salubridad General, (CSG)]

Created in 1917 by the Constitution, and directly accountable to the President. It is one of the four sanitary authorities defined in the General Health Law (other authorities are: the President, the MoH and the state governments). It has responsibilities for planning, regulating, coordinating, and organising the functioning of the NHS, on the terms established in the General Health Law.

Health Report Cards (Cartilla Nacional de Salud)

Personal health cards allowing individuals on-going monitoring of their health status and of preventative interventions that they receive at each stage of their life. It includes following national cards: vaccination (created in 1978); women's health (1998); men's health; and senior adult's health (2002).

IMSS-COPLAMAR (1979-1990), IMSS-Solidaridad (1990-2002), IMSS-Oportunidades (2002 to present)

Programme created in 1979 as IMSS-COPLAMAR, with the aim of extending basic health services to the population living in extreme poverty. In 1983 (by Presidential decree) it disappeared as a separate programme, but continued operating as IMSS-COPLAMAR under the aegis of IMSS. At an initial stage, this programme was funded by the Federal government budget (60%) and IMSS (40%). Between 1985 and 1987 this programme was decentralised in 14 states. IMSS-COPLAMAR was renamed as IMSS-Solidaridad in 1990. It operates in 17 states. Since 1996, funding has been entirely drawn from the Federal

government budget. The infrastructure and health care facilities currently used to provide health services in this programme were established during the period 1990-2002. IMSS-Solidaridad was renamed as IMSS-Oportunidades in 2002. It has remained under IMSS coordination and still operates through its own facilities. Under the recently created System for Social Protection in Health (Sistema de Protección Social en Salud, SPSS), this programme shares the same target population as the Popular Health Insurance (Seguro Popular de Salud, SP).

Institute of the National Housing Fund for Workers (Instituto del Fondo Nacional de la Vivienda para los Trabajadores, INFONAVIT)

Created in 1972 with the aim of administering the resources of the fund through a financing system that allows workers to obtain mortgages. It benefits workers in the private formal sector affiliated to IMSS.

Institute of Security and Social Services for Government Workers (Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado, ISSSTE)

Created in 1960, it provides its affiliates with health care, economic benefits (pensions, mortgages) and other social and cultural benefits (nurseries, sports, etc.). Insurees include workers of the federal government, and some state governments' and other public entities, as well as their families and pensioners. Its legal framework is set in the Ley del Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado (Ley del ISSSTE) approved in 1959.

Major Medical Expenses Insurance (Gastos Médicos Mayores, GMM)

Indemnity private health insurance schemes covering cost of catastrophic, *i.e.* high-cost, interventions and hospital care.

Mexican Institute of Social Security (Instituto Mexicano del Seguro Social, IMSS)

Created in 1943, it provides its affiliates with social insurance benefits grouped in five categories: *i)* sickness and maternity; *ii)* job-related risks; *iii)* disability and life insurance; *iv)* retirement, loss of employment in advanced age and ageing; and v) child care and other social benefits. These benefits are funded through contributions paid by employers, employees and the federal government. Affiliation is compulsory for workers in the private formal sector. Insurees also include IMSS' workers. IMSS also offers a voluntary health insurance scheme called Seguro de Salud para la Familia (SSF) funded through separate financing rules. Its legal framework is set in the Social Security Law (Ley del Seguro Social) approved in 1943. Recent major reforms relating to health include those approved in 1995 and 2001.

Mexican Petroleum (Petróleos Mexicanos, PEMEX)

Created as the result of the 1938 oil expropriation, this public enterprise administers all assets resulting from the expropriation process and undertakes all operations related to the oil industry such as: exploration, exploitation, refinement and warehousing. It provides its workers with social security benefits comprising: health care, housing, protecting against labour-related risks, pensions, etc.

Ministry of Defence (Secretaría de la Defensa Nacional)

Ministry in charge of organising, managing and training Mexico´s army and air force. It provides to its members health care benefits as well as economic and social benefits similarly to the Ministry of Navy.

Ministry of Finance and Public Debt (Secretaría de Hacienda y Crédito Público, SHCP)

Ministry in charge of projecting and estimating the Federal government income and expenses, manage public debt, collecting taxes, and set prices for goods and services provided by the administration of the Federal government and those over which they have regulatory control.

Ministry of Health (Secretaría de Salud)

This institution has the governance role of the National Health System, with responsibilities for defining and conducting national health policy. Its origins can be traced back to the Colonial period (XVII-XIXth centuries). It was formally set up in 1943 as the Ministry of Salubrity and Assistance (Secretaría de Salubridad y Asistencia, SSA) as the result of the merger of the Department of Public Salubrity (Departamento de Salubridad Pública) and the Ministry of Public Assistance (Secretaría de Asistencia Pública). In 1985 its name was changed into Ministry of Health (Secretaría de Salud, MoH). Legal framework for the National Health System, which was entirely re-written in 1983 is the General Health Law (Ley General de Salud, LGS).

Ministry of Salubrity and Assistance (Secretaría de Salubridad y Asistencia)

Previous name (period 1943-1985) of the current Ministry of Health (MoH).

Ministry of Social Development (Secretaría de Desarrollo Social)

The Ministry of Social Development is responsible for formulating, conducting and evaluating general policies on social development in order to fight poverty. Among others, it is also responsible for the Oportunidades Programme (composed of four items: health (Oportunidades), education, food and assets. The Social Development Law was approved at the beginning of 2004. Its target was to guarantee full exercise of social rights, as defined by the Constitution, as well as establishing a National Social Development System for state and communities. It also established a National Commission on Social Development composed of the heads of various Ministries: public education, health, labour and social protection, agriculture, cattle breeding, rural development, food and fishing, environment and natural resources.

Certification Programme of Medical Care Establishments (Programa Nacional de Certificación de Establecimientos de Atención Médica)

This programme was created in 2001. Previously, the National Programme of Hospitals Certification operated from 1999 to 2001. The certification procedure ensures that a product, process, system or service conforms with the regulations and guidelines set by the General Health Council (Consejo de Salubridad General). A medical care or health care establishment includes any public, social or private, fixed or itinerant unit that provides

health care, either ambulatory or inpatient (except for doctor's offices). The certification is based on two broad areas: infrastructure and resources availability; and health care processes and results.

National Commission of Insurance and Finance (Comisión Nacional de Seguros y Fianzas)

Set up in 1990 after the reform of several articles of the General Law on Insurance Institutions, this is a "deconcentrated" [autonomous] body of the SHCP (Public Finances and Credit Secretariat), whose mission is to guarantee that institutions operating in this market are authorised to do so and act according to the law.

National Commision of Medical Arbitration (Comisión Nacional de Arbitraje Médico, CONAMED)

Created in 1996, it is a "deconcentrated" (autonomous) body of the MoH aimed at providing the population with a mechanism to solve the conflicts between the users of the medical services and the providers of these services through conciliation and arbitration, as well as to improve the quality of the medical services.

National Health Council (Consejo Nacional de Salud, CNS)

Collegial entity that coordinates health activities between the Federal government and the states. It participates in the planning and evaluation of health services, comprises of 32 ministers of health of the states and chaired by the Federal Minister of Health. It was created in the mid-80s to coordinate actions under the envisaged decentralised health system.

National Health Institutes (Institutos Nacionales de Salud)

Third-level or high specialty hospitals. There are currently 11 NHI, corresponding to the following areas: *i)* psychiatry; *ii)* oncology; *iii)* cardiology; *iv)* paediatrics; *v)* child bearing, delivery and post-natal care; *vi)* nutrition, metabolic and endocrine disorders; *vii)* neurology and neurosurgery; *viii)* public health; *ix)* respiratory disease; *x)* genomic medicine (created in 2004). All NHI are autonomous public entities, whose main objectives are to undertake scientific research in health, train qualified human resources and provide high specialty health care services. Their scope of influence is nation-wide. They are coordinated by the MoH.

National Health Programme 2001-2006 (Programa Nacional de Salud 2001-2006, PRONASA)

Official policy document presenting the diagnosis and challenges faced by the health system and the corresponding objectives, strategies and actions set for the elected federal government for the corresponding presidential term (2001-2006). It sets goals and proposed indicators to measure achievement, representing the governing document of the national health policy. The first document of this nature dates from 1973.

National Health System (Sistema Nacional de Salud, SNS)

The National Health System comprises all public health care providers, both federal and local, as well as private health care providers (including for profit, non-for-profit as well as other social organisations). It also includes the institutions and arrangements for coordination between providers, whose objective is to make effective the right to health protection established in the Constitution.

National Health Survey (Encuesta Nacional de Salud, ENSA)

This survey is part of the national system of health surveys undertaken periodically in Mexico. It comprises a series of surveys that have been undertaken since 1986. ENSA is a representative survey at the national and regional level. It covers health aspects such as: health status and health service utilisation. The most recent ENSA was carried out in 2000.

National Indigenous Institute (Instituto Nacional Indigenista, INI)

The Law of the National Commission for the Development of Indigenous Populations (Ley de la Comisión Nacional para el Desarrollo de los Pueblos Indígenas, CDI) was passed by the Congress in 2003. This new Law repealed the original Law that created the National Indigenous Institute (INI). While keeping the spirit and broad aims of the previous INI, the CDI is an autonomous entity with the objective of advising, coordinating, supporting, monitoring and evaluating programmes, projects, strategies and public actions for the sustainable development of the indigenous population and their communities.

National Network of Public Health Laboratories (Red Nacional de Laboratorios de Salud Pública, RNLSP)

Operated by the MoH and integrated with 32 state laboratories, it offers laboratory diagnosis services at state level and support for state programs for epidemiological monitoring.

National Performance Evaluation Survey (Encuesta Nacional de Evaluación del Desempeño 2002-2003, ENED)

Survey aimed at evaluating the objectives of the NHS namely: *i)* to improve health conditions (indicator: healthy life expectancy); *ii)* to ensure responsiveness (indicator: responsiveness); and *iii)* to promote fairness in the financial contributions (indicator: percentage of insured households, percentage of households with catastrophic expenses and the WHO financial justice index).

National Population Council (Consejo Nacional de Población, CONAPO)

Founded in 1974, it aims at analysing the demographic phenomena affecting the Mexican population, such as the structure, dynamics and geographical distribution of the population. CONAPO is the official source of population projections for the Mexican government. It is chaired by the Ministry of the Interior and incorporates several of the Federal Government Ministries.

National System for Epidemiological Surveillance (Sistema Nacional de Vigilancia Epidemiológica, NEES)

Programme including a set of strategies and actions to identify and detect possible health risks. It generates information to guide health programmes, to identify the interventions required to fight specific illnesses, as well as situations of risk that affect the community and entail potential adverse health hazards.

National System of Fiscal Coordination (Sistema Nacional de Coordinación Fiscal)

Created in 1980 in order to avoid double contributions by clearly defining tax collection responsibilities for each level of government. With this system, the states relinquished their right to levy taxes in exchange of receiving federal allocations from federal tax revenues, income from federal fees and other charges and income obtained from the oil industry. Its main objective is to harmonise the system of taxes and other revenues and distribute a portion of federal revenue collection among states, through agreements established between the Federal government and the states.

Popular Health Insurance (Seguro Popular de Salud, SPSS)

Created in 2001 as a pilot programme, and currently operated under the new System for Social Protection in Health in 29 out of 32 states. It is a voluntary public health insurance targeted to low-income families without access to social security benefits. Sources of funding comprise contributions from the Federal government, the states and affiliated families, the latter being defined on an income basis. It provides access to a package of 91 medical interventions and 165 drugs. It also provides coverage of some high-complexity and/or high-cost care of a financially "catastrophic" nature through a specific fund for this purpose. At the end of 2004, coverage reached 1.5 million families. Total coverage of the uninsured population is expected to be achieved by 2010 (approximately 50% of Mexico's total population).

PREVENIMSS

Health programmes operated by IMSS as part of the Insurance and Maternity Insurance to promote activities and health care of a preventive nature for its affiliates. PREVENIMSS was established in 2002 and uses an age-based approach to provide prevention and care.

Retirement and Pensions System (Régimen de Jubilaciones y Pensiones, RJP)

Retirement and pension scheme applicable to IMSS workers, in addition to the benefits they are entitled to under the Social Security Law (the latter being the same as for workers in the private formal sector of the economy).

Sanitary Jurisdiction (Jurisdicción Sanitaria)

Administrative unit or area accountable to state health authorities. Jurisdictions are SHS sub-units in charge of directing, managing and operating primary care and general hospital care serving the uninsured population. They are also in charge of the coordination and operation of public health services for all the population.

Social Security (Seguridad Social, SS)

Includes all social security institutes: the Mexican Institute of Social Security (Instituto Mexicano del Seguro Social, IMSS); the Institute of Security and Social Services for State Workers (Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado, ISSSTE); other social security schemes of smaller size (PEMEX, SEDENA and SEMAR). All are separate entities operating through vertically-integrated structures coordinated by central offices and with administrative units and health care providers at the state and regional levels. Benefits provided include health care as well as other social and economic benefits.

Social Security Law (Ley del Seguro Social)

First approved in 1943, a completely new Social Security Law was approved by Congress in 1995, which among other things, radically reformed the pensions scheme in order to ensure better its financial sustainability and promote greater equity in the short and long run.

Social Quota (Cuota Social)

One of the sources of funds of the Seguro Popular. It is paid by the federal government for each affiliated family to SPSS, the Popular Health Insurance. It represents the federation's contribution towards the constitutional guarantee of access to health care.

Specialised Health Insurance Institutions (Instituciones de Seguros Especializadas en Salud, ISES)

Private insurance schemes similar to Health Maintenance Organisations (HMOs), providing a wide range of services across all levels of care. ISES have to be specialised in health insurance and are subject to specific regulation, unlike general insurers who can only offer insurance products such as major medical expenses insurance, and do not need to be specialised in health.

System for Social Protection in Health (Sistema de Protección Social en Salud)

Created through the 2003 reforms to the General Health Law, it is aimed at providing financial protection to those families without access to social security coverage. Its financing comprises two broad components: *i*) public funding for community health services (of a public good nature) and *ii*) a tripartite contribution scheme to cover personal services for the uninsured population through the Popular Health Insurance (Seguro Popular de Salud).

State Solidarity Contribution (Aportación Solidaria Estatal)

One of the sources of funds of the Seguro Popular.The minimal State Solidarity Contribution per family is equal to half the Social Quota, although states may wish to increase this amount.

State Health Services (Servicios Estatales de Salud)

Refer to health care services operated by state's authorities and mainly targeted to the uninsured population. State Health Services (SHS) have primary responsibility for health

care provision in the state as well as other health functions defined in the General Health Law. State Ministries of Health undertake other functions such as regulation at the local level and provision of community health services. The SHS are directly responsible to the state governments and were created through the decentralisation process. In 1982, the MoH (SSA at the time) started a process of devolution of responsibilities to Public Health Coordinated Services (SCSP), administrative entities created in 1934 to coordinate health care at the state level. The first wave of decentralisation of health services took place from 1984 to 1988. By Presidential decree, services previously provided by the MoH and those provided by the IMSS-COPLAMAR were decentralised to 14 states. During this first wave the SCSP changed their names into SHS. From 1988 to 1994, a second wave of decentralisation took place, including the remaining states, except for the Distrito Federal. Before the decentralisation of health services to the states in the 1980s and 1990s, health care provision in the states was undertaken directly by the Federal MoH's (then the SSA), state level coordination offices and premises, and in some cases through facilities directly financed by the state government.

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List of Acronyms

AFORES	Administradoras de Fondos para el Retiro (Administrators of Retirement Funds)
ASE	Aportación Solidaria Estatal (State Solidarity Contribution)
ASF	Aportación Solidaria Federal (Federal Solidarity Contribution)
CF	Cuota Familiar (Family Quota)
CNS	Consejo Nacional de Salud (National Health Council)
CNSF	Comisión Nacional de Seguros y Fianzas (National Commission of Insurance and Guarantees)
COFEPRIS	Comisión Federal para la Protección contra Riesgos Sanitarios (Federal Commission for the Protection against Sanitary Risks)
CONAMED	Comisión Nacional de Arbitraje Médico (National Commision of Medical Arbitration)
CONAPO	Consejo Nacional de Población (National Population Council)
CS	Cuota Social (Social Quota)
CSG	Consejo de Salubridad General (General Health Council)
DF	Distrito Federal (Federal District)
DIF	Sistema para el Desarrollo Integral de la Familia (Family Integrated Development System)
DRG	Diagnostic Related Groups [a patient classification system that provides a way of describing the types of patients a hospital treats (its case mix)]
ENED	Encuesta Nacional de Evaluación del Desempeño (National Performance Evaluation Survey)
ENEU	Encuesta Nacional de Empleo Urbano (National Survey of Urban Employment)
ENSA	Encuesta Nacional de Salud (National Health Survey)
FASSA	Fondo de Aportaciones para los Servicios de Salud (Fund for Allocations for Health Services)
GMM	Gastos Médicos Mayores (Major medical expenses insurance)
IMSS	Instituto Mexicano del Seguro Social (Mexican Institute of Social Security)
INFONAVIT	Instituto del Fondo Nacional de la Vivienda para los Trabajadores (Institute of the National Housing Fund for Workers)
INI	Instituto Nacional Indigenista (National Indigenous Institute)
ISES	Instituciones de Seguros Especializadas en Salud (Specialised Health Insurance Institutions)
ISSSTE	Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado (Institute of Security and Social Services for Government Workers)
IVRO	Incorporación Voluntaria al Régimen Obligatorio (Voluntary Inscription to the Obligatory System)

LSS	Ley del Seguro Social (Social Security Law)
MCMH	Mexican Commission on Macroeconomics and Health
MoH	Secretaría de Salud (Ministry of Health)
NHI	Institutos Nacionales de Salud (National Health Institutes)
NHS	Sistema Nacional de Salud (National Health System)
PAC	Programa de Ampliación de Cobertura (Coverage Extension Programme)
PEMEX	Petróleos Mexicanos (Mexican Petroleum)
PROGRESA	Programa de Educación, Salud y Alimentación (Education, Health and Nutrition Programme)
PRONASA	Programa Nacional de Salud 2001-2006 (National Health Programme 2001-2006)
RJP	Régimen de Jubilaciones y Pensiones (Retirement and pensions system)
RNLSP	Red Nacional de Laboratorios de Salud Pública (National Network of Public Health Laboratories)
SEDENA	Secretaría de la Defensa Nacional (Ministry of Defence)
SEDESOL	Secretaría de Desarrollo Social (Ministry of Social Development)
SEMAR	Secretaría de Marina (Ministry of Navy)
SEP	Secretaría de Educación Pública (Ministry of Education)
NEES	Sistema Nacional de Vigilancia Epidemiológica (National Epidemiological Surveillance System)
SHCP	Secretaría de Hacienda y Crédito Público (Ministry of Finance and Public Debt)
SHS	Servicios Estatales de Salud (State Health Services)
SNCF	Sistema Nacional de Coordinación Fiscal (Nacional System of Fiscal Coordination)
SP	Seguro Popular de Salud (Popular Health Insurance)
SPSS	Sistema de Protección Social en Salud (System for Social Protection in Health)
SS	Seguridad Social (Social Security)
SSA	Secretaría de Salubridad y Asistencia (Ministry of Public Health and Assistance, now the Ministry of Health)
SSF	Seguro de Salud para la Familia (Family Health Insurance)

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List of Mexican States

EUM	República mexicana
AGS	Aguascalientes
BC	Baja California
BCS	Baja California Sur
CAMP	Campeche
COAH	Coahuila
COL	Colima
CHIS	Chiapas
CHIH	Chihuahua
DF	Distrito Federal
DGO	Durango
GTO	Guanajuato
GRO	Guerrero
HGO	Hidalgo
JAL	Jalisco
MEX	México
MICH	Michoacán
MOR	Morelos
NAY	Nayarit
NL	Nuevo León
OAX	Oaxaca
PUE	Puebla
QRO	Querétaro
QROO	Quintana Roo
SLP	San Luis Potosí
SIN	Sinaloa
SON	Sonora
TAB	Tabasco
TAM	Tamaulipas
TLAX	Tlaxcala
VER	Veracruz
YUC	Yucatán
ZAC	Zacatecas

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