Chapter 1

Health care needs and organisation of the health system in Mexico

Mexico has achieved significant improvements in many measures of population health in recent years. But gains have not been as fast as in other OECD health systems. Of particular concern, the gap in life expectancy between Mexico and other OECD countries has widened from about four years to six years.

The extension of health care insurance to millions of Mexicans through Seguro Popular *is, rightly, a celebrated reform. Health insurance and health care is provided, however, by numerous independent sub-systems. Each combines functions of revenue raising, purchasing and providing services, which hinders efficiency and productivity. Access is uneven, quality is uncertain and financial sustainability is under threat.*

The challenges set out in this chapter suggest that far-reaching reforms are likely to be necessary if Mexico's health care needs are to be met in an effective, fair and sustainable way.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Compared to many other OECD countries, Mexico demonstrated good resilience during the global financial crisis and made relatively steady, if slow, progress in improving the health status of its population and reducing poverty over the past decade. Nevertheless, Mexico still displays high level of poverty and income inequality compared to other OECD countries, with southern states, rural populations, women and children consistently experiencing poorer outcomes. Although informal labour has slowly decreased since the second half of 2012, the informal sector remains large, representing almost 58% of total employment (INEGI, 2015). This hinders productivity, economic growth and social cohesion. In terms of health challenges, Mexico is experiencing a rapidly ageing population. Critical health conditions need to be addressed, such as obesity, diabetes and cerebrovascular diseases. These are putting significant pressure on the Mexican health care system.

Population health coverage in Mexico has increased significantly over the past decade, giving millions more Mexicans access to health care. Many of the efforts to extend health care coverage have been carefully planned, but the fact remains that much that the organisation of health services in Mexico today is the result more of historical legacy rather than strategic design. This means that today the Mexican health system is beset with inefficiencies and fragmentation, with resources split across multiple independent sub-systems. Though coverage and public health expenditure has increased, which should be commended, access to services remains far from equal. Not only are some 21.5% of Mexicans still without health coverage according to survey data (CONEVAL, 2012), but levels of services differ significantly between sub-systems, and accessing care often demands a significant out-of-pocket expense.

This chapter first presents the socioeconomic context in Mexico, including informality as an embedded feature of the Mexican society which complicates the funding and delivery of health care. Section 1.2 considers the demographic features of the country, including its epidemiological characteristics highlighting the changing population health needs. Section 1.3 describes the Mexican health system, discusses how the system is financed and considers the way in which resources are distributed. Finally, in Section 1.4, available indicators of health care quality and outcomes are presented, whilst pointing out that shortcomings in data availability obscure a full picture of health system performance.

1.1. The socioeconomic context in Mexico today

Even though some progress has been made in reducing poverty, the share of the Mexican population that is extremely poor remains high (at around 9.5% in 2014 according to the *Consejo Nacional de Evaluacion de la Politica de Desarollo Social*, CONEVAL). Income inequality continues to be amongst the highest in the world. The country also reports large regional disparities in prosperity and growth, with southern states typically faring worse than northern states. As the social and economic context strongly influences health outcomes, economic disparities in Mexico are reflected in health status. High rates of informal labour remain an embedded feature of the Mexican society, accompanied by important implications for productivity, economic growth and social cohesion, while directly affecting the population's entitlement to health care insurance and access to services.

Mexico withstood the 2008 global financial crisis well, yet poverty and inequality remain significant problems

Growth in GDP per capita in Mexico was stronger over the 2006-11 period than in the preceding five years (OECD, 2014a). During the latter period, competitiveness and productivity have improved, and innovation and infrastructure also developed (World Bank, 2013). The real GDP growth rate is projected to reach 2.9% in 2015, which is well above the real GDP growth rate of 1.9% that is projected on average across OECD countries (OECD, 2014b).

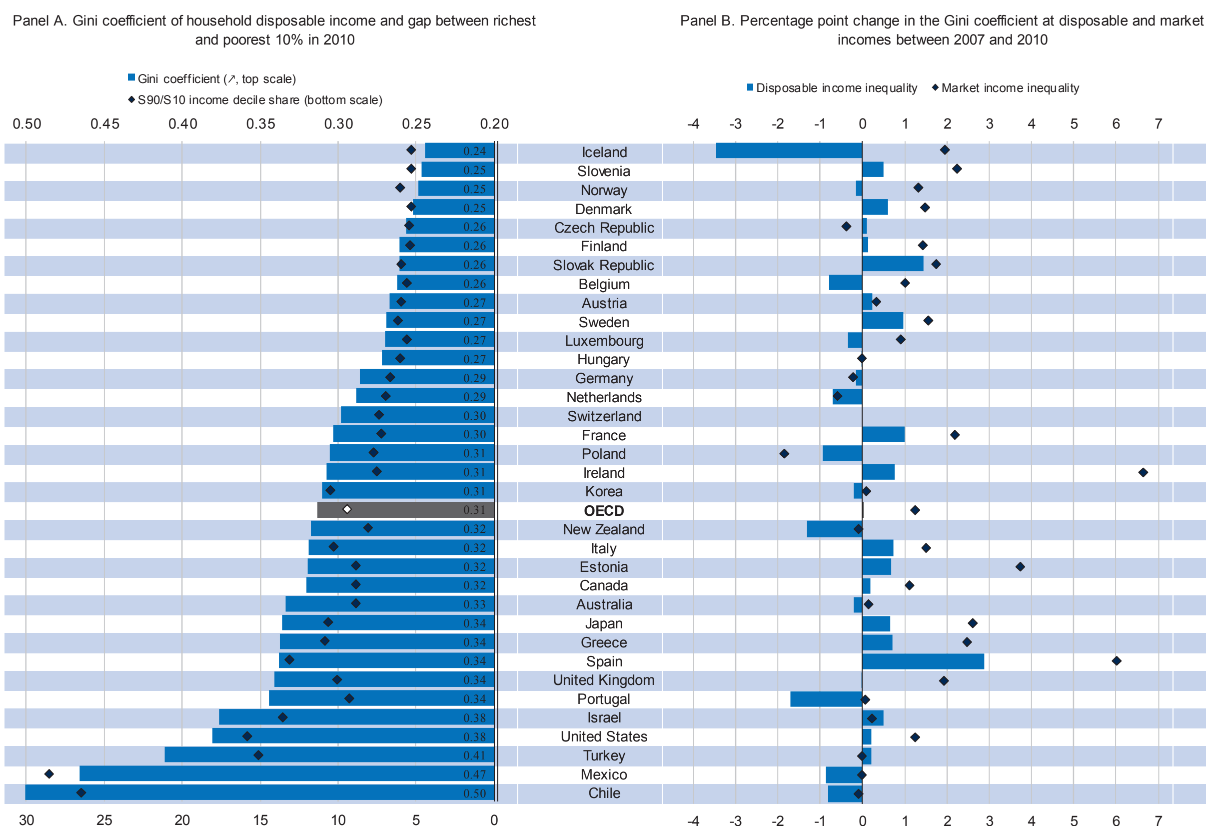
Despite good resilience to economic crisis and a stable macroeconomic environment, Mexican economic activity has been slowing down recently and labour productivity remains particularly low. Economic growth slowed down to 1.3% in 2013 and multifactor productivity growth has remained almost constant, experiencing a negligible 0.5% growth in the decade preceding 2014, in comparison to an OECD average of over 7% (OECD, 2015). This largely explains the income gap between Mexico and other leading OECD countries. Between 2000 and 2011, Mexico's average annual income growth of 1.2% proved insufficient to significantly reduce the income gap with the leading OECD countries. This was however not the case in other emerging markets such as Brazil, Chile, South Africa and Turkey who saw sufficient productivity growth to boost their incomes level.

Some progress has been made to reduce extreme poverty in Mexico. Public programmes such as *Prospera* (formerly *Oportunidades*) have contributed to the decline in 1.5 percentage points of total population below the extreme poverty line, but the rate remains alarmingly high at 9.5%. Mexico still displays a high level of poverty in international comparison. Among OECD countries for example, poverty rates were the second highest in Mexico (after Israel), with a relative poverty rate at 20.4 in 2010 (OECD, 2014c). This means that one in every five Mexicans was poor, compared to just above one in ten on average across OECD countries.

The absolute level of inequality remains very high in Mexico compared to other OECD countries. Even though the country is one of the few OECD countries to have experienced a decline in income inequality over time (see Figure 1.1), Mexico is the second most unequal country in the OECD, only above Chile. In 2010, the annual average income of the top 10% of Mexicans was 27 times higher than that of the bottom 10%, while this ratio was averaging 9 across OECD countries (OECD, 2011).

Poverty increased as a result of economic crisis, affecting particularly children, women and the elderly population. The proportion of Mexicans reporting that they were finding difficult or very difficult to live on their income increased by 16 percentage points between 2007 and 2010 (OECD, 2013a).

Figure 1.1. Income inequality in OECD countries



Source: OECD (2014), *Society at a Glance 2014: OECD Social Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/soc_glance-2014-en.

There are marked regional differences in prosperity and growth, with southern states typically faring worse

The distribution of income across Mexican regions is highly unequal. In 2012, Chiapas, Guerrero, Oaxaca, Tlaxcala were the poorest regions with a GDP per capita lower than USD PPP 10 000 while Nuevo León, Tabasco, Distrito Federal, and Campeche were the richest regions with per capita GDP above USD PPP 28 000 (see Table 1.1). In a similar vein, USD PPP regional growth in the previous decade (2003-12) varied from 8.5% annually in Tabasco to 3.9% in Morelos (*OECD Regional Database*, 2015).

Beyond regional disparities in growth, marked differences in employment opportunities can be found across regions. Regions with the highest GDP per capita report the highest unemployment rates, while the poorest regions report the lowest unemployment rates. In Distrito Federal and Tabasco, for example, the unemployment rate was approximately 6.9% in 2013, against 2.3% in Guerrero and 2.6% in Oaxaca (see Table 1.1). It is worth noting that Mexico's strong ties with the US market and the decline in remittances following the 2009 crisis have mainly hurt rural regions, with a consequent increase in child labour and a drop in school attendance (OECD, 2014d), although growth in remittances has since resumed.

In the most deprived states – Guerrero, Chiapas, Oaxaca – more than 15% of the population aged 15 were illiterate, and over 30% of the population aged 15 had not

completed primary education (according to the *Consejo Nacional de Población,* CONAPO, using data from *Censo de Población y Vivienda*, 2010). Nationally, the illiteracy rate was 6.9%, and more than 80% of the age-15 population had completed primary education. Illiteracy was far lower in the better-off states, though, at less than 3% in Baja California, Nuevo León and Distrito Federal. In Distrito Federal only 8.7% of 15-year-olds had not finished primary education. Regarding school attendance, Figure 1.2 below (which shows the variability of educational attainment across regions) shows a clear north-south gradient. In 2010, the southern regions, which are typically the most rural regions, show higher rates of population over 15 that have not completed secondary education than northern regions. Over 30% of the population over 15 had not completed primary education in Guerrero, Chiapas, and Oaxaca, which is well above the share of nearly 10% found in Nuevo León and Distrito Federal (Table 1.2).

There are also stark contrasts between northern and southern regions in terms of standards of living and access to basic public services. 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, is very high in the regions of Guerrero, Chiapas and Oaxaca (Table 1.2). More than a fourth of households in Guerrero, Chiapas, and Oaxaca do not have access to piped water (against a national average of 8.6%), and between 15% and 19% of households do not have proper flooring (against a national average of 6.6%) for example. As emphasised below, the lower level of infrastructure in southern states translates into lower health standards for many indicators.

Figure 1.2. Regional disparities in educational achievement

Percentage of population over 15 that has not completed secondary education in 2010

Source: CONAPO estimations using data from Censo de Población y Vivienda 2010.

Table 1.1. GDP per capita (USD PPP, 2012) and unemployment rate (%, 2013), Mexico

	GDP per capita (USD PPP, 2012)	Unemployment rate (%, 2013)
Republica Mexicana	**16 491**	**5.01**
Chiapas	6 931	3.12
Guerrero	7 898	2.32
Oaxaca	8 057	2.64
Tlaxcala	8 800	5.83
Michoacan	10 023	4.27
Puebla	10 441	4.06
Nayarit	10 726	5.27
Mexico	11 013	5.89
Hidalgo	11 610	4.59
Morelos	12 203	3.86
Veracruz	13 238	3.61
Guanajuato	13 299	5.87
Sinaloa	13 769	5.05
Durango	13 897	5.09
Yucatan	13 936	3.17
San Luis Potosi	14 114	3.78
Chihuahua	14 728	5.85
Zacatecas	15 163	4.84
Jalisco	15 775	4.51
Colima	15 994	4.92
Baja California Norte	16 329	5.34
Tamaulipas	16 799	6.33
Aguascalientes	16 883	4.73
Quintana Roo	20 084	4.81
Sonora	20 136	5.51
Queretaro	20 253	5.69
Baja California Sur	20 517	5.62
Coahuila	22 917	5.85
Nuevo Leon	28 372	5.69
Tabasco	29 125	6.93
Federal District (MX)	35 525	6.93
Campeche[1]	112 317	2.64

1. Includes income from oil related activities

Source: *2014 OECD Regional Statistics (database)*, http://dx.doi.org/10.1787/region-data-en.

Table 1.2. Basic demographic and social indicators, Mexico, 2010

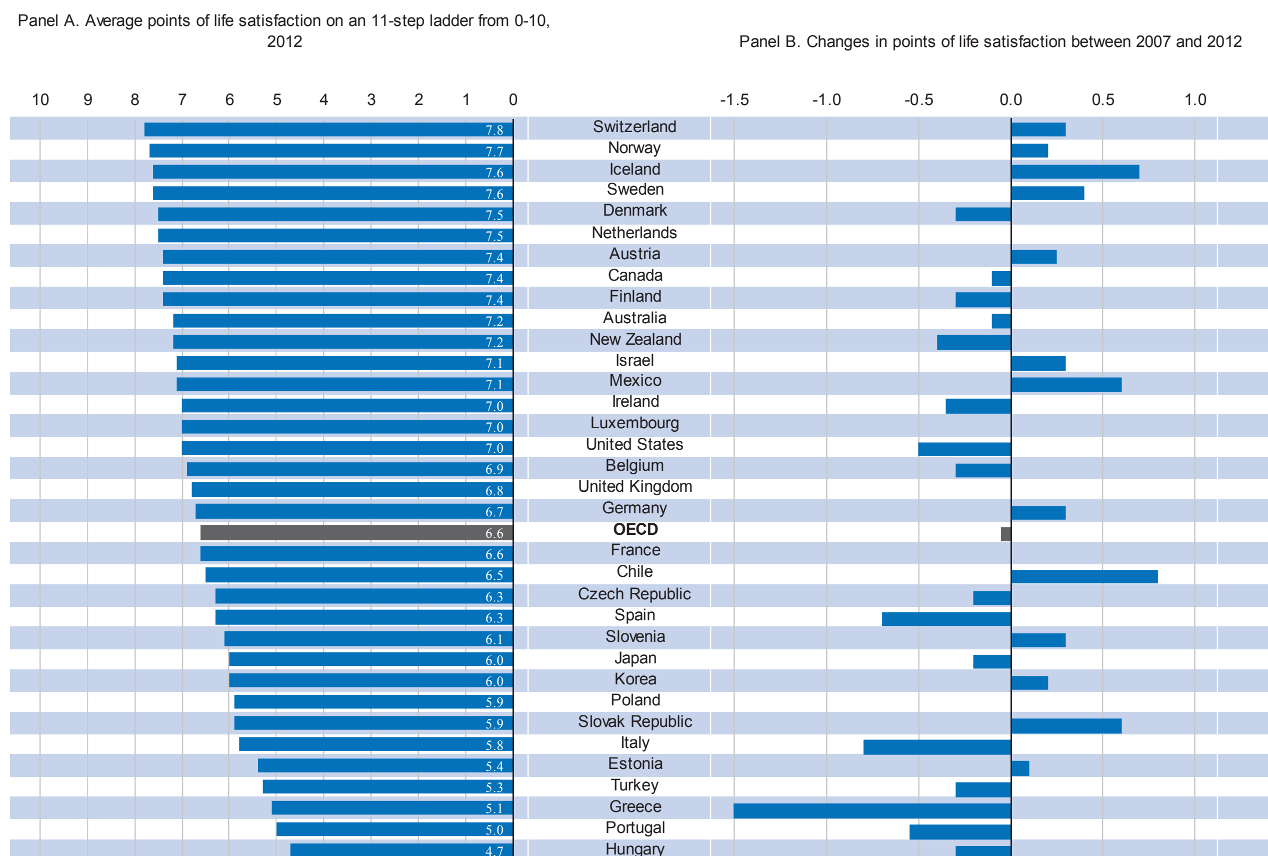
	Population	Percentage of population over 15 that has not completed primary education	Degree of marginalisation	% Occupants in dwellings without drainage or toilet	% Occupants in households without piped water	% Occupancy in houses without non-soil floor
Republica Mexicana	**112 336 538**	**19.9**		**3.57**	**8.6**	**6.58**
Guerrero	3 388 768	31.6	Very high	19.58	29.8	19.61
Chiapas	4 796 580	37.1	Very high	5.06	22.4	15.66
Oaxaca	3 801 962	33.9	Very high	4.01	23.7	19.33
Veracruz de Ignacio de la Llave	7 643 194	28.9	High	2.58	19.5	12.4
Puebla	5 779 829	25.1	High	3.09	12.4	9.86
Hidalgo	2 665 018	22.7	High	6.03	9.1	7.22
San Luis Potosí	2 585 518	23.2	High	3.99	14.2	9.1
Michoacán de Ocampo	4 351 037	29.2	High	3.81	8.1	10.98
Tabasco	2 238 603	21.3	High	2.97	18.5	6.58
Campeche	822 441	22.5	High	6.42	9.7	4.5
Yucatán	1 955 577	25.4	High	12.62	2.2	2.85
Nayarit	1 084 979	21.5	Medium	5.4	7.5	4.38
Zacatecas	1 490 668	24.7	Medium	6.69	5.4	3.29
Guanajuato	5 486 372	24	Medium	6.39	5.4	4.25
Durango	1 632 934	18.8	Medium	5.85	5.7	7.01
Tlaxcala	1 169 936	15.5	Medium	2.69	1.5	3.73
Sinaloa	2 767 761	19.7	Medium	3.41	4.7	6.38
Querétaro	1 827 937	16.8	Medium	6.32	4.9	3.83
Morelos	1 777 227	17.9	Medium	1.98	8.3	7.8
Quintana Roo	1 325 578	15.6	Medium	3.06	6.2	3.95
Chihuahua	3 406 465	16.1	Low	2.64	5	3.55
México	15 175 862	14.3	Low	3.18	5.7	3.94
Baja California Sur	637 026	14.3	Low	0.94	7.1	5.81
Sonora	2 662 480	14.4	Low	1.68	3.1	5.41
Tamaulipas	3 268 554	16	Low	0.63	2.9	3.35
Colima	650 555	18.5	Low	0.69	1.2	4.69
Jalisco	7 350 682	18	Low	1.5	3.9	3.19
Aguascalientes	1 184 996	14.8	Low	1.06	1	1.76
Coahuila de Zaragoza	2 748 391	12.2	Very low	1.09	1.4	1.42
Baja California	3 155 070	13	Very low	0.43	3.6	3.4
Nuevo León	4 653 458	10.9	Very low	0.39	2.2	1.97
Distrito Federal	8 851 080	8.7	Very low	0.08	1.8	1.08

Source: CONAPO estimations using data from Censo de Población y Vivienda 2010.

Life satisfaction remains high although confidence in public institutions has fallen since the global financial crisis

Despite high levels of inequality and poverty, Mexicans appear to be generally satisfied with their lives. Nearly 82% of Mexicans reported to have more positive experiences and feelings such as enjoyment, feeling well-rested or pride in accomplishment than negative ones such as pain, worry, sadness, boredom. This figure is 8% higher the OECD average of 76% (OECD, 2014c). It is worth noting that between 2007 and 2012, satisfaction levels increased by 0.6 points in Mexico while the average points of life satisfaction declined in nearly all OECD countries with an average decrease of 1 point since 2007 (see Figure 1.3). Only Chile and Iceland saw a stronger increase in life satisfaction than Mexico over the same period (OECD, 2014c).

Figure 1.3. Life satisfaction across OECD countries, 2007 and 2012



Source: OECD (2014), *Society at a Glance 2014: OECD Social Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/soc_glance-2014-en.

Although Mexico performed well compared to other OECD countries in the dimension of subjective well-being, the country displays poorer performance in the dimensions of civic engagement and sense of community. Nearly 74% of people believe that they know someone they could rely on in time of need, which is lower the OECD average of 89% (OECD, 2014c). In a similar vein, public trust in government or the citizens' participation in the political process as measured by voter turnout was 63% during recent elections, which is well below the OECD average of 72%. Overall, confidence in national government, as well as in financial institutions has fallen between 2007 and 2012. The percentage of Mexican people reporting that they trust the government fell from 42% to 37% between 2007 and 2012 (OECD, 2014c).

High rates of informal labour are an embedded feature of Mexican society

The share of working age population in the informal sector rose steadily as a result of the 2008 global financial crisis, to peak in mid-2012 at over 60%. Since then, informal employment has slowly decreased to reach a rate of 57.5% in the first quarter of 2015 (INEGI, 2015). Although many of the jobs created in the years following the global financial crisis were in the informal sector, recent data confirms Mexico has reached the lowest informality rates recorded since 2006. Of some concern, however, is the fact that informal employment has increased in about two-thirds of Mexico's states in recent years, varying from 45% to 80% (OECD, forthcoming). The differences across states in terms of informal employment explain disparities in economic growth outcomes. Indeed, informality appears to adversely affect productivity and the detrimental effect is much higher in the most productive sectors.

Nearly 21% of Mexican youth are neither in employment nor in education or training, compared to 12.6% on average across OECD countries (OECD, 2014b). The situation is even more worrying for young women since nearly 40% of them are neither in employment nor in education or training (which is the second highest rate among OECD countries after Turkey). Overall, nearly 47% of Mexican women are employed or seek employment, an employment rate which is 34% lower the OECD average (OECD, 2014b). Against this background, the informal sector might naturally constitute a preferred alternative for both women and youth in Mexico.

Several other factors explain Mexico’s large informal economy. These include per capita income, quality of skills, taxation and labour costs, restrictions on foreign investment, restricted access to credit and the prevalence of corruption (Dougherty and Escobar, 2013). It is worth noting that the recent fiscal reform, undertaken in January 2014, includes a variety of incentives to promote formalisation of the workforce. Beyond fiscal incentives, labour inspections of enterprises are being strengthened to reduce informality. During 2013 for example, more than 43 000 inspections were carried out in workplaces to verify the fulfilment of social security obligation (OECD, forthcoming). Together, these policy reforms are encouraging moves to tackle informality in Mexico.

Perhaps as a consequence of informality, public social spending is low in Mexico

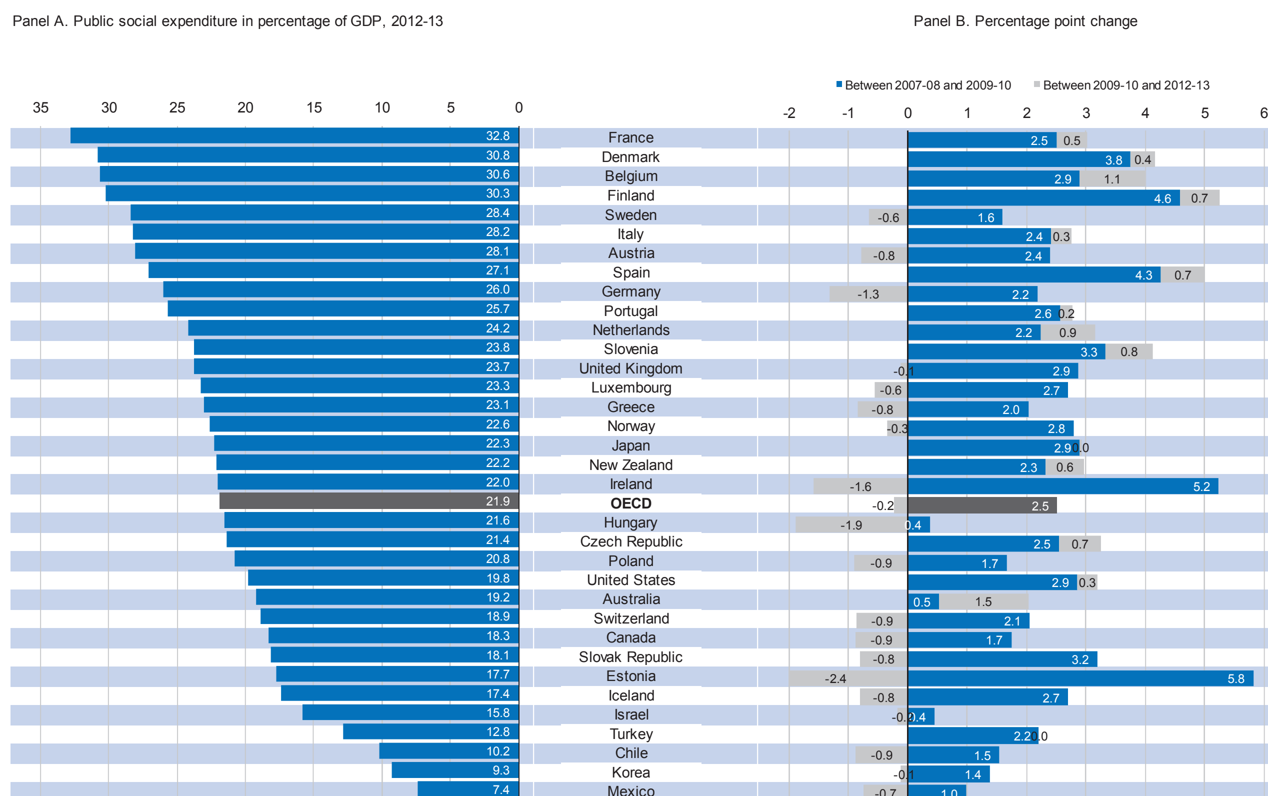
There is a bilateral relationship between social protection and informality (Andrews et al., 2011; OECD 2014b). First, evidence suggests that public social spending is reduced by informality because informal workers do not contribute to social protection and insurance. Second, the quality of social protection is one of the forces driving informality. A lack of social protection (such as unemployment benefit) might create incentives to search for work in the informal economy, to avoid falling into poverty. It is critical to emphasise that informal employment can maintain or deepen poverty and social exclusion (World Bank, 2012). The lack of legal job protections and social insurance coverage might generate a vicious circle, hindering both health and well-being.

The negative relationship between public social spending and informality appears to be true in Mexico. Public spending on social protection in Mexico is the lowest in the OECD area, accounting for 7.4% of GDP, about one-third of the OECD average of 21.9% (Figure 1.4). Some progress has been made, however, as shown by an increase in public social spending as a percentage of GDP. Overall, real public social spending in Mexico increased by nearly 11% between 2007/08 and 2012 (OECD, 2014c). The informal sector might be a preferred alternative to unemployment since Mexico is one of the few OECD countries without unemployment benefits (OECD, 2014b). Other explanations for

workers' migration to the informal sector include, but are not limited to, a lack of skills or opportunities. In any case, migration of workers from the formal into the informal sector is a key source of concern. It can reduce aggregate productivity and tax revenue, and can also jeopardise the sustainability of public health services and of the social insurance system (OECD, forthcoming).

Together evidence suggests that a large number of workers move frequently between the formal and informal sectors (in both directions) as a result of individual financial constraints and opportunities (OECD, 2011b).

Figure 1.4. Social expenditure and its evolution during the crisis



Source: OECD (2014), *Society at a Glance 2014: OECD Social Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/soc_glance-2014-en.

1.2. Mexico's demography and health care needs

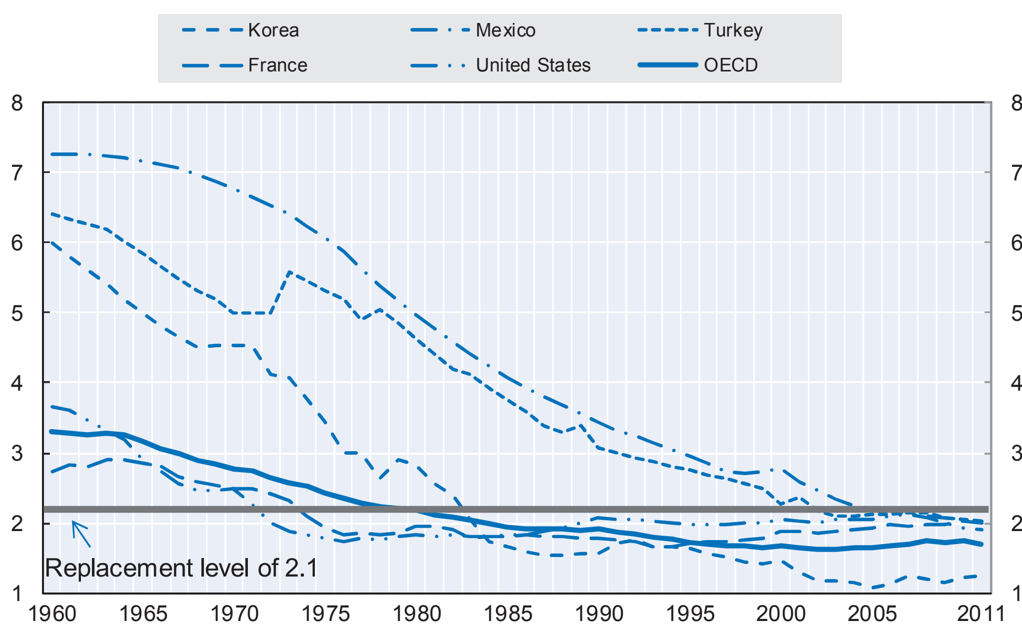
Mexico is undergoing a profound demographic transition. As a result of decrease in fertility and mortality rates, the Mexican population is rapidly ageing and the number of working-age people for every person over 65 will drop sharply in the coming years. Indigenous populations are significant and face discrimination, lack of access to services and generalised poverty. Mexico has seen steady, if slow, increases in life expectancy over the past decade. However, the country still lags behind other countries with the lowest life expectancy in the OECD. Health is also unequally distributed in Mexico, with people in southern states suffering from noticeably poorer outcomes.

Mexico has a relatively young population, but faces rapid ageing

The Mexican population is young compared to other OECD countries. In 2010, only 6% of the population was aged over 65 years, compared to 16% for the average of OECD countries. Mexico, similarly to other OECD countries, is experiencing a demographic transition characterised by a shift from high levels of mortality and fertility to lower levels. Emigration has also played a role in this demographic transition.

The fertility rate fell from more than seven children per woman in 1960 to 2.03 children per women in 2011 (see Figure 1.5). Still, Mexico had the fourth highest fertility rate among OECD countries in 2011 (after Israel, New Zealand and Ireland), and much higher than the average of 1.70. The decline in fertility rate was accompanied by a rapid and sustained decline in mortality. As a result of the expansion of education services, sanitation infrastructure and the development of health services, life expectancy at birth increased from 60.9 in 1970 to 74.6 years in 2012.

Figure 1.5. Decline in fertility over the last 50 years (total fertility rate from 1960 to 2011)



Source: OECD (2014), *Society at a Glance 2014: OECD Social Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/soc_glance-2014-en.

The combination of falling mortality and fertility rates causes rapid population ageing. The share of the population aged over 65 years is expected to triple in the next four decades to reach 21% in 2050 (OECD, 2013b). Nevertheless, for the time being, the dependency ratio is one of the lowest amongst OECD countries. In 2011 for example, Mexico had 8.8 people of working age for every person aged 65 years or more, which is more than double the OECD average of 4.2 workers. However, from now until 2050 the number of working-age people for every person over 65 will drop more sharply in Mexico than in any other OECD country (OECD, 2014c).

Mexico has the largest indigenous population in Latin America, who continue to face marginalisation and worse health

Mexico's more than 18.1 million indigenous peoples constitute about 16 percent of the population (CONEVAL, 2012). While accounting for a smaller percentage of the country's total population than in some other Latin American countries, Mexico's indigenous population is the largest in Latin America and represents a third of the continent's total indigenous population. A striking feature is that roughly three quarters of indigenous peoples in Mexico are poor, compared to half of non-indigenous people living below the official poverty line. Of even greater concern is the fact that the poverty gap between both populations is mostly explained by a lack of access to education and government services (Moreno et al., 2011).

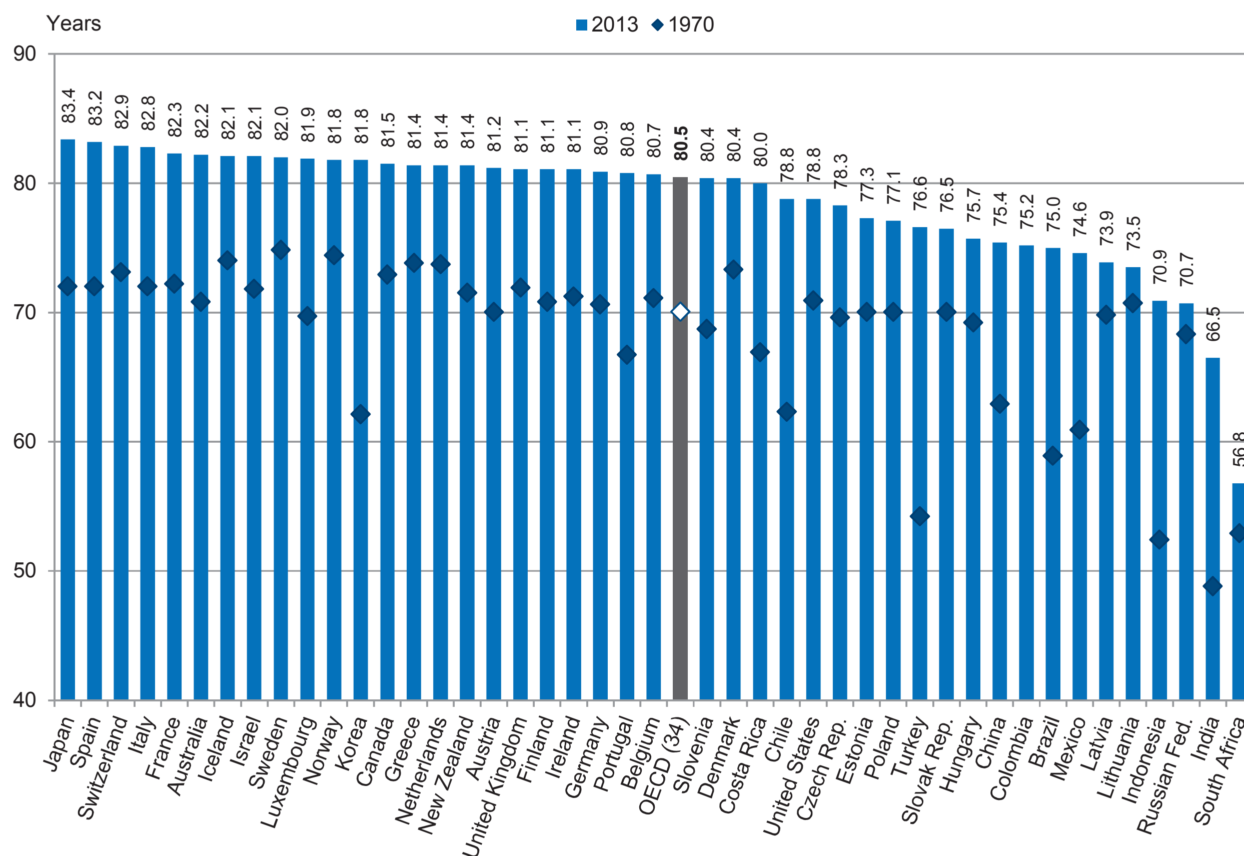
More recently, Servan-Mori et al. (2014) show that between 2002 and 2010 the share of indigenous population located in the first decile of household expenditure has increased from 15% to 25%. Although the prevalence of stunting in children and the rate of infant mortality has declined over time, the differences persist. Between 2000 and 2010, the reduction in infant mortality and stunting in children was consistently greater among non-indigenous population. Overall, the indigenous population remains in an unfavourable and vulnerable position.

Together, these accumulated disadvantages are key determinants of poverty. Although the development of the *Oportunidades* programme (now *Prospera*) has shown positive effects among indigenous communities and other disadvantaged groups, it has not proven sufficient to increase access to health services, education and employment to the most vulnerable indigenous populations (Servan-Mori et al., 2014). Other targeted programmes for this group exist, such as the *Programa Especial de los Pueblos Indígenas 2014-2018*, which will focus on guaranteeing access to basic services and increasing indigenous groups' exercise of social rights and civic participation, whilst protecting their cultural identity.

Although life expectancy is improving, Mexico is falling behind other OECD countries

Life expectancy in Mexico has increased much more slowly over the past ten years than in other OECD countries. Mexico now has the lowest life expectancy of all OECD countries. While it increased by 2.64 years on average across OECD countries between 2003 and 2013 (rising from 77.8 years to 80.4 years), it increased by 0.80 years in Mexico (from 73.8 to 74.6 years) (see Figure 1.6). The gap in longevity between Mexico and other OECD countries has therefore widened from about four years to six years.

Figure 1.6. Life expectancy at birth, 1970 and 2013 (or nearest year)



Source: OECD Health Statistics 2015, http://dx.doi.org/ 10.1787/health-data-en.

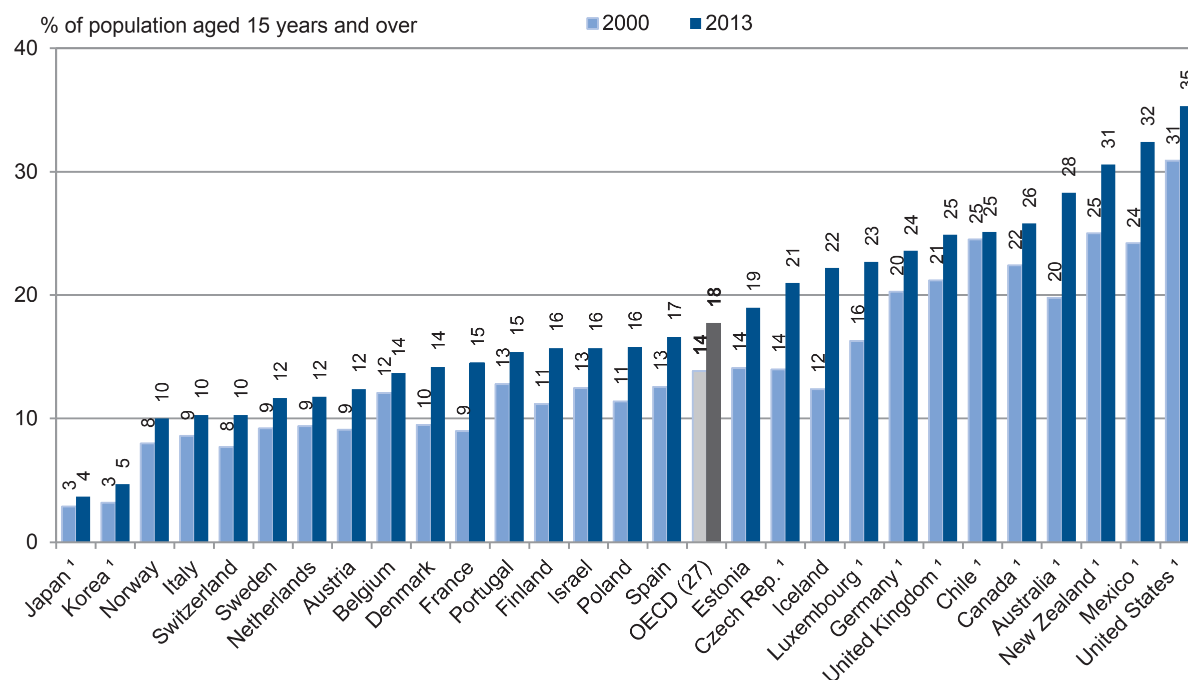
The slow progress in life expectancy in Mexico is in large part due to harmful health-related behaviours including poor nutrition habits and very high obesity rates, increasing mortality rates from diabetes and mortality from cardiovascular diseases, as well as persisting barriers to access to high-quality care and a challenging socioeconomic context (OECD, 2013b).

Rapidly increasing rates of obesity and associated ill-health are a major concern

Over the past 30 years, Mexico has become one of the countries in the world most heavily affected by the global epidemic of obesity. Mexico is now second only to the United States for overall obesity (see Figure 1.7). Between 2006 and 2012, overweight or obesity prevalence increased from 69.5% to 71.3% of the adult population (OECD 2015), while the rate of obesity rose from 30% in 2006 to 32.4% in 2012 (estimate). Mexico is now one of the countries with the highest child obesity rates in the world with one in three children being overweight or obese.

Diabetes, the chronic disease most directly linked with obesity, is spreading rapidly and now affects more than 15.9% of the adult population, which is more than double the OECD average of 6.9% (OECD, 2015).

Figure 1.7. Increasing obesity among adults in OECD countries, 2000 and 2013 (or nearest year)

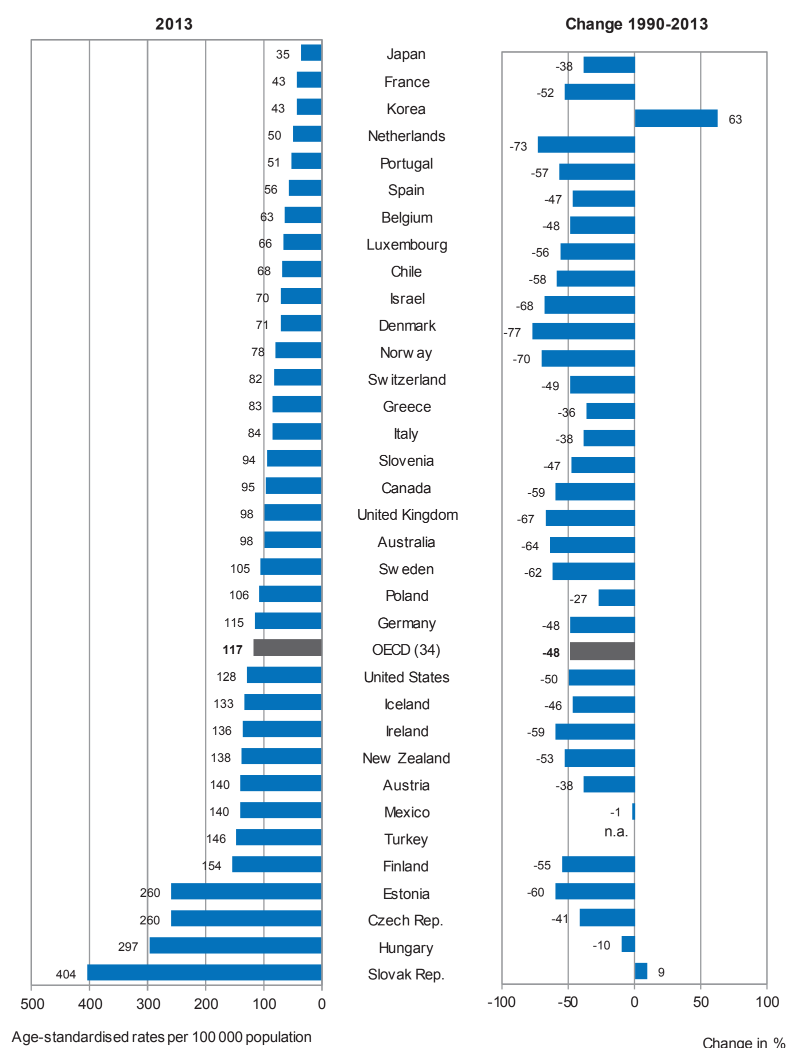


1. Data are based on measurements rather than self-reported height and weight.

Source: OECD Health Statistics 2015, http://dx.doi.org/ 10.1787/health-data-en.

Perhaps as a result of these adverse risk factor profiles, deaths from cerebrovascular diseases have only fallen by 38% since 1990 – a modest decline compared to the average reduction of 56% across OECD countries. More disconcertingly, deaths from heart disease have only decreased by 1%, in sharp contrast to the 48% reduction seen across other OECD countries (see Figure 1.8).

Figure 1.8. Ischemic heart disease mortality, 2011 and change 1990-2011 (or nearest year)



Source: OECD Health Statistics 2015, http://dx.doi.org/ 10.1787/health-data-en (extracted from WHO).

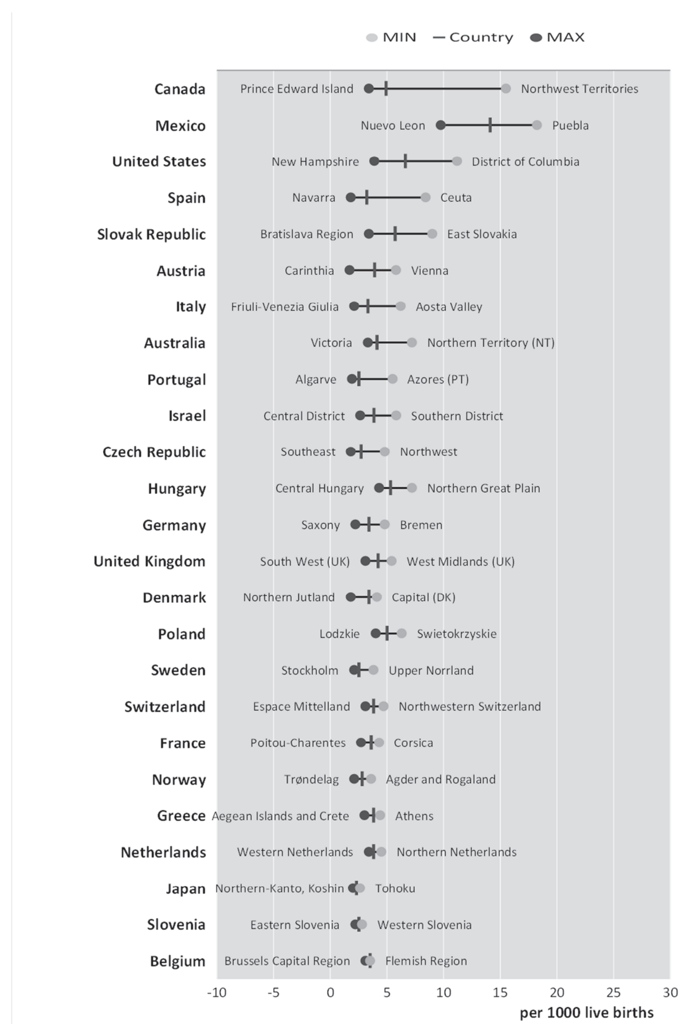
Regional differences in health reflect socioeconomic trends

There are large regional inequalities in health status across Mexico, where the most disadvantaged municipalities consistently present poorer health outcomes than national average (PAHO, 2012). Richer parts of the country report a better health status and profile of health outcome closer to OECD averages; whilst the poorest regions located in the southern part of the country have the highest disease prevalence and mortality rates for preventable causes.

Life expectancy in rural areas of Oaxaca, Guerrero and Chiapas is significantly lower than in urban areas of Baja California Sur, Nuevo León, and Federal District. A north-south gradient is also observed for infant mortality. In 2013, infant mortality rates varied between 9.1 per 1 000 live births in Nuevo León to 16.2 in Puebla; while the national average is around 12.2. As Figure 1.9 shows, Mexico not only has the highest national infant mortality rates observed in the OECD, but also one of the highest inter-regional variations in infant mortality rate, second only to Canada and the United States. The risk of a child dying

before one year of age is between 20% and 32.5% higher in Puebla, Estado de Mexico and Guerrero relative to the national average (OECD, 2014). In 2012, the highest maternal mortality rate was found in Guerrero with 75.9 maternal deaths per 100 000 live births. There is a 3.8-fold difference with the lowest maternal death found in Queretaro, which reports 19.8 maternal deaths per 100 000 live births (Salud, 2013).

Figure 1.9. Maximum and minimum regional values of infant mortality rates, per 1 000 live births, by country, 2012 (or nearest year)



Source: *2014 OECD Regional Statistics (database)*, http://dx.doi.org/10.1787/region-data-en. The most recent year for Mexico is 2013.

1.3. The health system in Mexico

Much of the current governance and organisation of the Mexican health system is the result of over seventy years of gradual evolution. Some broadly successful reforms sit alongside enduring inefficiencies, most significantly the split of the health system – financing, organisation, commissioning, delivery – into multiple vertical sub-systems, with limited integration between them.

With a relatively low proportion of GDP spent on health care in Mexico, it is imperative that these limited resources are used effectively. Resources are currently

fragmented across the vertical sub-systems, and different sub-systems have quite significantly different levels of resources. This constitutes a real problem of inequitable access; more deprived socioeconomic groups, and more deprived states, can expect to have access to much more limited services. High out-of-pocket payments, which make up a quite significant proportion of health spending, risk being a significant financial burden for Mexican citizens, especially those least able to pay.

A universal entitlement to health care in Mexico is enshrined by law

Since 1983, Article 4 of the Mexican constitution has guaranteed all citizens the right to health protection. Later codifications, such as the 1984 General Health Law, draw on this constitutional provision. The Ministry of Health and Assistance (*Secretaría de Salubridad y Asistencia*, SSA) was formally established in 1943, 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 Coordinados de Salud*). Much of the current structure of the health care system, however, had been established in the late 1930s and early 1940s with an array of institutions targeting different groups based on their occupational profile or economic situation, for example state employees, and the military. At the same time as the establishment of the Ministry of Health in 1943 came the creation of the IMSS to manage these social security schemes, including health care that had been created for the different unions and workers in individual sectors.

While many social security schemes were subsumed by IMSS, some social security funds and services did remain independent 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, a system of pensions (old age, disability); a system of protection against occupational risk; and even a social services system (child care centers and recreational services). Following this path, the ISSSTE, Mexico's second largest social security sub-system after IMSS, was established in 1960 providing health services as well as services similar to the IMSS monetary and in-kind social security benefits to state workers.

While progress towards comprehensive coverage was certainly made in the decades from 1930 to 1960, the approach taken – establishing social security funds and services for strategic target groups – led to 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 socioeconomic groups (i.e. unions, state workers and urban groups among others). This system also left those without formal 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. Moreover, 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 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. A further consequence of this environment was the concentration of service supply, particularly specialised services, in the urban areas, especially in Mexico City. Reforms to the health care systems were made in the 1960s, 1980s and 1990s, addressing entitlement to care as well as levels of provision (see Box 1.1), but ultimately problems with access remained.

Box 1.1. Reforms to the Mexican health care system, 1960-2000

Reforms to the system to try to address the imbalances in health care coverage were made in the 1960s, 1980s and 1990s. In the 1960s 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 insured population and the uninsured population served by the SSA sharpened. Efforts to bridge the gap by increased investment in the 1960s came to a halt in the economic downturn of the 1970s, during which 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, which in reality 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.

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, which was to be the first wave of a longer decentralisation process. It was at this time (1983) that 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 the Ministry of Health (*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 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.

In the 1990s the decentralisation process continued, with the transfer of more functions and responsibilities to states 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).

Decentralisation reforms started from the mid-1980s, with the shifting of greater responsibility – operating responsibility for primary care clinics and second level hospitals (but not third level National Institutes of Health), as well as certain administrative responsibilities. Those states with greater capacity and resources (Tlaxcala, Nuevo León, Guerrero, Jalisco, Baja California Sur, Morelos, Tabasco, Querétaro, Sonora, Colima, Estado de México, Guanajuato, Aguascalientes and Quintana Roo) were more successful at implementing the decentralisation processes, which allowed them to take on a greater share of spending from their own resources (OECD, 2005). These states typically had both higher-than-average per capita incomes and greater financing capacity of their own, and were generally more industrialised with the highest levels of social security coverage. The decentralisation process was re-engaged in the mid-1990s for the remaining states and all states 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.

Under the first wave of decentralisation reforms, what was then the IMSS-COPLAMAR (since IMSS-Solidaridad, IMSS-Oportunidades, and now IMSS-Prospera) 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. Unlike the first wave of reforms, the IMSS-Oportunidades system maintained its independence from State Health Services (SHS) for the remaining states decentralised under the second wave.

Source: Updated from OECD (2005), *OECD Reviews of Health Systems: Mexico 2005*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264008939-en.

The fragmented foundations of the health system have endured, to varying extents, to the present day, despite ongoing reform attempts. While the 1984 General Health Law regulates all aspects of the health sector, and draws on the universal right to health protection set out in the Constitution, it includes no comprehensive list or specific package of services covered beyond this generic entitlement to coverage (a principal also indicated in the social security laws governing IMSS and ISSSTE). Instead, entitlement and access to services continues to depend upon the given social security insurer – for employees in the salaried labour market – and public provision or coverage under SP, for those not covered by a social security sub-system. Affiliation to a social security system is automatically determined by employment status, which has helped increase total population coverage. Coverage in 2012 was estimated at nearly 78.5% of the population, up from around 50% coverage in 2005 (OECD, 2005; CONEVAL, 2012). The nature and consequences of the differences in entitlement across insurance systems are considered in more detail in Chapter 2.

A further important point to keep in mind when considering entitlement and coverage under insurance sub-systems, is the fact that the social security institutes also provide pensions and other welfare benefits. This coverage means that differences in entitlement to health care services are also reflected in different levels of pension and welfare provision. Furthermore, the fact that social security sub-systems also give pension and other non-health benefits is a significant financial burden on the financial reserves of insurers. In its 2014 financial statement, IMSS predicted that its reserves would be depleted by 2017.

Health insurance and health care in Mexico is provided by numerous independent sub-systems

The most distinctive feature of the Mexican health system is its subdivision into various sub-systems. Each sub-system replicates the set of fundamental health system activities for its affiliated population, i.e. stewardship, revenue raising, purchasing services and providing those services. This means that functions that are increasingly separated in other OECD health systems, and organised horizontally for the whole health system, remain bound together and organised vertically in Mexico. This means that to some extent, each health sub-system – IMSS/ISSSTE/PEMEX – operates as a distinct health system, within a much lighter-touch horizontal framework, and with little co-ordination of functions across them.

The “insured population” in Mexico refers to the population who are covered either by a social security sub-system, which provides health care, as well as pension and welfare coverage, or by SP. There is also some coverage by private enterprises, although private health insurance covers a small proportion of the Mexican population. The major social security sub-systems are IMSS, which covers all private salaried formal sector workers (self-employed workers, informal sector workers and unemployed people can choose to be insured through a voluntary insurance scheme) and their families, and ISSSTE (federal and some state employees, and their family members) with others (PEMEX covering Petroleum of Mexico employees, Navy coverage by SEMAR, Army coverage by SEDENA, etc.) covering smaller population groups. IMSS financing is split between the federal government, the employer (with the greatest share of financial participation), and the employee. ISSSTE financing is split between the employer and the employee, with a contribution from the federal government; SP is fully financed by government budget.

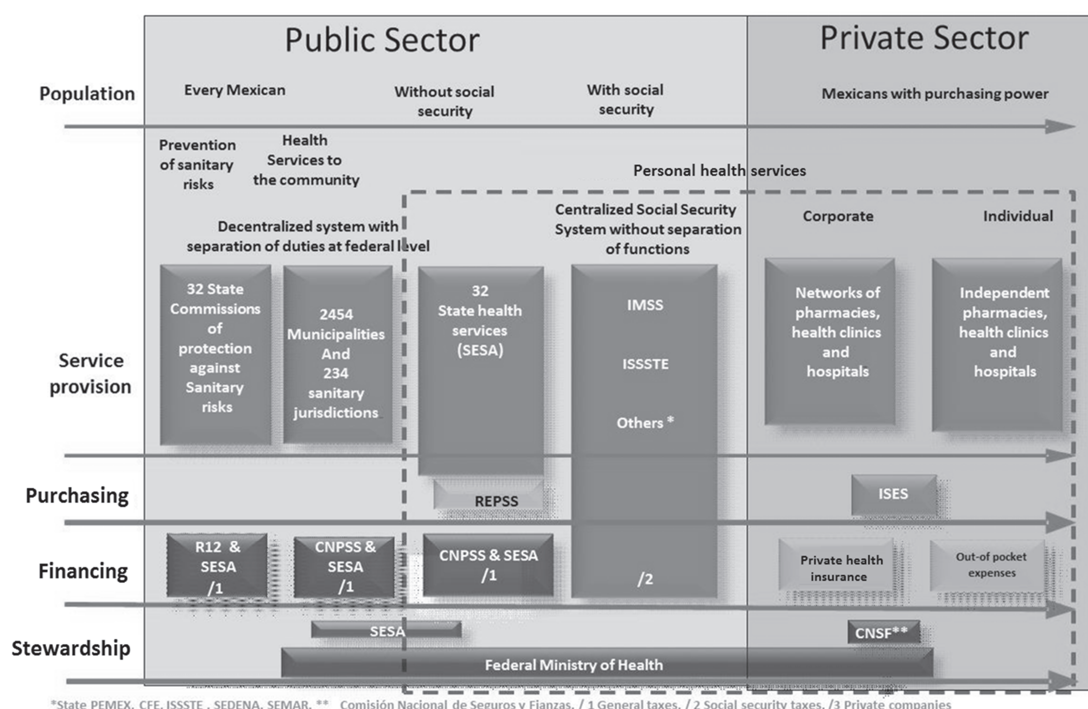
For IMSS, ISSSTE and other social security sub-systems, each scheme owns and operates its own clinics and hospitals. Benefits provided are in-kind (i.e. health care services), following broad provisions set in their corresponding legal frameworks, including

preventive and curative services. Care should be provided at the scheme-specific settings (clinics and hospitals). In case of emergencies, patients can be treated in other institutions' facilities up to the point of medical stabilisation for later referral to the corresponding insured institution facilities.

Alongside the social security sub-systems, the SP system of voluntary public insurance provides coverage for those who fall outside of the social security sub-systems and choose to be affiliated. A number of government schemes, mostly operating at a state level, provide some coverage for the remaining 21.5% of the Mexican population without national public health insurance reported in 2012. Both coverage systems are discussed in the following section.

Figure 1.10 sets out the landscape in the Mexican health system, and shows the vertical organisation of almost all aspects of the health system, which forms the backdrop for the discussion and analysis for the rest of this chapter.

Figure 1.10. Landscape of the Mexican health system



Recent reforms have sought to expand coverage of health insurance, although some 21.5% of Mexicans remain uninsured

Significant reforms have been undertaken in the Mexican health system since the early 2000s, aimed at increasing the population covered by health insurance. As part of this, the System of Social Protection in Health (Knaul et al., 2012) came into effect at the beginning of 2004, with the aim of improving financial protection for those without social security coverage. The System of Social Protection in Health also sought to inject new resources into the health system, and improve resource transfers between federal government and the states. Indeed, public investment in the health system rose from 2.4% to 3.3% GDP between 2003 and 2013.

A key feature was the creation of a new system of family insurance, targeted to those without social security coverage. Having operated as a pilot programme between 2001 and 2003, and following reforms to the legal framework underpinning Mexico's health system, *Seguro Popular* (SP), was fully launched in January 2004. SP operates based mainly through public funding, supplemented in small part by an annual fee according to income level. SP includes an explicit package of cost-effective health interventions – an essential package of primary and secondary interventions, and certain high-cost tertiary interventions – including pharmaceuticals. Some important high-cost interventions remain excluded from the SP package, as discussed in Chapter 3.

Affiliation to SP has grown from around 5.3 million individuals in 2004 to around 57.3 million in 2014, according to data from the *Comisión Nacional de Protección Social en Salud* (CNPSS). The significant increase in SP affiliation also represents a significant increase in total population coverage, and an important step towards universal health coverage (UHC). Even in the two years 2010 and 2012 alone coverage under SP increased significantly, covering 30.5% of the population in 2010 (35 million population) to 40.8% in 2012 (47.8 million). Nonetheless, according to survey data, some 21.5% of the population remained unaffiliated to an insurance plan in 2012 (CONEVAL, using ENIGH 2012).

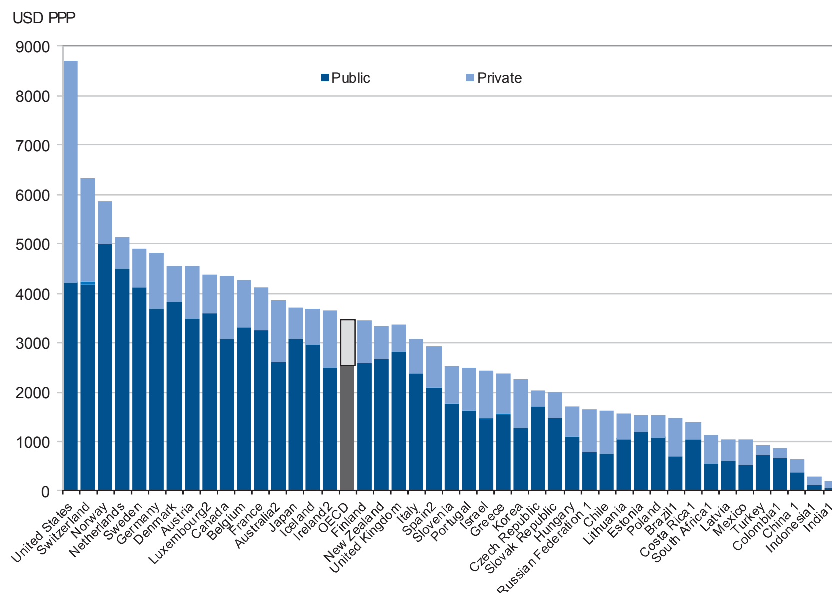
Mexico spends a relatively small proportion of GDP on health care compared to other OECD countries, and has particularly low public spending on health

Health care in Mexico is less well-resourced than in other OECD countries. Currently, it spends 6.2% (2013) of GDP on health, somewhat less than the OECD average of 8.9%, equating to USD PPP 1 048 per capita per year (OECD average OSD PPP 3 453 in 2013). The share of this spend coming from public sources is particularly low. Only in Chile (46%) and the United States (48%) is the share of public spending on health lower than in Mexico (51%).

The low public spending and limited total investment in the health system is reflected in the health resources that Mexico has. Mexico depends on 2.2 practicing doctors and 2.6 practicing nurses per 1 000 population – which includes doctors and nurses working in the private sector – markedly less than the OECD averages of 3.2 and 9.7 respectively. Bed density is also markedly low, with 1.6 beds per 1 000 population in 2012, compared to 5.0 beds per 1 000 OECD-wide, and is the lowest amongst OECD countries (OECD, 2012).

Weaker health system resources contribute, in turn, to lower rates of care delivery. The number of doctor consultations per capita was the second lowest in the OECD in 2013 (2.8 per capita compared to the OECD average of 6.6), although this captures only activity in public institutions, and does not include privately provided consultations. Rates of key procedures such as hip and knee replacement or coronary angioplasty were also low compared to other OECD countries; in Mexico in 2011 just 6.4 coronary revascularisation procedures were performed, compared to an average 219.3 OECD-wide, and rates of hip replacement (7.8 compared to OECD average of 161.2) and knee replacement (3.3 compared to 120.6) were the lowest in the OECD. Results for selected procedures are partially explained by a moderate level of non-report of procedures in the *Sistema Nacional de Información en Salud* (SINAIS), the Mexican national health information database. In addition, these procedures (those that require prosthesis), are not reimbursed under the social security coverage except for active workers who suffer an occupational disease/accident, and under SP are not covered. While shortcomings in data coverage may somewhat distort the overall picture, these low rates of doctor consultation, and low rates of key procedures are still marked.

Figure 1.11. Health expenditure per capita in USD PPP, 2013 (or nearest year)



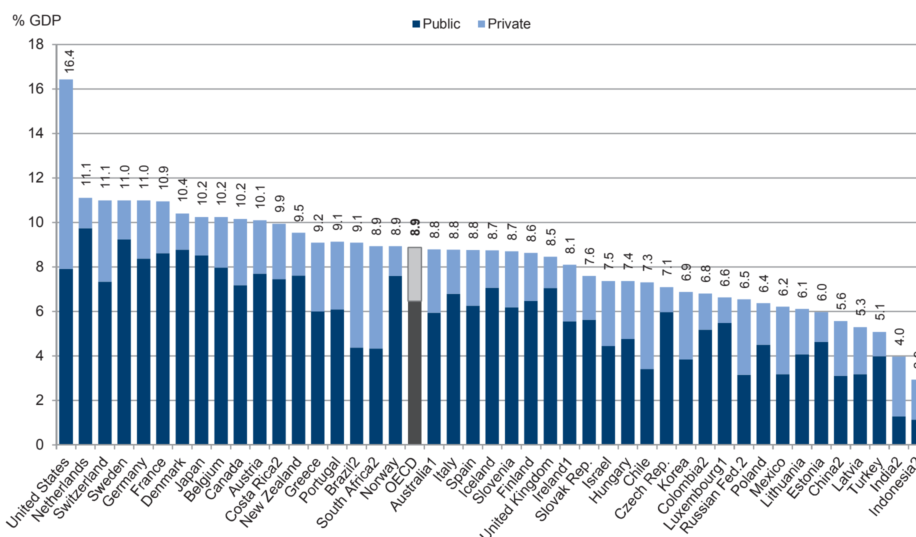
Note: Expenditure excludes investments, unless otherwise stated.

1. Includes investments.

2. Data refers to 2012.

Source: OECD Health Statistics 2015, http://dx.doi.org/ 10.1787/health-data-en; WHO Global Health Expenditure Database, http://apps.who.int/nha/database.

Figure 1.12. Health expenditure as a share of GDP, 2013 (or nearest year)



Note: Excluding investments unless otherwise stated.

1. Preliminary estimates.

2. Data refers to 2012. 3. Including investments.

Source: OECD Health Statistics 2015, http://dx.doi.org/ 10.1787/health-data-en; WHO Global Health Expenditure Database, http://apps.who.int/nha/database.

A corrigendum has been issued for this page. See www.oecd.org/about/publishing/Corrigendum-OECDReviewsofHealthSystem-Mexico2016.pdf

The lower rates of consultations and key procedures can be read as indicators of unmet need for health care by the public sub-system, and are likely linked to low total public investment and spending on health care in Mexico. It is likely, therefore, that correcting the shortcomings in timely and effective access to health services in the public sector will require additional resources, an issue discussed in detail in Chapter 4. While the level of health sector financing is ultimately a decision for Mexican public debate, and it will need to be balanced against other priorities, it will be essential that additional investment is well-targeted and based on a detailed understanding of need, and is spent efficiently in ways that deliver health gains. In the near term, substantial additional health sector investment is not likely to materialise, and the priority instead will be to find efficiencies and savings in the way current resources are used.

Resourcing is unequal across the sub-systems and financial transfers based on historical precedent perpetuate inequalities

In addition to lower health system resources across the Mexican health system, levels of resources remain somewhat unequal across the health sub-systems. Total per capita spending for people without social security was MXN 3 429 in 2013, compared to 3 505 for IMSS and 3 945 for ISSSTE affiliates (DGIS, 2013).

Table 1.3. Covered population and expenditure per covered person in Mexico, 2013

	Expenditure (thousand current pesos)	Coverage	Per capita expenditure (current pesos)
Budget line 12 (Ramo 12: Secretaría de Salud)	118 893 910	65 527 283	1 814
Budget line 33 (Ramo 33: FASSA[1])	67 679 092	65 527 283	1 033
Budget line 19 (Ramo 19: IMSS-Prospera)	9 881 767	11 891 406	151
States health expenditure	28 217 527	65 527 283	431
Total federal and state for people without social security[2]	**224 672 296**	**65 527 283**	**3 429**
IMSS	208 586 381	59 511 963	3 505
ISSSTE	49 832 292	12 630 569	3 945
PEMEX[3]	12 866 306	755 346	17 034
Total Social Security	**271 284 979**	**72 897 878**	**3 721**
Total public sector[4]	**495 957 275**	**138 425 161**	**7 150**

1. *Aportaciones Federales para Entidades Federativas y Municipios Fondo de Aportaciones para los Servicios de Salud* (FASSA)

2. Population without social security includes those affiliated to *Seguro Popular*, those covered by IMSS-Prospera and people without any public health insurance who can get care at Ministry of Health and states' facilities.

3. Population corresponds to 2012.

4. Figures exclude expenditure reported by SEDENA, SEMAR, ISES and ISSFAM. Such figures represent 5.4% of the total public expenditure.

Source: Ministry of Health (2013), *Boletín de Información Estadística*, Secretaría de Salud 2013, Mexico.

Differences in expenditures are likely to contribute to differences in health resources, which again differ significantly across sub-systems. For example, the number of specialist outpatient consultations is 336 per 1 000 enrolees within SP, compared to 350 and 629 per 1 000 enrolees within IMSS and ISSSTE respectively (Salud, 2013).

Table 1.4. Health resources in the Mexican health system, 2013

	Doctors[1]	Nurses[2]	Beds[3]	Hospitals
Total	**256 281**	**310 441**	**131 900**	**4 424**
Total public sector	191 826	270 596	87 509	1 335
Total private sector	64 455	39 845	44 391	3 089
Total per 10 000 population	22	26	16	37
Breakdown of the public sector:				
Population with social security	**92 097**	**127 036**	**44 994**	**516**
IMSS	65 115	95 387	32 740	264
ISSSTE	17 875	20 561	6 881	109
PEMEX	2 446	2 943	922	23
SEDENA	1 673	2 552	2 250	44
SEMAR	911	1 254	737	34
State Health Services	4 077	4 339	1 464	42
Total per 10 000 population	21	29	10	11.8*
Population without social security coverage	**99 729**	**143 560**	**42 478**	**819**
Ministry of Health	92 335	129 565	39 231	734
IMSS-Oportunidades	6 529	12 767	2 578	79
University students[4]	865	1 228	669	6
Total per 10 000 population	13	19	6	11.0*

1. Doctors include all physicians: generalists, specialists, and dentists.

2. Includes general nurses, specialists, interns, assistants and others.

3. Includes all health system beds, in hospital as well as non-hospital settings.

4. This category is an health insurance scheme independent from IMSS and State Health Services, targeted to students who are enrolled in public high schools and universities and who are not insured by their parents through IMSS or other schemes. This insurance is called "Seguro Facultativo para Estudiantes del Nivel Medio Superior y Superior".

* Rates per 1 million.

Source: Secretaría de Salud. Dirección General de Información en Salud. México 2013; *OECD Health Statistics 2015*, http://dx.doi.org/ 10.1787/health-data-en.

Whilst some of these differences may reflect unequal needs (such as ISSSTE's slightly older population), others cannot be justified in this way. The number of prescriptions that could not be fully dispensed by at the institution facilities (due to lack of stock) is 35% within SP compared to 14% within IMSS for example (ENSANUT, 2012). These inequalities in expenditure and resources are a cause for concern both in terms of the capacity of sub-systems to deliver effective care, and as a real problem in unequal care quality and availability for the population.

Problems also persist regarding the regional distribution of resources within SP and other services covering uninsured populations, many of which date back to the process of decentralisation of responsibilities to states. Financial allocations to state health services from federal revenues are based on historical precedent, not according to need. Furthermore, once received by states there are few mechanisms to ensure that they are spent in ways that best meet local health care needs.

Much of the health care services for the uninsured population are now provided by State Health Services (SHS), through systems of public hospitals and clinics. There are marked differences between states in the per-capita resources available for providing the public health care services; with rural areas facing particular problems of access. The SHS are perceived by the general public as providing lower-quality care than the social security

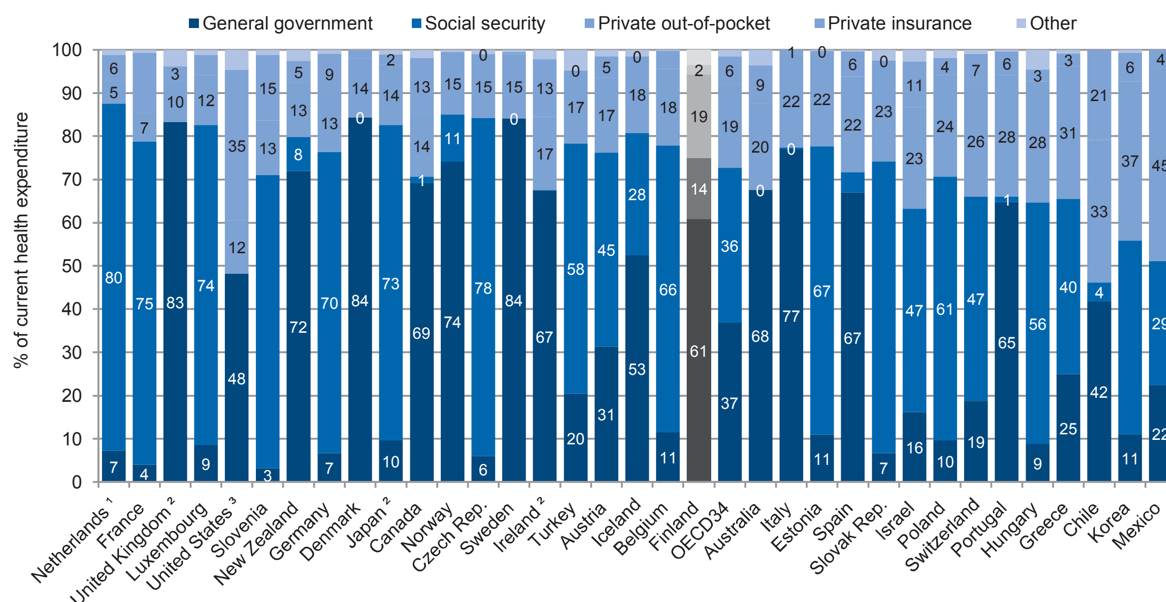
system, although this partly reflects the fact that the public resources per household allocated to the social insurers were greater than those allocated to the SHS, as is explained in the previous section. Furthermore, the perceived low quality of SHS services can also be attributed to organisational issues such as poor medicine supply.

These differences in perceived level of quality of service provision for different populations in addition to the fact that under SP a smaller basket of services is available, creating a further layer of concern when considering progress towards UHC as discussed in detail in Chapter 3.

Out-of-pocket spending is consistently high and varies across sub-systems

Out-of-pocket (OOP) spending in Mexico constitutes 44.7% of health system revenue and 4.0% of household expenditure (Figures 1.13 and 1.14). These figures represent the OOP estimates reported by the Mexican authorities to the OECD. OOP spending can be estimated from a variety of sources. Although these are not always in agreement, it is clear that OOP spending in Mexico remains amongst the highest in the OECD. Out-of-pocket spending has also not fallen significantly across the past decade, despite efforts to increase the population affiliated to an insurer through the SP reform. Chile, Korea and Hungary have out-of-pocket spending of a similar rate to Mexico, but in most OECD countries far less of the household income goes towards medical expenses, on average 2.1%.

Figure 1.13. Expenditure on health by type of financing, 2013 (or nearest year)



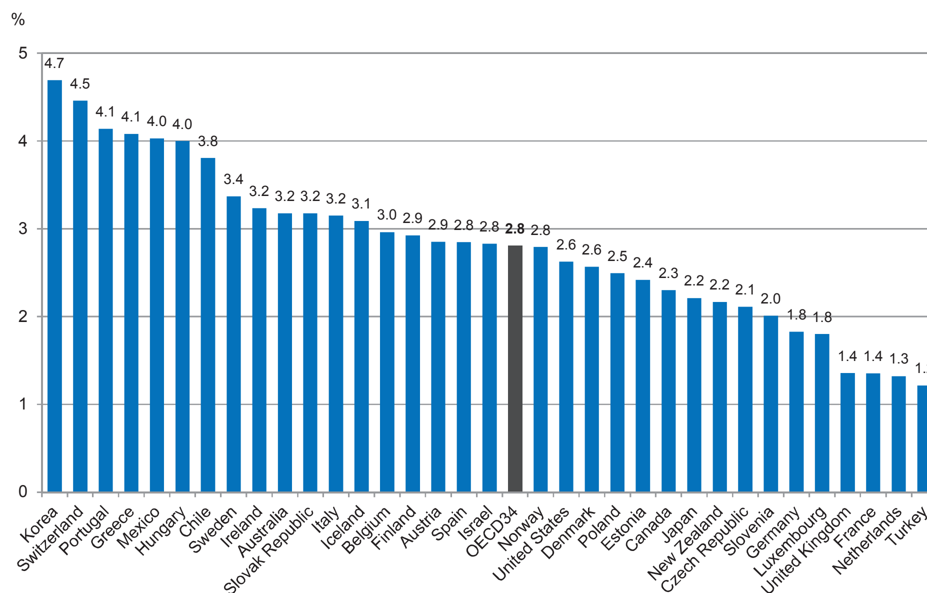
1. The Netherlands report compulsory cost-sharing in health care insurance and in Exceptional Medical Expenses Act under social security rather than under private out-of-pocket, resulting in an underestimation of the out-of-pocket share.

2. Data refer to total health expenditure (= current health expenditure plus capital formation).

3. Social security reported together with general government.

Source: OECD Health Statistics 2015, http://dx.doi.org/ 10.1787/health-data-en.

Figure 1.14. Out-of-pocket medical spending as a share of final household consumption, 2013 (or nearest year)



Note: This indicator relates to current health spending excluding long-term care (health) expenditure

Source: OECD Health Statistics 2015, http://dx.doi.org/10.1787/health-data-en.

When broken down by sub-system, per capita spending year by year, data from the *Encuesta Nacional de Ingresos y Gastos de los Hogares* for 2012 (ENIGH, 2012) demonstrate that OOP spending was around MXN 440 for those affiliated to SP, MXN 657 for those affiliated to IMSS and MXN 1 209 for those affiliated to ISSSTE. For individuals without health insurance, the figure is around MXN 765. One important point to emphasise in terms of OOP spending for those affiliated to SP is the fact that they have to pay for health care services provided by SES which are not financed by SP. These services are concentrated in the highly specialised sub-group that most of the time requires hospitalisation. OOP spending incurred by SP affiliated amounted MXN 5 351 billion equivalent to 1.0% of the public spending in health services in 2013 (DGIS, 2014)

These sustained, high levels of out of pocket spending may in part be driven by dissatisfaction with the accessibility or choice of the services provided by institutions to which individuals are affiliated, leading them to seek care from private health providers. The fact that 52% of OOP spending is concentrated in the three highest income deciles suggests that much of this spending may be more related to choice than to access. Indeed, as previously established, people make frequent use of private health care providers, which have greater availability than public services. High out-of-pocket spending could also be linked to problems with access; if the services individuals need or want are not available through their affiliated insurer, or they are uninsured, they will be forced to pay out-of-pocket. Both access and quality are likely drivers of the high out-of-pocket spending in Mexico, and point to two areas of considerable system weakness.

Private providers in the health system contribute to the high out-of-pocket spending on medical services. Though private health insurance accounts for a relatively small share of the health insurance market, private health care providers have a significant role in the Mexican health system. Around 6.9% of the Mexican population is estimated to have private health insurance coverage, about half of which is through group plans sponsored by

employers (OECD, 2013). High premiums of private policies constitute an important financial barrier for the large majority of the Mexican population, driving down private insurance rates. Nevertheless, use of private providers is widespread. With 11.4 publicly owned and 28.6 for-profit privately owned hospitals per million population, Mexico displays the highest ratio of private to public sector facilities across OECD countries for which data is available. Access to these hospitals and facilities, therefore, usually demands a significant payment out of pocket for the majority of the population who are not insured to access them. This imbalance of public-private health resources is another source of inequalities in accessing health care, with poorer populations excluded from significant tranches of the hospital sector if they cannot afford to pay out of pocket for care.

Deep rooted inefficiencies in the use of resources system are apparent across the health system

There is evidence that Mexico's scarce resources are not being used as effectively as they could be. Deep rooted inefficiencies in the use of resources system can be found across the health system. Administrative costs, at 8.6% in 2013 of total health spending, are the highest in the OECD and have not reduced over the past decade. Most OECD countries are spending significantly less than this on health system administration, and many have made significant cuts since the 2008 financial crisis.

At an individual level, inefficiencies in insurance coverage are also evident. A large share of the population is covered by more than one insurance simultaneously (see Table 1.5). In some cases, they can have triplicated insurance when they are covered by their employment status and by their spouse, for example. These duplications are not exclusive of public insurance, with some people being covered by both public and private insurance. The nature of the inquiry might lead to an underestimation of coverage.

Table 1.5. Duplicate and triplicate coverage in the Mexican health system

Population covered under one programme	
IMSS	34 862 122
ISSSTE	4 146 768
Seguro Popular	43 262 400
Total	**82 271 290**
Population covered under two programmes	
IMSS and ISSSTE	2 075 118
IMSS and Seguro Popular	7 348 966
ISSSTE and Seguro Popular	762 474
Total	**10 186 558**
Population covered under three programmes	
IMSS, ISSSTE and Seguro Popular	171 169
Total	**171 169**

Source: ENSANUT, 2012 (the nature of the survey might lead to misestimates of coverage).

At the same time, around one third of IMSS enrolees each year are forced to change doctor because of a change in employment status, disrupting continuity of care. Between the second trimester of 2011 and the second trimester of 2012, data from the ENOE employment survey suggests that 35% of the population formerly covered under IMSS, ISSSTE and PEMEX or other social security sub-system lost coverage. Across the same period, a proportion of people gained coverage (see Table 1.6).

Table 1.6. Change in health coverage status, 2011-12

		Second trimester 2012				
		IMSS	ISSSTE/PEMEX/ Other	Employed but without social security coverage	Unemployed	Inactive
Second trimester 2011	**IMSS**	76.47	1.97	**13.39**	**2.76**	**5.41**
	ISSSTE/PEMEX/Other	5.31	81.05	**8.01**	**1.13**	**4.49**
	Employed but without social security coverage	**8.01**	**1.43**	72.25	2.66	15.65
	Unemployed	**20.59**	**2.1**	37.71	13.27	26.32
	Inactive	**3.38**	**0.54**	18.12	2.73	75.23

Source: National survey of Work and Employment, INEGI.

Furthermore, despite having fewer doctors, nurses and beds than most OECD countries, Mexico's resources do not appear to be intensively used. The number of consultations per doctor in Mexico is amongst the lowest in the OECD. In 2011 Mexico reported one of the lowest rates in the OECD (at just over 1 000 consultations[1] per doctor, compared to nearly 2 500 OECD-wide). This is despite Mexico having significantly fewer doctors per capita than is typical in OECD countries. To take another pertinent example, day-case rates for cataract surgery are lower than the OECD average, whilst rates of caesarian section are the highest in the OECD, which may be due to a lack of guidelines encouraging international best practice, and/or the inadequate implementation of such guidelines.

These indicators may imply deep-rooted inefficiencies in the system, and certainly complicate the financial sustainability issue identified earlier in the chapter. There is scope to improve the efficient use of resources in Mexico, which will be a particular priority if there are no significant increases in resources flowing into the health system in the years to come. Policy options to realise such efficiency gains are considered in Chapters 3 and 4.

1.4. Quality and outcomes in the Mexican health system

Relatively little is known about health care quality and outcomes in Mexico, significantly obscuring a full picture of health system performance. Relatively high level internationally comparable indicators of quality show a mixed picture, with high levels of avoidable admission to hospital, but more encouraging signs in some areas of public health and prevention activity, particularly through immunisation campaigns. Given the real problems in Mexico with fragmentation of services, and different levels of access, the lack of comparability across sub-systems is a particular problem, even if efforts to develop comparable indicators are underway.

Relatively little is known about quality and the outcomes of care, particularly for preventive care

Mexico has started to build a national health information infrastructure for quality monitoring, which is a promising development. Over the past decade, the *Sistema Nacional de Indicadores de Calidad en Salud* (INDICAS) has published a range of indicators covering primary, secondary and emergency care (including patient satisfaction rates) across SP and SS services. In addition, a number of other initiatives are underway in the separate sub-systems. ISSSTE has developed a set of 44 quality and efficiency indicators for its hospitals for example. This data collection has the potential to be a rich source of valuable information to drive change and improvement.

Systematic use of the information contained within Mexico's quality and outcomes databases to improve care, however, appears rare. Collected information is rarely reported back to providers and practitioners. Comparability across sub-systems is another problem; with the exception of seldom national indicators that are reported for the National Development Plan and the Sectorial Health Plan, each institution (State Health Services, ISSSTE, IMSS) has its own set of indicators. This lack of comparability adds to the fragmentation that runs across the Mexican health system more encouragingly, work is underway to design and implement a national dashboard of quality and efficiency metrics, consistent across all insurers/providers. The agency responsible for providing official health indicators is the General Direction for Health Information based in the Ministry of Health, while the agency in charge of designing and monitoring those indicators is the General Direction for Quality. This is at an early stage, however. Without better information efforts to drive improvements between and across sub-systems will be largely happening in the dark.

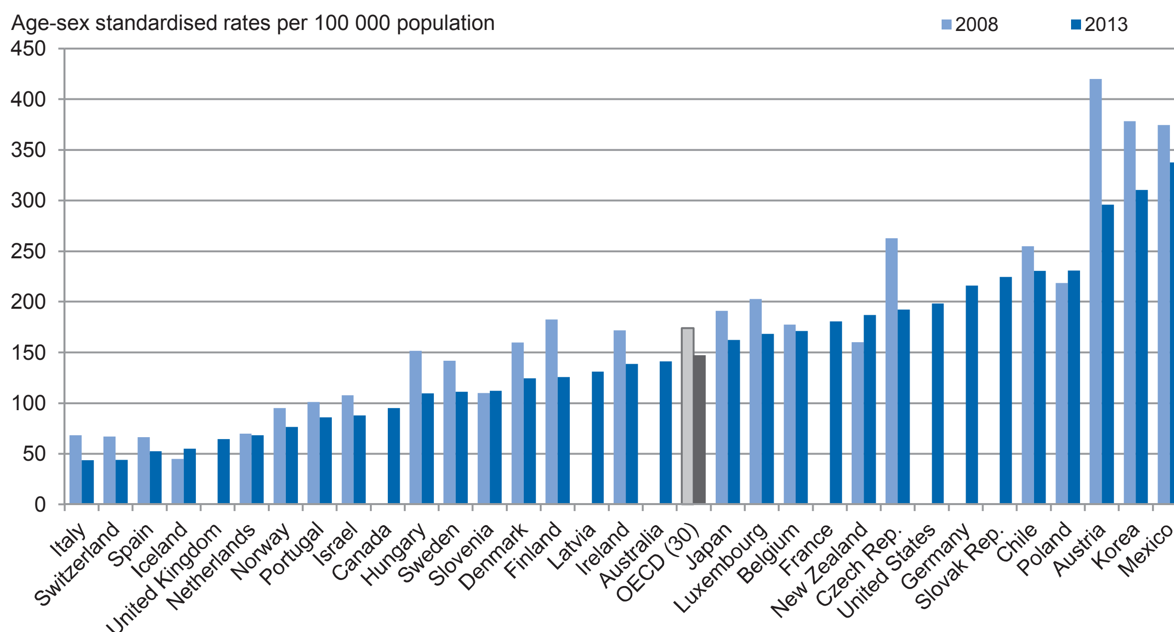
Furthermore, most of existing data work in Mexico focuses on acute hospital care for the public sector. Measures of activity and outcomes in primary care and preventive care, where there is most scope to tackle lifestyle risk factors and chronic disease, are lacking. Mexico also has very few national patient registers to monitor the quality and outcomes of care. In a country where fragmentation is high, there are signs that efficiency and effectiveness needs to be improved, and access remains uneven, these information gaps are a real problem. A good balance needs to be made between investment and efficiency, for example, but without understanding how this balance impacts on access and care quality, strategic decisions in a resource-tight context about health system improvement are hard to make.

Available internationally comparable quality indicator give some cause for concern

Directly related to the weak information infrastructure, information on quality of care in Mexico is relatively limited. The same applies to internationally comparable indicators of quality, where Mexico was able to report on only 8 out of 52 requested *OECD Health Care Quality Indicators* in 2015. Compared to other OECD countries, many of the reported indicators give cause for concern.

The OECD uses avoidable admissions for diabetes, chronic obstructive pulmonary disease (COPD) and asthma as a proxy measure for the quality of primary health care. A high- performing primary care system can, to a significant extent, avoid acute deterioration in people living with asthma, COPD or diabetes and prevent their admission to hospital. The validity of using avoidable admissions as an indicator of primary care has also been borne out by independent research. While avoidable admissions for COPD and asthma in Mexico were low, well below the OECD average, admissions for uncontrolled diabetes were nearly the highest in the OECD (see Figure 1.15). This indicator suggests that the care provided for diabetes outside of hospitals is weak. The high rate of admissions are possibly partly explained by Mexico's extremely high rate of diabetes, but this gives even greater importance to good primary care level to prevent costly hospital admissions, as explored in Chapter 3.

Figure 1.15. Diabetes hospital admission in adults, 2008 and 2013 (or nearest years)



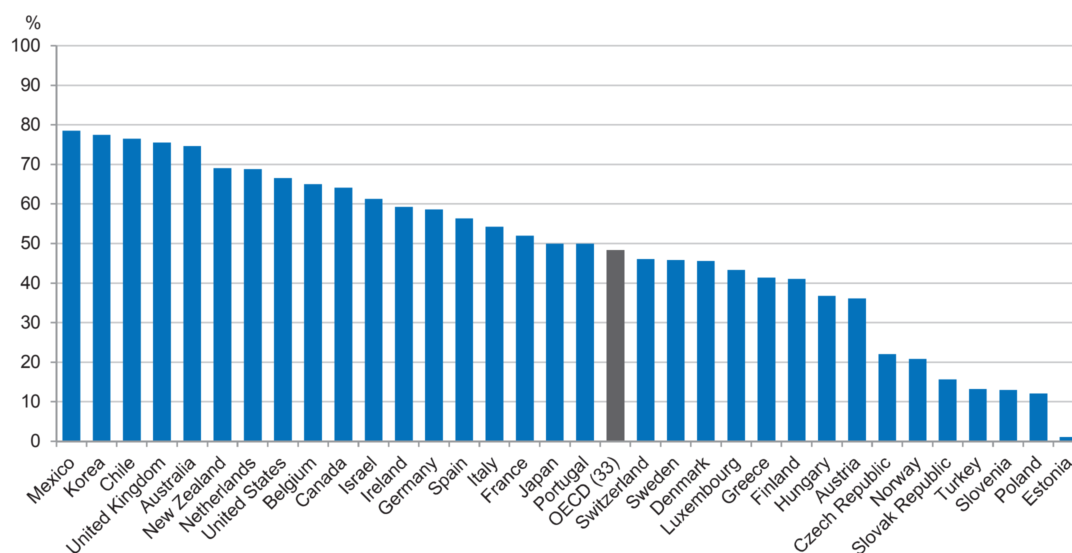
Note: Three-year average for Iceland and Luxembourg.

Source: OECD Health Statistics 2015, http://dx.doi.org/ 10.1787/health-data-en.

Indicators of the quality of acute care also show cause for concern in Mexico. Admission-based case-fatality in adults aged 45 and over within 30 days after admission for acute myocardial infarction (AMI, or heart attack) was 28.2 deaths per 100 admissions in Mexico in 2013, compared to the OECD average (excluding Mexico) of 7.4. Mortality in hospital following a stroke (case-fatality in adults aged 45 and over within 30 days after admission for ischemic stroke) was also higher in Mexico than in any other OECD country, at 19.5 deaths per 100 admissions compared to an average (excluding Mexico) of 8.0 across the OECD.

This trend seems to translate into public health and prevention activity. As of 2013, rates of vaccination of children aged 1 against diphtheria, tetanus and pertussis (83%), against measles 1 (89%) and against hepatitis B (82%) were among the lowest in the OECD. More encouragingly, however, influenza vaccination coverage is very comprehensive in Mexico; in 2013 Mexico presented the highest rate of coverage amongst all OECD countries (79%) (see Figure 1.16).

Figure 1.16. Influenza vaccination coverage, population aged 65 and over, 2013 (or nearest year)



Source: OECD Health Statistics 2015, http://dx.doi.org/ 10.1787/health-data-en.

In Mexico, screening for cervical and breast cancer covered below 25% of women aged 50-69, while in most OECD countries more than 50% of this target population are covered (OECD, 2015). Based on reported data, mortality from breast cancer in Mexico is low – at 15.0 deaths per 100 000 women, compared to over 25 OECD-wide – but mortality from cervical cancer is the highest in the OECD, with 10.2 deaths per 100 000 women, compared to the OECD average of 3.5 deaths per 100 000 women. While a dramatic drop in mortality from cervical cancer in Mexico between 2003 and 2013 is observable – the mortality rate fell from 15.8 deaths per 100 000 women – the low rates of cervical screening suggest that there is still real room for improvement.

1.5. Conclusions

Although the health of the Mexican population has improved over recent years, progress has not been as fast as would have been hoped. Life expectancy grew by barely one year between 2000 and 2013, such that the gap in longevity between Mexico and other OECD countries is now higher today than it was a decade ago. Health and prosperity continue to be unequally distributed, with people in southern states, women, children and indigenous groups suffering from noticeably poorer outcomes. A particular concern are rapidly rising rates of obesity, bringing in their wake potentially devastating and costly diseases such as diabetes. In addition, a large proportion of the population continue to be informally employed, where social safety nets are less well developed. To meet this challenging constellation of circumstances, Mexico needs a health system that is responsive to people’s changing needs, capable of offering continuous, personalised care, proactive and preventive in orientation as well as being cost-effective and sustainable.

Despite ambitious reforms to extend health insurance and health care provision, Mexico’s health system is not meeting needs as well as it should. Sizeable investment in the publicly funded part of the health system has not always translated into better health outcomes. Spending is inefficient and there is low accountability in state´s health spending.

Part of this is due to the highly fragmented nature of the Mexican system; some broadly successful reforms sit alongside enduring inefficiencies, most significantly the split of the health system – financing, organisation, commissioning, delivery – into multiple vertical sub-systems, with little integration between them. Lack of robust and transparent performance management frameworks is another systemic weakness. Across the publicly funded and social security insurance schemes access is uneven, quality is uncertain and financial sustainability is under threat. A key indicator of the weakness of current arrangements is the fact that individuals continue to pay out-of-pocket for much of their health care. This may represent a significant problem of access; more deprived socioeconomic groups, and more deprived states, can be expected to have access only to much more limited services. Relatively little, though, is known about health care quality and outcomes in Mexico, significantly obscuring a full picture of health system performance. Given the real problems in Mexico with fragmentation of services, and different levels of access, the lack of comparability across sub-systems is a particular problem, even if efforts to develop comparable indicators are underway.

Comprehensive, far-reaching reforms to the health system will be needed if Mexico is to deal with its growing burden of age- and lifestyle-related disease in an effective, fair and sustainable manner. The next four chapters set out in detail where change is needed and how it can be achieved. This close analysis, and recommendations, begins in the following chapter on strengthening health system governance. This looks at how the current health care arrangements in Mexico are failing to meet people's health care needs, and the obstacles that have impeded many of the previous public service reforms.

Note

1. Data include public and private sectors.

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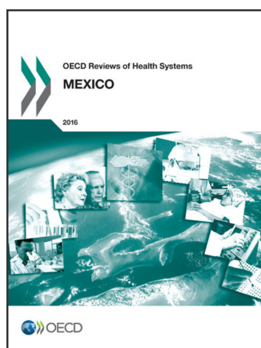

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