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Universal Health Coverage for Inclusive and Sustainable Development

Country Summary Report for Peru

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Acronyms

CRONICAS	Center of Excellence in Chronic Diseases (Centro de Excelencia en Enfermedades Crónicas).
DISA	Ministry of Health Directorate for Lima (Dirección de Salud)
DIRESA	Regional Health Directorates (Direcciones Regionales de Salud)
ENAHO	National Household Survey
ENDES	Demographic and Health Survey (Encuesta Demográfica y de Salud Familiar)
EPS	Accredited Private Health Service Providers (empresas proveedores de servicios)
EsSalud	Social Security Health Insurance Institution
FFAA	Army, Air Force, and Navy Health Funds (Fuerzas Armadas)
FFPP	Police health funds (Fuerzas Policiales)
FISSAL	Intangible Health Solidarity Fund (Fondo Intangible Solidario de Salud)
GDP	Gross Domestic Product
GNI	Gross National Income
HRH	Human Resources for Health
ICD-10	International Classification of Diseases, Version 10
INEI	National Institute of Statistics and Informatics (Instituto Instituto Nacional de Estadística e Informática)
MDG	Millennium Development Goals
MEF	Ministry of Economy and Finance
NGO	Non-governmental organization
MINSA	Ministry of Health (Ministerio de Salud)
MINTRA	Ministry of Labor (Ministerio de Trabajo)
OOP	Out of pocket health spending
PEAS	Essential Plan of Health Insurance
PEN	Peruvian Nuevo Sol
PPP	Purchasing power parity
SIS	Comprehensive Health Insurance Scheme (Seguro Integral de Salud)
SUNASA	National Superintendence of Health (Superintendencia Nacional de Salud)
THE	Total Health Expenditure
UHC	Universal Health Coverage
WDI	World Development Indicators

Preface

In 2011, Japan celebrated the 50th anniversary of achieving universal health coverage (UHC). To mark the occasion, the government of Japan and the World Bank conceived the idea of undertaking a multicountry study to respond to this growing demand by sharing rich and varied country experiences from countries at different stages of adopting and implementing strategies for UHC, including Japan itself. This led to the formation of a joint Japan–World Bank research team under The Japan–World Bank Partnership Program for Universal Health Coverage. The Program was set up as a two-year multicountry study to help fill the gap in knowledge about the policy decisions and implementation processes that countries undertake when they adopt the UHC goals. The Program was funded through the generous support of the government of Japan.

This Country Summary Report on Peru is one of the 11 country studies on UHC that was commissioned under the Japan–World Bank Partnership Program. The other participating countries are Bangladesh, Brazil, Ethiopia, France, Ghana, Indonesia, Japan, Thailand, Turkey, and Vietnam. A synthesis of these country reports is in the publication "Universal Health Coverage for Inclusive and Sustainable Development: A Synthesis of 11 Country Case Studies," available at:

http://www.worldbank.org/en/topic/health/brief/uhc-japan.

These reports are intended to provide an overview of the country experiences and some key lessons that may be shared with other countries aspiring to adopt, achieve, and sustain UHC. The goals of UHC are to ensure that all people can access quality health services, to safeguard all people from public health risks, and to protect all people from impoverishment due to illness, whether from out-of-pocket payments or loss of income when a household member falls sick. Although the path to UHC is specific to each country, it is hoped that countries can benefit from the experiences of others in learning about different approaches and avoiding potential risks.

Acknowledgments

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The Program was led by a team comprising Akiko Maeda, Lead Health Specialist and Task Team Leader for the World Bank, and co-Team Leaders, Professor Naoki Ikegami, Department of Health Policy and Management, Keio University School of Medicine and Professor Michael Reich, Taro Takemi Professor of International Health Policy, Harvard School of Public Health.

This Country Summary Report was prepared by a World Bank team comprising Christel Vermeersch, Andre C. Medici, and Rory Narvaez. The summary draws on background reports that were prepared by Edmundo Beteta, Alberto Barrenechea, Janice Seinfeld, and Michelle Jimenez and the CRONICAS team at Universidad Cayetano Heredia. The authors would like to acknowledge the comments and guidance received from Joana Godinho, Health Sector Manager for Latin American and the Caribbean Region, World Bank Group.

The report was edited by Jonathan Aspin.

Country Summary Report for Peru

Overview

Peru is an upper middle-income country that has experienced fast economic growth (average of 6.9% per year from 2004 to 2013, according World Developing Indicators, WDI) combined with a reduction in poverty and inequality over the past decade. Economic growth was led by exports and domestic demand, generating an increase in private investment, attracting foreign capital, and strengthening public finances. The population living in poverty and extreme poverty fell from 58.7 percent and 16.4 percent in 2004 to 25.8 percent and 6 percent in 2012, respectively (INEI 2014a). Inequality has also decreased, with the Gini index declining from 0.503 in 2004 to 0.48.1 in 2010 (WDI).

Table 1. Data overview

Population	30.38 million (2013)
Gross domestic product (GDP)	357.7 billion (purchasing power parity (PPP), current international $, 2013)
GDP per capita in PPP	11,775 (PPP, current international $, 2013)
Total health expenditure (THE) as a share of GDP	5.07% (2012)
THE per capita	554 (PPP, constant 2005 international $, 2012)
Out-of-pocket health spending as % of THE	35.72% (2012)
Public expenditure ratio of THE	58.92% (2012)
Life expectancy at birth	74.52 years (2012)
Physicians per 1,000 population	1.13 (2012)
Nurses per 1,000 population	1.51 (2012)
Hospital beds per 1,000 population	1.5 (2012)

Source: WDI 2014, .

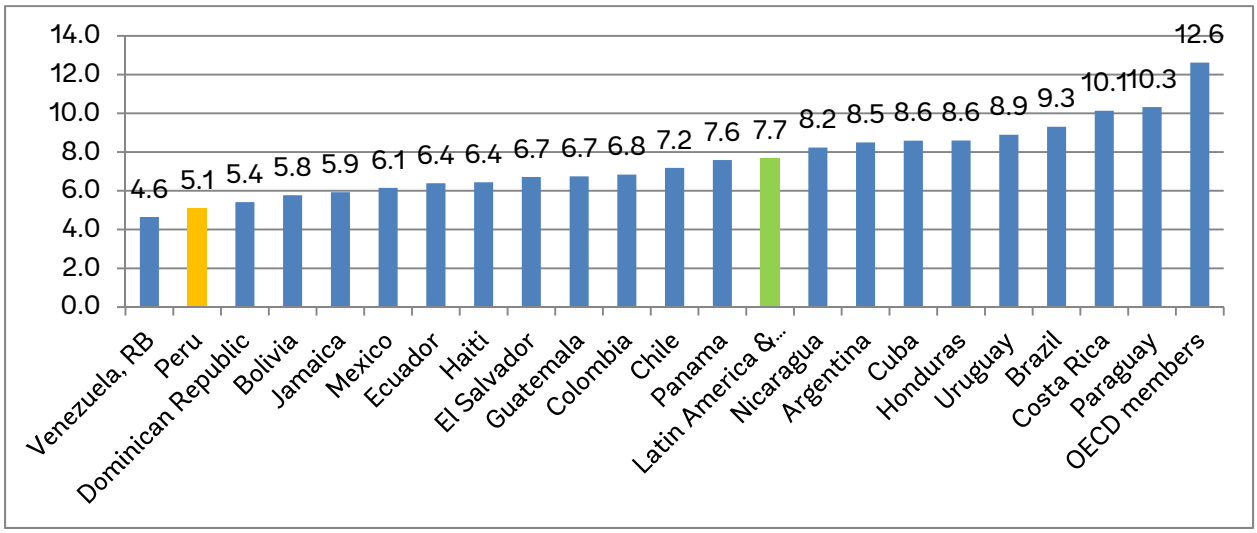
In the past two decades, Peru has made excellent progress on its health indicators. For example, with chronic malnutrition, the proportion of stunted children under five fell from 36.5 percent in 1992 to 13.1 percent in 2013. The achievements in the reduction of this indicator at national, urban, and rural levels have already surpassed the Millennium Development Goal set for 2015. Peru has also achieved the 2015 goal to reduce the infant mortality rate by two-thirds between

1990 and 2015: in 2013, the national rate was 17 deaths per 1,000 live births, down from 55 in 1992. Finally, Peru has made important progress in reducing the maternal mortality ratio in the last 20 years, cutting it from 265 per 100,000 live births in 1990–96 to 93 in 2004–10. But there is still a gap of 27 to reach the 66 maternal deaths per 100,000 live births committed to by 2015 (INEI 2014a; INEI 2014b).

At the same time, Peru is also experiencing a substantial shift in the burden of disease: between 1990 and 2010, the share communicable, maternal, neonatal, and nutritional disorders in the burden of disease (DALYs) dropped from 54 percent to 28 percent, while the weight of noncommunicable diseases increased from 37 percent to 62 percent. (IHME 2014)

Yet Peru has one of the lowest total health expenditure (THE) as a share of GDP in Latin America: in 2012, it was 5.1 percent, versus the regional average of 7.7 percent. (WHI 2014) (Figure 1) Increases in health spending are barely keeping up with economic growth rates, widening the gaps in supply dimensions such as infrastructure, equipment, and human resources—Peru is one of the few countries in Latin America with a critical health workforce shortage.

Figure 1. THE as share (percent) of GDP (2012)



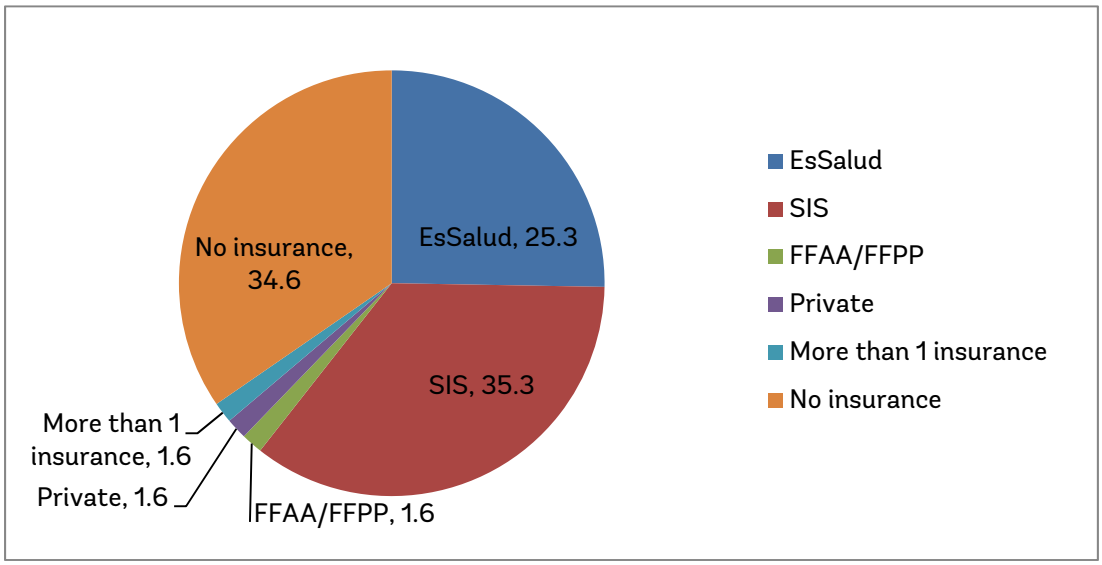
Source: WDI 2014[1]; authors' elaboration.

Despite some efforts to integrate the health sector supply side in Peru, it continues to be fragmented and segmented between various subsectors of the public sector and the private sector. On the supply side, the public health sector includes the Ministry of Health (Ministerio de Salud—MINSA) and its three health directorates in Metropolitan Lima (Direcciones de Salud—DISAs) and specialized institutes; the regional governments and their regional health directorates (Direcciones Regionales de Salud—DIRESAs); EsSalud, the social security health insurance institution under the Ministry of Labor (Ministerio de Trabajo—MINTRA); and the police, army, air force, and navy health funds (Fuerzas Armadas—FFAA and Fuerzas Policiales—FFPP). The private health sector includes private providers and insurance companies, nonprofit

[1] Date of access: May 6, 2014

entities, private medical doctors and other health professionals providing health services, as well as suppliers of traditional or indigenous medicine. On the demand side, the public health sector includes the Comprehensive Health Insurance Scheme (Seguro Integral de Salud—SIS), EsSalud, the FFAA and FFPP coverage programs, and various private insurance programs. Figure 2 presents the percentage of population affiliated to each of those types of insurance programs, estimated using the National Household Survey (Encuesta Nacional de Hogares—ENAHO).[2]

Figure 2. Health coverage programs in 2013, percentage of population affiliated



Source: ENAHO 2013; authors' calculations.

Part I. Universal coverage—status and sequencing

A. Oerview of current status

1. Legal and Statutory Basis of Universal Health Coverage (UHC)

Since the late 1990s, five important milestones have defined the expansion of health coverage in Peru: the creation of EsSalud in 1999; the creation of SIS in 2002; the regionalization of public health services provision, initiated in 2003; the introduction of the semi-contributory regime in 2007; and the legislation instituting universal health insurance in 2009 (Figure 3).

In 1999, EsSalud, the social security health insurance institution, was created in an effort to consolidate and expand contributory health insurance. In practice, it provides health insurance for formal employees and their families and is financed by payroll contributions. EsSalud provides most of its health services through its own network of facilities, including primary,

[2] Estimates using administrative records from MINSA and EsSalud show higher levels of coverage than the ENAHO (see, for example, CNS 2013).

secondary, and tertiary care. Formal employees have the right to complement EsSalud services, by channeling a fraction of their contributions to accredited private health service providers (*empresas proveedores de servicios*—EPS). In practice, EPS facilities focus on primary care while EsSalud facilities provide mainly secondary and tertiary level care. EsSalud also covers specific categories of workers such as rural workers, domestic employees, fishermen, etc.), most of them related with small business, on a semi-contributory basis: while formal sector workers contribute 9% of payroll to EsSalud, workers in the semi-contributory category only contribute 3% of payroll.

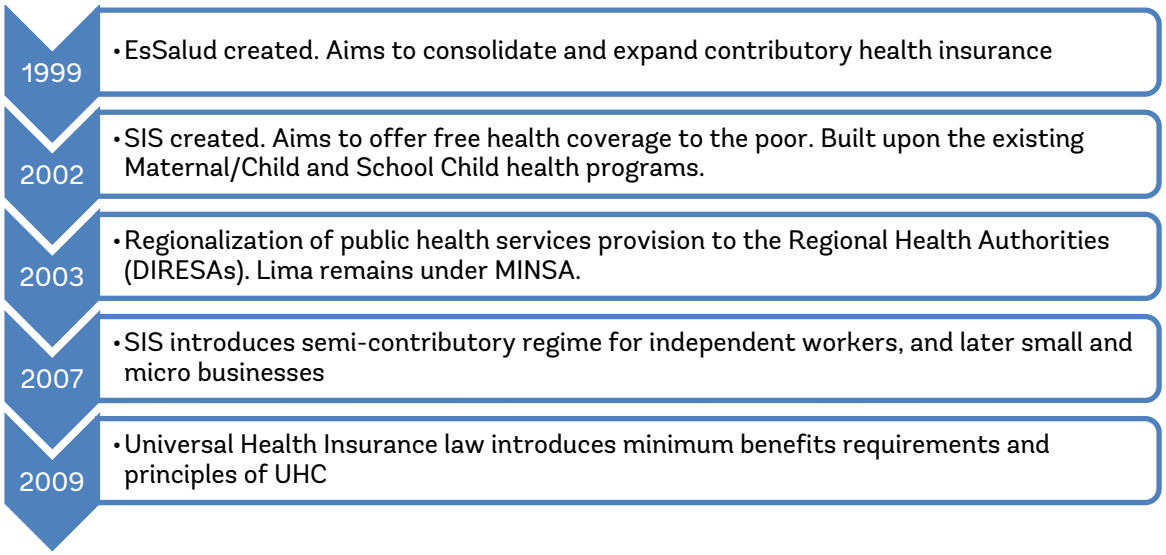
In 2002, SIS was created to ensure access to health services for workers in the informal sector and the poor. It was initially created by merging the Mother and Child Insurance program and the Free School Insurance program (Law 27675). As the public health insurance institution, SIS is indirectly subordinated to MINSA, but it is self-managed and financed by public treasury funds. Health services to SIS affiliates are provided by public health service providers. Also in 2002, Peru embarked upon a process of decentralization that included administrative, economic, productive, financial, tax-related, and fiscal functions.[3]

In 2003, the Regional Government Law[4] defined a wide range of health-related functions to be transferred to the regional governments, including the organization of the levels of care, the management of public health centers, and the supervision and control of production, commercialization, and distribution of pharmaceuticals. The actual transfer of functions was completed in 2009.[5]

In 2007, SIS introduced a semi-contributory program to incentivize the affiliation of informal workers. Despite the limited results of previous efforts, MINSA believed the enhanced benefit package would attract this segment of the population. The Universal Health Insurance Law of 2009[6] created a regulatory framework to achieve UHC under coordinated institutional efforts between EsSalud, SIS, MINSA, and the regional governments. It grants to the entire population UHC through three basic mechanisms: contributory insurance (via payroll-based contributions and/or private payments); subsidized insurance for the poor (paid with public fiscal funds); and semi-contributory[7] insurance for informal and small-business workers (paid with a combination of private payments and public subsidies). The latter two programs are managed by SIS.

[3] Ley de Bases de Descentralización, Ley 27783.
[4] Ley Orgánica de Gobiernos Regionales, Ley 27867.
[5] See website http://app3.minsa.gob.pe/descentralizacion/index.php?option=com_wrapper&view=wrapper&Itemid=445 for a list of ministerial resolutions confirming the transfer of functions to each regional government.
[6] Law 29344.
[7] The semi-contributory program was modified and streamlined in 2013 under the New Simplified Single System (Nuevo Registro Unico Simplificado—NRUS).

Figure 3. Milestones to UHC

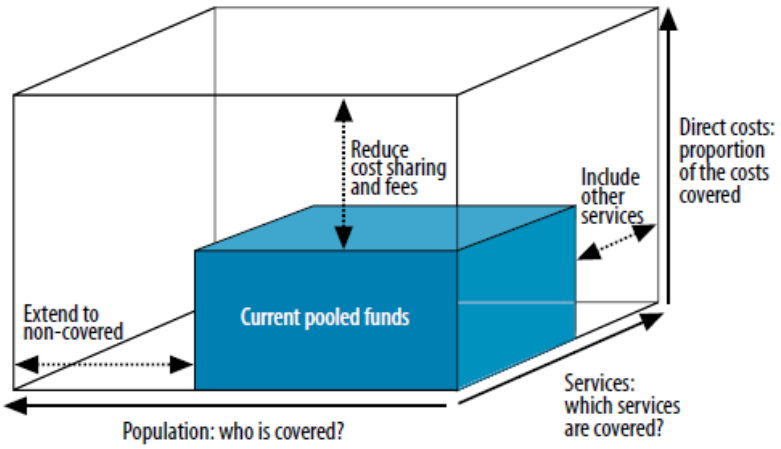


Source: Figure elaborated on the basis of the "Health Financing Profile—Peru," World Bank (2013b).

2. Current Status of UHC

UHC involves progress along and trade-offs between three dimensions of coverage: the proportion of the population to be covered; the range of services to be made available; and the proportion of the total costs to be met (WHO 2010). Figure 4 depicts a hypothetical situation where about half the population is covered for half the possible services, but where less than half of the cost of these services is met from pooled funds. In this section of the report, we examine the current situation of health coverage along the three dimensions of UHC.

Figure 4. Three dimensions of UHC



Source: WHO (2010).

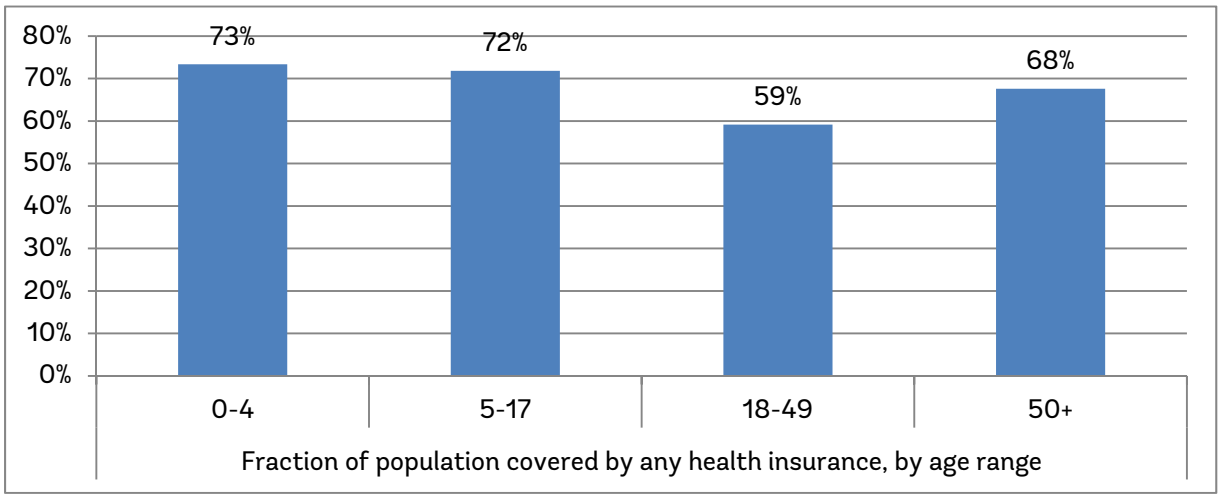
a. Who is covered?

Affiliation to health insurance programs has increased sharply in the last decade. According to the ENAHO surveys, 65 percent of the population was affiliated to some health insurance program in 2013, up from 53 percent in 2008. Health insurance affiliation is higher among the extremely poor and poor than among the nonpoor. A drop in 2012 in insurance appears to be because SIS started requiring identification documents to formally affiliate people. In addition, a number of changes in the targeting information of the Household Targeting System (Sistema de Focalización de Hogares—SISFOH) led to exclusion of previously eligible populations from SIS, though this was subsequently reversed (SIS 2013b).

In 2013, 25.3 percent of population was affiliated to EsSalud, and 35.3 percent to SIS; the private sector programs cover a small share of the population (less than 4 percent) (Figure 2). Affiliation rates to EsSalud increased gradually as the economy grew and more population was incorporated into the formal sector; however, it is the introduction of SIS that accounts for the largest share in the increase in coverage in the last decade. The International Labour Organization (ILO) estimates that if economic growth continues steadily, EsSalud coverage will naturally increase to 40 percent of the population (ILO 2012).

Given the past SIS emphasis on covering maternal and child health needs, health insurance enrollment rates vary by age. The population age 18–49 has a lower coverage rate (about 59 percent) than children and teenagers (about 72 percent) (Figure 5). With the epidemiological and demographic transition, this poses a risk to future adult and elderly coverage, given that their proportions will increase, creating pressures to cover risks associated with noncommunicable diseases, which demands more investment and financing for early health promotion, disease prevention, and treatment.

Figure 5. Health insurance coverage rate by age group, 2013

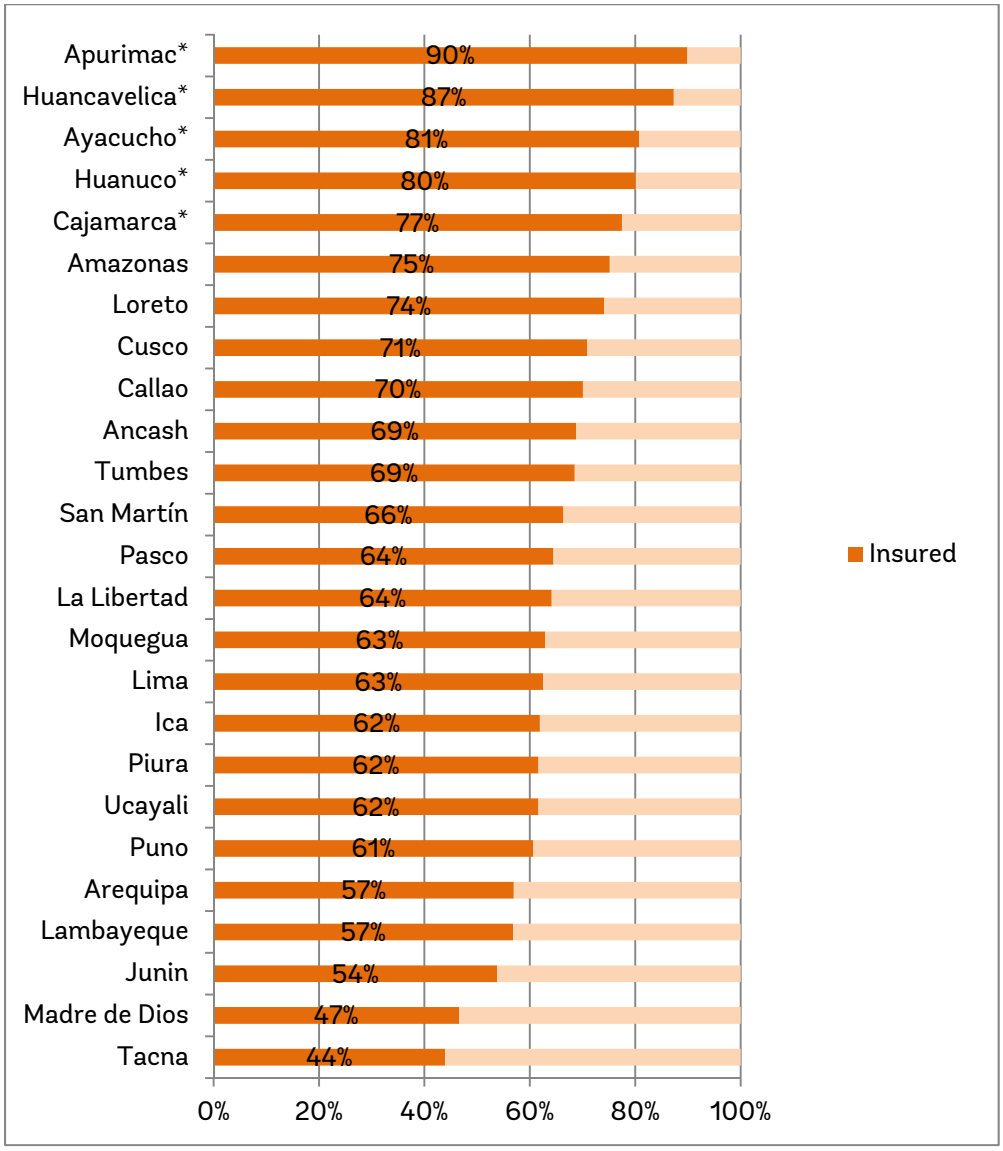


Source: ENAHO 2013; authors' elaboration.

Peru also has significant regional disparities among the insured and noninsured population, in that poorer regions tend to have a higher share of the population enrolled in health insurance

(Figure 6). This reflects the success of SIS in increasing the share of poor who have health insurance, since the five poorest regions also have the highest share of population enrolled.[8]

Figure 6. Share of population insured by region, 2013



Source: ENAHO 2013; authors' elaboration.
* The five poorest regions according to INEI 2014a.

After a very large increase in population coverage between 2004 and 2010, coverage has progressed more slowly. This can be partly explained by the difficulty in extending coverage to workers in the informal sector who are ineligible for coverage by EsSalud or the subsidized SIS

[8] Recently, the targeting approach has shifted somewhat toward being insurance for the vulnerable populations rather than insurance for the poor. However, this concept needs to be further clarified.

program, and in theory should affiliate to the semi-contributory program offered by SIS. In addition, younger, lower risk population in the Lima metropolitan area seem to be reluctant at affiliating to a health insurance program. In practice, the semi-contributory program has attracted very few people since its creation in 2007—in December 2011 only 0.025 percent of SIS beneficiaries belonged to the semi-contributory program (MINSA 2013).

b. Which services are covered?

Health services are delivered according to benefit packages that varies by health insurance agency. The packages differ on health conditions covered, financial protection, and delivery mechanisms. EsSalud's benefits package is comprehensive, with few exclusions. It includes preventive and promotional services, and wide-scope acute care and rehabilitative services, and a package of social and economic benefits including maternal and breastfeeding subsidies, and compensation for temporary disabilities.

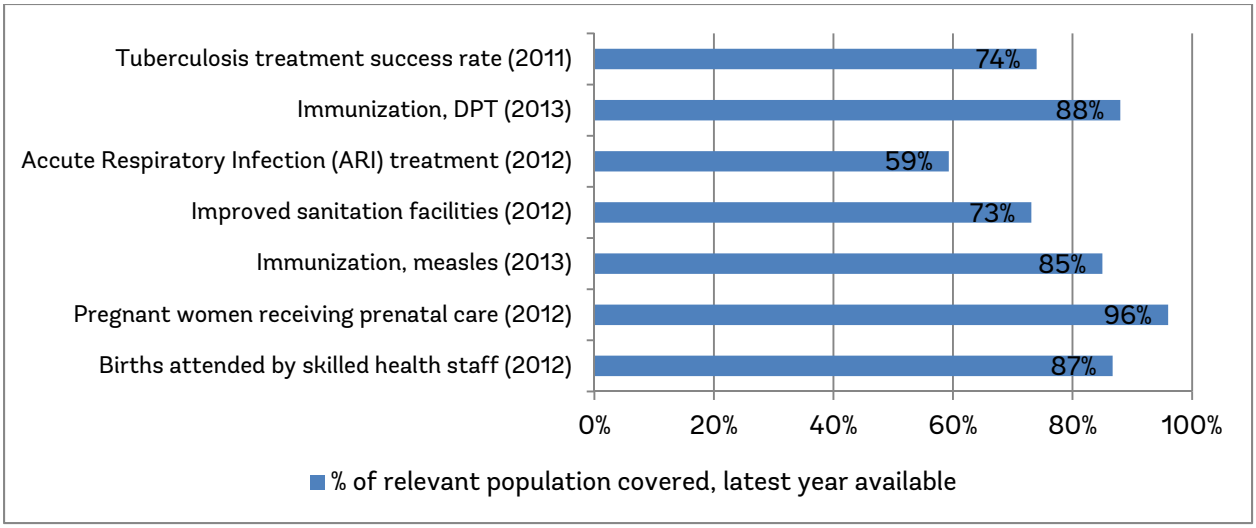
The SIS benefits package has evolved a lot since 2002. Initially, it focused on health prevention, treatment, and rehabilitation for children under 18 years and maternity (including prenatal care, delivery, and postnatal care). Since then, coverage of services has increased substantially and is defined in the Essential Plan of Health Insurance (PEAS). This public basic package is based on 1,100 diagnoses coded in the International Classification of Diseases (ICD-10), whose health benefits of care and rehabilitation meet 140 health insurable conditions. It also includes 44 explicit guarantees of timeliness and quality. The PEAS was designed to meet 65 percent of the causes of morbidity, as opposed to the 20 percent that covered the initial package of benefits (List of Prioritized Health Interventions). The PEAS also has a negative list of excluded procedures, which has also seen changes in the last few years. In April 2012, the government created the Intangible Health Solidarity Fund (Fondo Intangible Solidario de Salud-FISSAL) and tasked it with managing an approved plan that includes seven high-cost cancer-related pathologies and corresponding procedures[9], kidney diseases treatment (such as kidney transplants and hemodialysis) and rare and orphan diseases (such as Von Willebrand disease, Kocher syndrome, Pendred syndrome and others).

Despite the relatively comprehensive coverage of services defined under the various benefits packages, access to health services is still a challenge. And although the EsSalud package includes nearly unlimited coverage in terms of curative care, supply is unable to respond to the increasing demand for complex health care services, including care for catastrophic illnesses, and waiting times are long. On the SIS side, while the benefits package now includes a wide range of services, actual availability of services, especially in poor rural areas, is a continuing obstacle. In the last few decades, the public and social security health systems have not invested enough in hospital infrastructure or ambulatory facilities, especially in poor areas. In 2012, MINSA prioritized a set of 748 health centers that will receive investments in infrastructure through a joint effort between MINSA (through the Support to the Health Reform Project)[10] and the regional governments.

[9] Cervical cancer, breast cancer, colon cancer, stomach cancer, prostate cancer, leukemia, and lymphomas.
[10] The Health Reform Project (Proyecto de Apoyo a la Reforma de Salud—PARSALUD) is financed by the Government, the World Bank and the Inter-American Development Bank.

Notwithstanding these challenges, access to maternal and child health services has generally improved in the last decade. Immunization rates for DPT and measles are above 85 percent; 96 percent of pregnant women receive prenatal care; and 87 percent of births are attended by skilled health staff (Figure 7).

Figure 7. Utilization rates for maternal and child health services

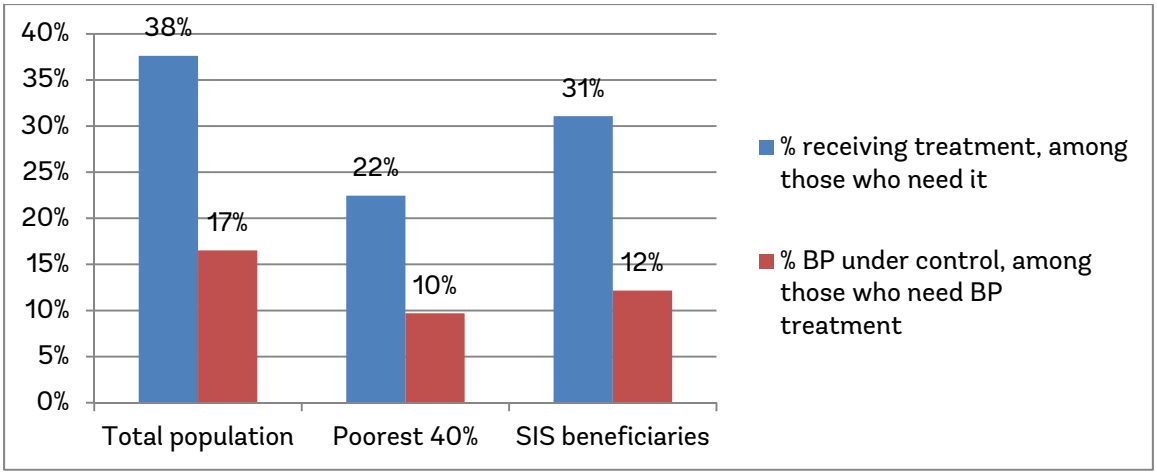


Source: WDI 2014, authors' elaboration.

Peru's burden of disease has shifted toward noncommunicable diseases and therefore it is also important to look at access to services related to those conditions. The 2012 Demographic and Health Survey includes some information on coverage of services related to chronic conditions and injuries. In particular, it measured the incidence of high blood pressure among adults 40 and over. Figure 8 shows that among each 100 adults who needed blood pressure treatment,[11] 38 received treatment and 17 had normal blood pressure levels as a result of treatment. Among the poorest 40 percent, 22 of each 100 population needing treatment receive it and 10 have normal blood pressure levels. The numbers for SIS affiliates are in between. On treatment of injuries, the survey indicates that 36 out of each 100 adults who suffered an injury in the past three months received treatment for the injury (Figure 9).

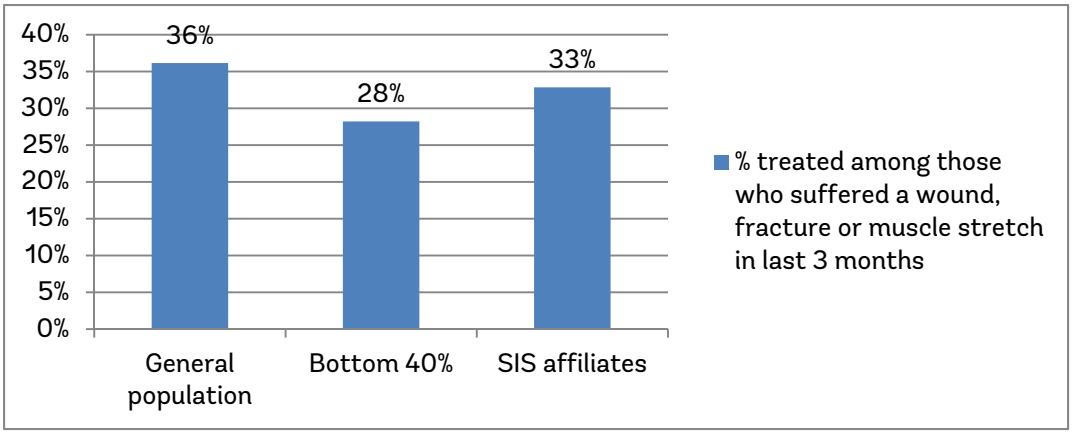
[11] Defined as those with high blood pressure and those currently receiving treatment for it.

Figure 8. Treatment and outcomes among adults who need blood pressure (BP) treatment



Source: ENDES 2012; authors' elaboration

Figure 9. Treatment of injuries

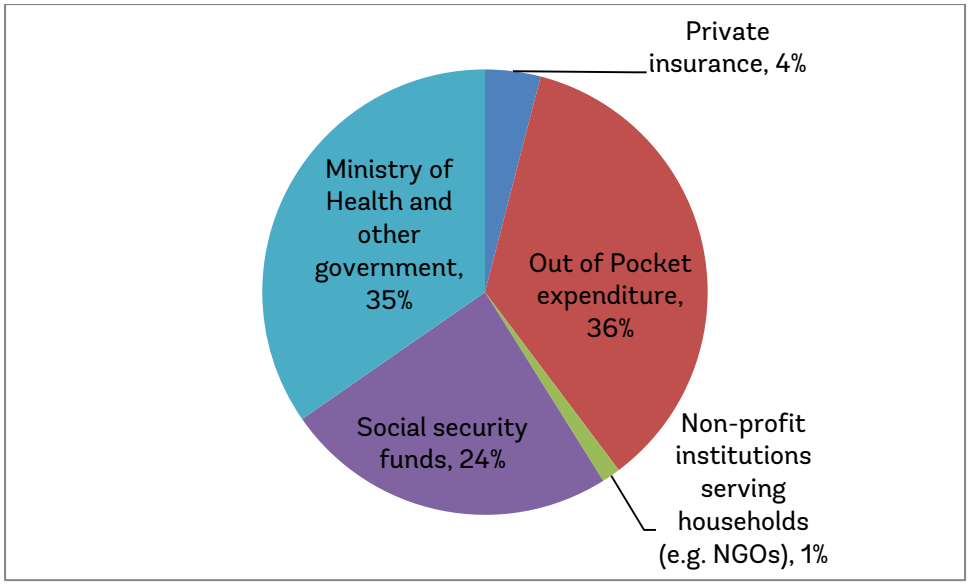


Source: ENDES 2012; authors' elaboration.

c. Financial protection

Despite the growth of affiliation to health insurance programs, out-of-pocket health payments (OOP)—and specifically direct payments to providers—remain the main source of financing in the health sector (Figure 10). OOP consists mainly of expenses incurred for medical care and medication not only by those who are still uninsured but also for those who are insured but have no access due to geographic barriers or supply limitations. In addition, the insured may choose to pay out of pocket if they feel that providers who are covered do not offer the quality or convenience of services that they require.

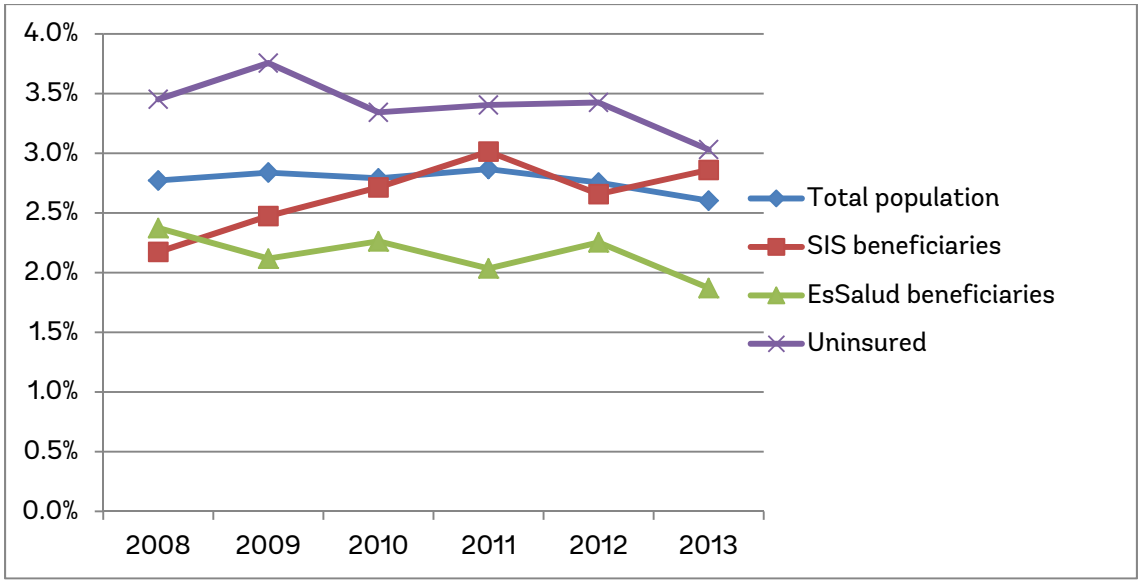
Figure 10. Percentage of health expenditure by financing agent, 2012



Source: WHO Global Health Expenditure Database (2014); authors' elaboration.

Following the WHO and World Bank discussion paper (2013), we measure the extent to which OOP reflects a lack of financial protection for the population by examining whether they lead to impoverishment or catastrophic expenditures. We define OOP as impoverishing if a person's (or household's) total expenditure is above the poverty line, but expenditures net of OOP are below the poverty line (Seinfeld 2013; Sherri et al. 2012) Figure 11 shows that 2.6 percent of the population became poor due to OOP in 2013, and the number is stable over 2008–13. However, there is some evidence that impoverishment actually increased for SIS affiliates between 2008 and 2013 (from 2.2 percent to 2.9 percent)

Figure 11. Percentage of population impoverished due to OOP, 2008–13

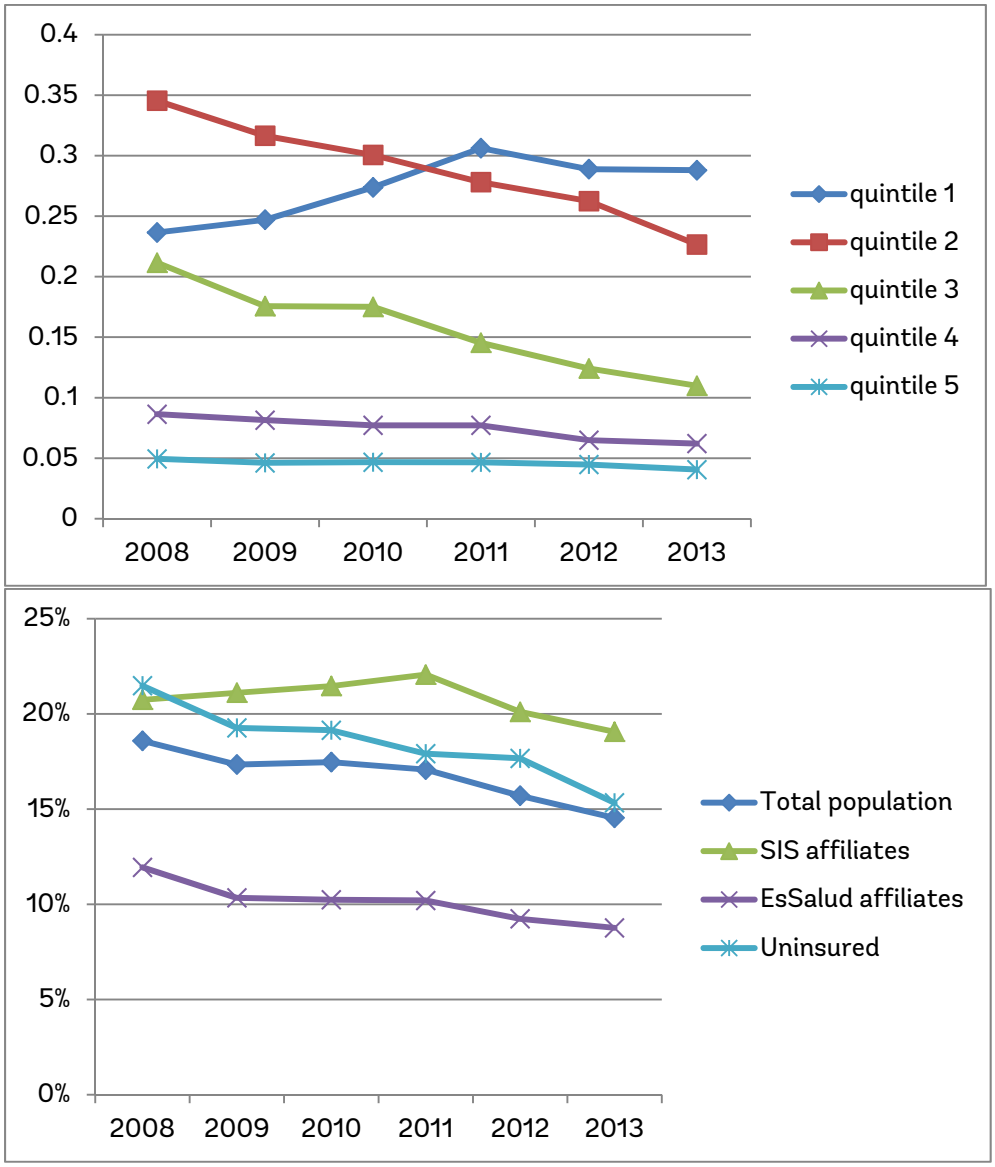


Source: ENAHO 2008-2013; elaboration by authors based on Seinfeld (2013).

The incidence or lack of catastrophic health expenditures (CHE) is another measure of (lack of) financial protection in health, and can be defined in several ways. In this document, we use the following definition: people are said to incur a CHE if their health expenditure is higher than 40 percent of their capacity to pay, which is itself defined as the difference between the total expenditure per household member and the poverty line. We use the poverty line defined by INEI. In this definition, all people living below the poverty line are counted as incurring CHE if they bear any OOP. In Peru, CHE seem to have diminished for the overall population between 2008 and 2013 (Figure 12). However, for the lowest expenditure quintile[12] as well as for SIS beneficiaries, there is no clear downward trend.

[12] We compute expenditure quintiles using per capita total household expenditures.

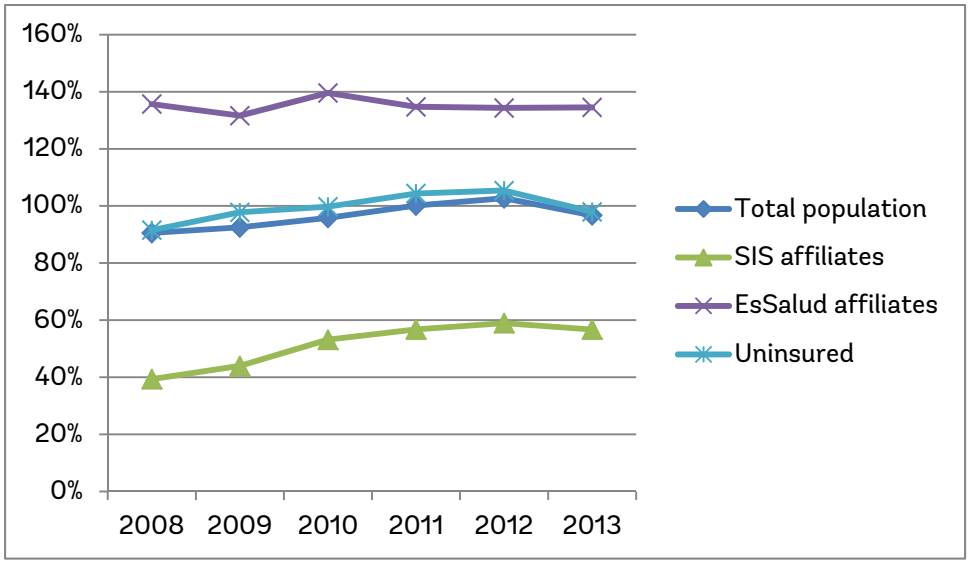
Figure 12. Incidence of CHE higher than 40 percent of capacity-to-pay, by expenditure quintile and insurance status



Source: ENAHO 2008–13; authors' elaboration based on Seinfeld (2013)

Finally, we analyzed the importance of OOP by calculating the average amount of OOP as a proportion of the poverty line (Figure 13). SIS affiliates have experienced larger increases in OOP than the general population: in 2008, SIS affiliates spent on average 39 percent of the poverty line on OOP payments; by 2013, this had increased to 57 percent.

Figure 13. Average OOP payments as a share of the poverty line, selected groups



Source: ENAHO 2008–13; authors' elaboration.

3. Governance Structure: Institutional Arrangements, Decision Making, and Accountability

a. Goal setting

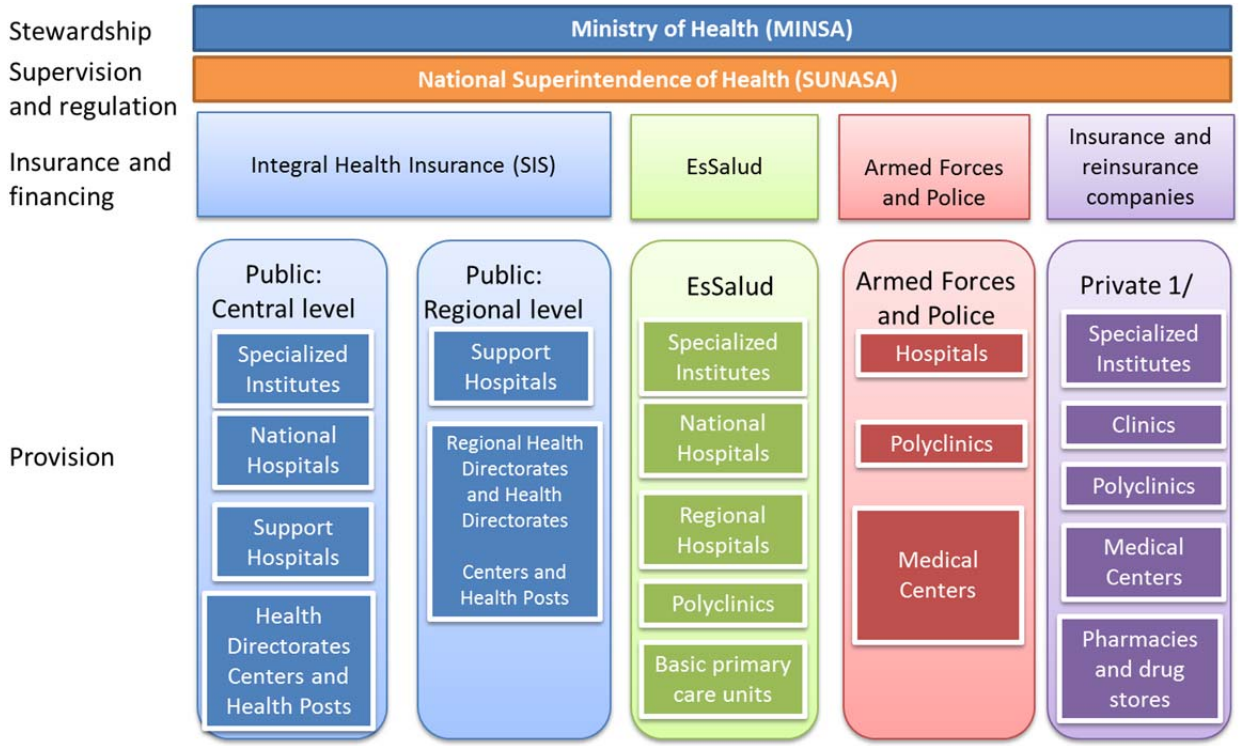
The health sector reform process is a complex process that requires ownership from various stakeholders. MINSA is responsible for taking a leadership role in stewardship of the reform process. In 2012, the president of Peru requested the National Health Council (Consejo Nacional de Salud—CNS) to develop health reform guidelines, with the ultimate goal of ensuring access and quality of health services, and the gradual increase of their scope. The CNS drafted a preliminary document that contains an outline and content for the proposed health sector reform and endorses MINSA's role in leading the reform process (CNS 2013). The Health Reform Guidelines document includes an ambitious program that has the potential to transform the health sector. The planned reform aims to increase the health system's focus on results via health outcomes and health system outputs, complementing the traditional focus on processes and inputs. It also aims to move the system toward results-based management and financing, which of course requires a monitoring and evaluation system. The Health Reform Guidelines document still needs to be complemented with quantifiable goals, and results chains and indicators for each area of the reform.

On December 10, 2013, the Government passed 23 Legislative Decrees and one Supreme Decree in several areas related to the implementation of the Health Reform, including supervision of the health sector, service exchange between insurers and providers, MINSA's organization, SIS's relationship with health care providers, and the management of health service provision in Lima

b. Governance structure

MINSA is in charge of key regulatory, planning, monitoring, and evaluation functions, and finances special health programs such as promotional health campaigns and investments. Regulation, supervision, and sanctions of insurers and providers, public and private, are the responsibility of the National Superintendence of Health (Superintendencia Nacional de Salud—SUSALUD, previously SUNASA[13]) (Figure 14).

Figure 14. Organization of the health sector



Source: Adapted from Seinfeld (2013).
1. Includes institutions like SISOL (a decentralized public organism within the Lima Metropolitan Area) that operates under a public–private partnership.

[13] In December 2013, SUNASA changed its name from National Superintendence of Health Insurance (Superintendencia Nacional de Asseguramiento en Salud) to National Superintendence of Health (Superintendencia Nacional de Salud). In June 2014 the acronym was changed from SUNASA to SUSALUD See webpage http://app3.susalud.gob.pe/index.aspx

c. Service delivery structure

The provision of services is almost completely separated between the public system (the EsSalud network) and the private sector providers.

Public providers attend SIS affiliates as well as the non-insured who pay out of pocket. They include MINSA establishments in the Lima Metropolitan Area as well as regional providers outside Lima. The provision of health care services in the regions is managed by the DIRESAs of the regional governments, which are politically and administratively autonomous. DIRESAs are responsible for providing primary, secondary, and most tertiary health care services. In the Lima Metropolitan Area, most of the hospitals belong to MINSA,[14] while the public hospitals and health facilities in the regions have been mostly transferred from MINSA to the regional governments or recently built to improve health supply and to meet increasing demand from the SIS-affiliated population.

For formal workers, EsSalud provides health services by managing its own health units or purchasing services from private hospitals, ambulatory care facilities, and other health facilities. The EsSalud network of services includes 379 health facilities, 64 of which are in Lima and Callao, the rest in the regions, mainly in the capitals (SUNASA 2013). EsSalud's insured population face a restricted supply of services characterized by long waiting lines, delayed appointments, poor quality of treatment, and incomplete drug delivery (Petrera and Seinfeld 2007; Seinfeld 2013).

While SIS still mostly finances services for its affiliates through regional and MINSA networks of providers, the market for health care services has evolved in its coverage, quality, and pricing. The increase in disposable income and expansion of private health services in primary care, pharmaceuticals, and diagnostics increasingly means that even poor SIS affiliates may have the option of using private providers, especially in urban areas. This is then associated with an increase in OOP in health. The experiences with private investments in the northern and southern districts in Lima, the expanding networks of pharmacies with on-site health services, and the experience of SISOL in Lima are just a few examples of market response to the low capacity of the public sector to deliver services in urban areas (World Bank 2013b).

[14] In December 2013, Legislative decree 1167 created the Institute for Management of Health Services, which will assume the functions of managing, operating, and coordinating health services previously managed directly by MINSA. The Institute is an autonomous entity attached to MINSA.

Service exchange agreements were established among SIS, regional governments, and EsSalud. In 2012, SIS, the regional governments, and EsSalud started entering into service exchange agreements. Under them, patients affiliated to SIS in the regions became eligible for medium- and high-complexity services (such as MRI, mammographies, ultrasound, endoscopies, and surgery) in EsSalud facilities, while EsSalud patients became eligible for primary care from regional government facilities where EsSalud has no supply of services. The exchange agreements make functional sense given that the supply of services by regional governments is concentrated in the first and second level of care, while EsSalud services are focused on medium- and high-level complexity, with limited attention to primary care services. The service exchange agreements offer an opportunity to integrate the networks of health facilities in the first level of care, and to work toward resolving the lack of standardization of processes and care evident across facilities belonging to different networks.

In the initial phase of implementation, challenges arose on the insurance/administrative side and on the patient care side from structural differences between the two institutions and from the design and content of the agreements (Barrenechea 2014). On the administrative side, the rules governing the insurance programs vary greatly between SIS and EsSalud. For example, SIS has a universal approach in the sense that its affiliates can be attended in any regional government facility while EsSalud beneficiaries can only receive services from regional government facilities if they are registered as residents of the area. EsSalud also excludes treatment of some pre-existing conditions and requires waiting periods for certain types of care including maternity, unlike SIS. SIS in contrast tries to influence the behavior of health care providers through agreements with the regions and through performance indicators, which bear no relation to the EsSalud requirements.

On the structural side, challenges included differences in clinical guidelines between EsSalud and regional government facilities, lack of personnel to attend to patients, differences in the salary scales and professional careers, outdated medical equipment, lack of maintenance of infrastructure, lack of standardization of patient care and management, and difference in the focus of care (curative care focus in EsSalud versus preventive care focus in regional government establishments).

Generally, human resources in SIS, EsSalud, and regional governments seem poorly prepared to handle the new way of working associated with the service exchanges—in particular, capacities to handle insurance, management of risks, medical auditing, clinical management, planning, and financial management are limited.

Information systems used by both institutions are unable to communicate because they do not have a common protocol or data dictionary. Thus none of the regional governments has managed to bill EsSalud for the care provided to EsSalud beneficiaries, and so payments have been only one-sided from SIS to EsSalud. Finally, the actual number of services that have been exchanged is very low, evidence that operational issues are impeding patients from making much use of the agreements.

B. Current status of health financing

In absolute terms, Total Health Expenditures in Peru increased more than fourfold between 2000 and 2012, although as a share of GDP it remained stagnant (Table 2).

Table 2. Health finance indicators

	1995	2000	2005	2010	2011	2012
Population (thousands)	23,939	26,000	27,723	29,263	29,615	29,988
THE (current $, million)	2,402	2,504	3,541	7,506	8,377	10,115
THE (% of GDP)	4.5	4.7	4.5	4.9	4.7	5.1
THE per capita at exchange rate	100	96	128	257	283	337
General government expenditure on health (% of THE)	54	59	59	56	57	59
OOP as % of THE	38	34	32	37	38	36
Private insurance as % of THE	5	6	7	5	4	4
External resources as % of THE	1	1	3	2	1	1

Source: WHO Global Health Expenditure Database (2014).

Peru now has one of the lowest THE as a share of GDP in Latin America: in 2012, it was 5.1 percent, versus the regional average of 7.7 percent (WDI 2014 and WHO 2014). General government expenditure on health stayed relatively low (below 60 percent of THE) and include expenditures by SIS, EsSalud, regional health authorities, and vertical health programs. Despite the increases in affiliation to EsSalud and SIS, OOP still make up a significant portion of THE and were nearly as high in 2012 as in 1995.

a. Fiscal space and sustainability[15]

Fiscal space in health[16] refers to the capacity of the government to increase spending for the health sector, without jeopardizing the government's long-term solvency or crowding out expenditure in other sectors (Tandon and Cashin 2010). The literature identifies five pillars to generate fiscal space for health: (i) conducive macroeconomic conditions, mainly GDP growth and tax revenue; (ii) reprioritization of health within the government budget; (iii) earmarked taxes for health; (iv) external grants for health; and (v) efficiency improvements in the health sector (Powell, Hanson, and McIntyre 2012). USAID (2011b) analyzes Peru's fiscal space for health, concluding that there are possibilities to generate revenues to close the financial gap in the health sector, mainly through pillars (i), (ii), and (v). Peruvian tax law prohibits earmarked taxes for any sector.[17] External grants for health have been limited. In fact, less than 2 percent of the country's THE is financed by external grants.

The government is executing measures to broaden the tax base permanently, including promoting formalization, which is vital for health fiscal space, because not only does it increase the tax revenue but also increases affiliates to EsSalud; combating high tax evasion (35 percent for the value-added tax and more than 50 percent for income tax); increasing efforts to recover

[15] This section draws heavily on Seinfeld (2013).
[16] Health-sector specific fiscal space assessments are needed due to the lack of adequate and sustained levels of resources to achieve health outcomes (Tandon and Cashin 2010).
[17] Even when it is not exactly an earmarked tax for health sector, the establishment of free affiliation to the semi-contributory regime for those affiliated to the NRUS is a way to generate fiscal space for the health sector through increases in tax revenues.

tax debts; and rationalizing tax exemptions and benefits. These measures, combined with the political will to prioritize health, are important for increasing the health fiscal space.

Computations of how much would need to be invested to offer a universal package of health services are complicated by the fact that the per capita cost of the benefits package (PEAS, complementary plan, or catastrophic plan) has not been determined on the basis of actuarial cost studies. Seinfeld (2013) projects that government expenditure on health would fluctuate between PEN 22,582 and PEN 27,557 million in 2020, or equivalent to about 2.7 percent of GDP. On average, estimated government health expenditure growth will fluctuate between 10.4 percent and 13.6 percent a year over 2014–20, depending on the scenario, while between PEN 1,600 million and PEN 2,300 million would be added to government health expenditures each year until 2020. Yet Peru still has 2.7 million poor people without health insurance—using an estimate of PEN 342 per capita cost for the benefits package, this implies that covering the PEAS for the currently uninsured poor and children under 5 would represent 44–64 percent of the projected annual increase in government health expenditures.

In the case of the semi-contributory modality of SIS, the enrolled population finances part of the premium and in theory this could contribute to the sustainability of the insurance system. However, as of 2012 the contribution to the premium was at most PEN 15 per person per month. In addition, as mentioned above, enrollment into the semi-contributory program is negligible compared with the subsidized program.

EsSalud, as well as the FFAA and FFPP public insurance programs, are financed by employers' and employees' contributions. Contributions for the general health plan amount to 9 percent of salaries. According to projections by the ILO (2012), EsSalud expenditures will be PEN 11,121 in 2016 (Table 3)—an increase of 51 percent from 2012. On the growth of GDP projected by the Ministry of Economy and Finances (MEF) (2013), EsSalud expenditure as a share of GDP is set to be 0.2 percentage points higher than in 2012. Given the market orientation of the economy in Peru, it would not be politically feasible to propose an increment in the contribution as a way to increase EsSalud funding in the medium term.

Table 3. ILO projections for EsSalud expenditures (current million PEN), 2010–16

		2010	2011	2012	2013 (p)	2014 (p)	2015 (p)	2016 (p)
ILO projections	EsSalud expenditure	6,246	6,741	7,360	8,104	9,022	10,027	11,121
	Nominal change%		7.93	9.19	10.10	11.33	11.15	10.90
	As percentage of GDP 1/	1.44	1.39	1.40	1.44	1.49	1.54	1.58

Source: ILO (2012).
Notes: (p): projected. 1. Assumes the GDP projected by the Reviewed Multiannual Macroeconomic Framework, 2014–2016 (MEF 2013).

b. Expenditure management[18]

Financing and fund management mechanisms for the public health system are fragmented. The funding function is split between several agencies including MEF, the DIRESAs, and the health facilities and providers who collect OOP. The public health provider networks are mainly

[18] This section draws heavily on Seinfeld (2013).

financed by two sources of revenues: MEF transfers directly to the executing units the payment for human resources and to finance the results-based programs (Presupuesto por Resultados—PpR); and SIS transfers to the regional governments resources to cover the variable costs of services to SIS affiliates (inputs and medical materials, medicines, and infrastructure maintenance). The fragmented approach to health expenditure management presents a major challenge to improving efficiency and accountability in health care financing.

The direct transfers from MEF to the regions that finance human resources have limited accountability mechanisms. For example, the regions do not systematically have to update or make available lists of the human resources they employ, and so it is not possible to compile up-to-date statistics on employment of doctors, nurses, and other medical personnel there, nor can one analyze their distribution.

Pharmaceuticals are another potential area of saving for the health sector. In 2012, spending on medicines represented about 55 percent of OOP in health (ENAHO 2012). In a 2010 study, Cameron and Richard found that for 11 medicines studied, 78.7 percent of current private sector spending could be saved by using generics instead of brand-name medication;[19] the net saving for this limited basket of medicines alone would exceed $2.5 million (in 2008 dollars). Therefore, investments in promoting quality-assured generic medicines appear warranted.

Expenditure management for EsSalud. EsSalud faces challenges in ensuring its sustainability. The first is to use its revenues more efficiently, by improving clinical management programs and focusing on health promotion and prevention to avoid costly hospitalizations. The lack of articulation between levels of care also leads to significant wastage of time and resources as patients are forced to repeat diagnostic tests and procedures because the different levels of care do not have a way to share patient information between them. The current model of care is centered on disease, acute care, and hospital-based treatment, rather than on primary and secondary attention, where evidence shows most health problems (70–75 percent) should be solved.

Second, EsSalud needs to increase its revenues, recovering the debts from subsidized insurance programs, the government, and the private sector. For example, the Agrarian Health Insurance debt of nearly $500 million has been outstanding for many years. In addition, the state and the private sector owe a vast amount to EsSalud ($1,300 million).[20] On various occasions, EsSalud has faced political pressure to include segments of the population with a lower percentage of salary contribution, but for those populations the contribution does not cover the cost of offering the package of services. In addition, EsSalud faces filtration of uninsured people who face a negative health shock and obtain a formal sector job with the sole purpose of obtaining EsSalud health coverage. Yet EsSalud affiliates can opt to use private health service suppliers to cover ambulatory services, and the most complex health care services are still covered by EsSalud. With this, the employer selects the EPS and transfers one-fourth of the premium to the EPS, which is another way to lose revenues.

Expenditure management for SIS. SIS program offers services along the PEAS package of "essential" services. According to Acosta (2008), the annual cost of PEAS, including fixed and

[19] The study mentioned a list of 18 medicines included in the analysis of different countries. However, it does not specify which of these medicines were used in the Peruvian case.
[20] Approximately 63 percent of this corresponds to private sector debt.

variable costs, is about PEN 342 per capita. In addition, SIS offers a complementary plan and covers treatment for the most common cancers, ESRD, and rare or orphan diseases through the Intangible Health Solidarity Fund (Fondo Intangible Solidario de Salud—FISSAL). Although the SIS package of covered services was expanded, this expansion was not based on systematic reviews to ensure their cost-effectiveness, or a study of the cost of the services.[21] In addition, SIS lacks updated information on the epidemiological profile of its affiliates and the projections, even for PEAS (Seinfeld 2013).

The payment mechanism used by SIS to finance health care for its beneficiaries has undergone key changes in recent years.[22] Up to 2011, SIS based its payments to the regions on fee-for-service reimbursements. Starting in 2011, SIS began signing management contracts with regional governments, in which they agreed rights and responsibilities on health service coverage and financing. The first agreement was signed with the Huancavelica region in 2011, and a further four regions in 2012. All other regions signed agreements in 2013.

A key component of the agreements was a change in the payment system for services to SIS affiliates. While the agreements incurred some changes in the pilot phase, starting in 2013 the payment mechanism was capitation for the first and second level of care, with an adjustment for risk based on the Human Development Index. In addition, the agreements include a list of performance indicators that carry a value of 20 percent of the amount set aside for the transfer. In other words, 80 percent of the payments are based on capitation, 20 percent on performance indicators.

A number of issues arose in the initial phase of implementation (Beteta 2014). First, while the agreements establish the amounts to be transferred to the executive units of the regional government, as well as the calendar of payments that depend on the performance indicators, they do not include any rules for how the regional governments or executive units should transfer funds to the health facilities, despite the fact that they establish rights and obligations for those health facilities. The agreements only ensure that the transfer arrives at the executive units and not the health facilities. While SIS resources are intended to be used to finance health benefits for SIS beneficiaries, in practice control mechanisms are such that regional governments could use them for other programs not necessarily associated with SIS.

Second, the major bottlenecks in the flow of funding and incentives are now at regional level. Weaknesses in the organization of the health sector within the regions, and in the financial administration of the executive units' resources, result in delays in management of the budget, procurement, and logistics, and in delayed arrival of resources at health centers.

Third, at central and regional levels, the capitation payment methodology is widely considered an incentive for health centers to affiliate more beneficiaries to SIS. However, there seems to be a breakdown of incentives between the regions and health centers: because there is no clarity in the management agreements on how the resources should be distributed within the region, it appears that health centers continue receiving resources that are either based on fee-for-service or on historical assignation of resources.

[21] Legislative decree 1163 states that SIS financing should be supported by an actuarial study establishing the premium value for funding the package, including the claims costs, the acquisition costs, the administrative costs, and the technical utility. In practice, however, this has not happened.

[22] This section draws heavily on Beteta (2014).

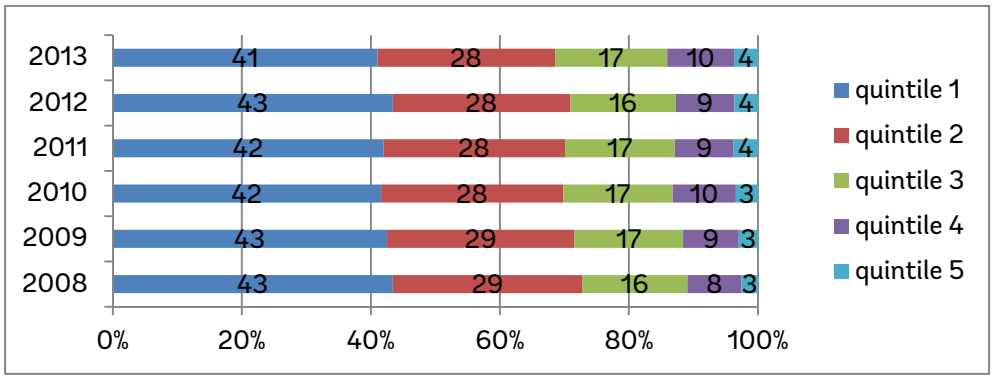
Finally, health centers in rural areas lack the capacity to deliver the services in the package, as they struggle with lack of qualified personnel or high turnover of personnel (or both). The capitation payment does not provide incentives to attract additional personnel to centers where there could be more demand for services, as it only pays for the variable costs of service (medicines and supplies) and not for personnel. While the capitation payment may provide some incentives to increase affiliation to SIS, in practice it only represents a fraction of the funding that is required to provide effective infrastructure and support system to ensure quality services for the SIS beneficiaries; meanwhile, health personnel are funded by MEF and regional governments and are not directly responsive to SIS needs. Thus, the fragmentation of funding mechanisms and governance structure leads to a lack of consistency and coordination of payment system, and complicates the crucial task of effective expenditure management.

c. Assuring equity in health financing

Annual per capita expenditures vary substantially between EsSalud and SIS. EsSalud's top plans are organized by program where the employee can choose a private health promotion company (EPS) to manage the plan. Competition is common to attract enrollees by offering different conditions of service coverage and pricing. The per capita expenditure of an EPS-type plan costs as much as a voluntary health plan (about $600 a year). On the SIS side, annual expenditure is very low. In 2011, SIS spent an average of PEN 40 (about $15) per beneficiary (MINSA 2013). This is lower than the estimated cost of the PEAS ($124 per year), though SIS transfers only cover the variable costs of services.

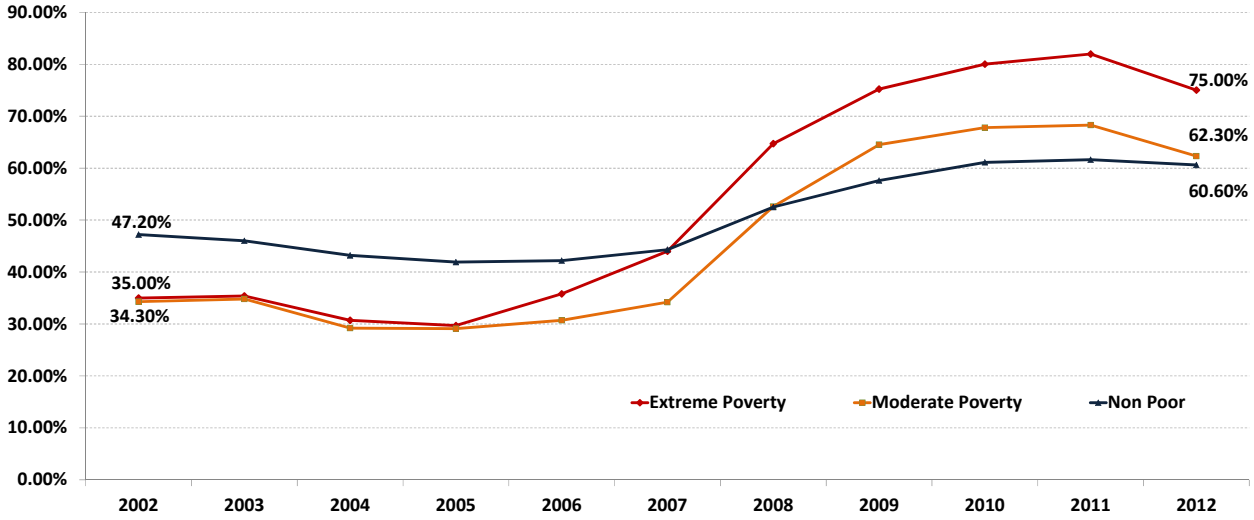
Affiliation to SIS is based on the SISFOH and requires the National Identification Document. According to ENAHO household surveys, about 69 percent of SIS affiliates belonged to the lowest two quintiles, and this percentage has been stable since 2008, making it a progressive program (Figure 15). Coverage among the extreme poor and moderately poor is higher than among the nonpoor (Figure 16). Still, about 14 percent of SIS affiliates belong to the two richest quintiles, which implies significant filtration into the program (Figure 15). At the same time, health insurance coverage in the lowest two quintiles is still below 76 percent (Figure 17). These errors of inclusion and exclusion partly reflect the discrepancy between the SISFOH system for identifying beneficiaries (which is based on a number of criteria including a list of assets) and more complete measures of poverty that can be captured in ENAHO household surveys.

Figure 15. Distribution of SIS affiliates by expenditure quintile, 2008–13



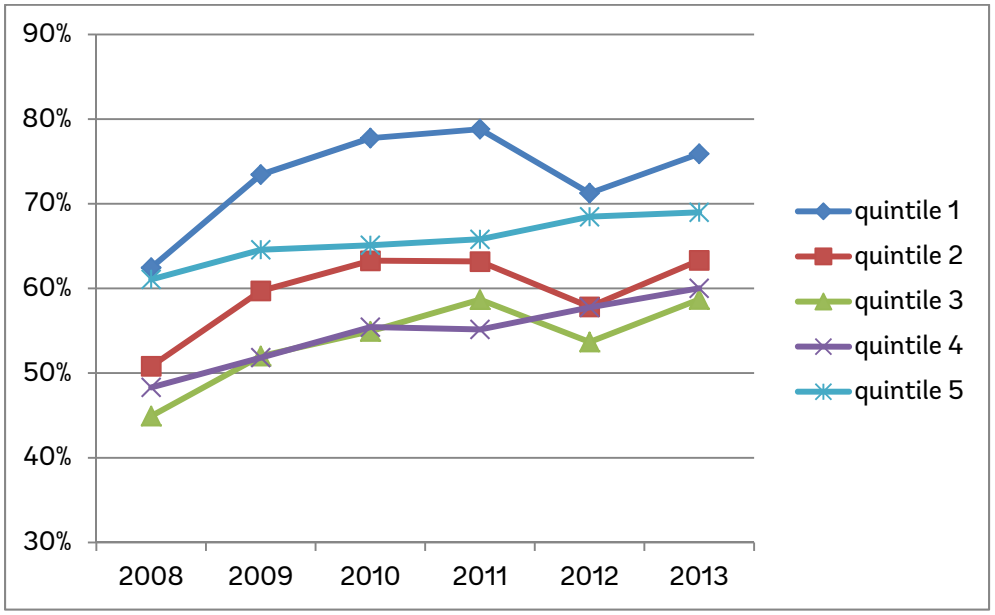
Source: ENAHO 2008–13; authors' elaboration.

Figure 16. Health insurance affiliation rate by poverty status, 2002–12



Source: ENAHO 2002–12; elaboration by PARSALUD/MINSA.

Figure 17. Health insurance coverage by expenditure quintile, 2008–13



Source: ENAHO 2008–13; authors' elaboration.

C. Human Resources for Health (HRH)[23]

1. Current status of HRH

Peru is one of the few countries in Latin America facing a critical health workforce shortage, with health worker density below the crucial threshold of 2.3 per 1,000 population.[24] Beside the overall shortage, geographic distribution is skewed. The number of doctors per 1,000 habitants in Lima is 7.7 while in most Andean and Amazon jungle regions—the majority of rural areas in the country—it is below 4.0 and even close to 2.0 in some regions (Miranda et al. 2012). A similar situation is seen for other health cadres such as nurses and midwives (Huicho et al. 2012).

Table 4. Status of human resources for health

	Number per 1,000 population (2012)	Entry			Exit	
		Qualifications[1]	Government determines number of new entrants	Number of entrants per year	Number of years of education	Number of newly licensed per year[2]
Physicians	0.92 (WDI 2010)	High school equivalent and university entrance exam	No	2,294[3]	7 years	2,640[4]
Nurses	1.271 (WDI 2010)	High school equivalent and university entrance exam	No	6,211[3]	5 years	3,255[5]
Midwives	0.38 (CRONICAS 2014)	High school equivalent and university entrance exam	No	Not available	5 years	1,363[6]
Community health workers[7]	n/a	n/a	n/a	n/a	n/a	n/a

1. Every university has an entrance exam and applicants attend academies to prepare for it. Applicants select the course they want to study and compete with others that have selected the same course. Placements at university are awarded to those with the highest scores. 2. Number accredited by the professional medical, nursing and midwifery colleges. 3 Approximate figures based on the number of registered students in medicine and nursing in 2010 divided by the number of years required for the course: 7 and 5 years, respectively. This does not account for natural attrition. 4. Data from 2011. 5. Data from 2009. 6. Data from 2006. 7. Community health workers are members of communities that work on a voluntary basis in collaboration with the health services. Given their voluntary positions, the information on human resources for health does not include them.

[23] This section is based on CRONICAS (2014).

[24] MINSA estimated for 2010 a huge deficit of human resources in different medical professions: medical doctors, 37 percent; nurses, 35 percent; midwives, 38 percent; dentists, 91 percent.

Little information is readily available about human resources for health, especially outside the public sector. A recent study of the health labor market (CRONICAS 2014) was limited to the public sector, as no information was publicly available for the other segments including EsSalud or the private sector. For example, there is no comprehensive list of the medical doctors who practice in the private sector—each professional association keeps tabs of licensing requirements. Even within the public sector, MINSA does not have a comprehensive, up-to-date list of health personnel, so analysis is based on a collection of different sources of information, many of which are outdated. The lack of information for the public sector is partly due to a lack of accountability in the funding mechanisms: MEF funds human resources in the regions without requiring that regions be accountable or report to MINSA on the health personnel they employ. As a results, reports on the number of doctors, nurses, and other health professionals tend to vary substantially, depending on the source of data.

2. Training and education of human resources for health

The number of training programs for health professionals and the number of graduates have increased significantly in recent years. In 2013, there were 21 medical schools (up from three in 1960 [MINSA 2011]) and 35 nurse training programs (eight in 1960 [MINSA 2011]) registered with CONEAU,[25] the tertiary education evaluation and accreditation body. In addition, many schools offer training on multiple campuses. There were 234 registered training programs in health-related professions.[26] Training is provided by both public and private universities and institutes, with the private ones offering a wider variety of programs. Among the universities that account for 4 percent or more of medical students, seven were private and two public. In nursing and midwifery, all of the larger programs were private.

Despite the increase in training programs, there is significant excess demand for health professional training—for example, only 5 percent of applicants to public medical schools end up registering, while in private universities the ratio is 26 percent. The expansion of training programs has led to steep increases in the number of health professional graduates in recent years. For example, the number of medical graduates increased from 1,244 in 2007 to 2,011 in 2011 (Table 5).

Table 5. Number of graduates by profession

Program	2007	2011
Medicine	1,244	2,011
Nursing	2,011	3,477
Midwifery	960	1,075
Dentistry	886	1,982
Nutrition	132	204

[25] Consejo de Evaluación, Acreditación y Certificación de la Calidad de la Educación Superior Universitaria.
[26] This includes medicine, nursing, midwifery, dentistry, nutrition, psychology, pharmaceutical chemistry, and medical technology.

Program	2007	2011
Psychology	918	2,139
Pharmacy/biochemistry	408	841
Medical technology	38	561

Source: CRONICAS (2014).

In 2006 the government created a national system to evaluate, accredit, and certify educational quality (Sistema Nacional de Evaluación, Acreditación y Certificación de la Calidad Educativa—SINEACE). The system aims to improve quality by ensuring that institutions meet standards and can be accredited to train health professionals, and by engaging and authorizing professional colleges in the certification of graduates. As of November 2013, 186 out of the 234 training programs had initiated the accreditation process, though only two programs (one in nursing and one in dentistry) had been accredited, pointing toward difficulties in accreditation. By contrast, progress on the certification side was faster: by 2013, all professional colleges had been authorized to certify graduates.

In an effort to reaffirm the role of primary care, in 2009 MINSA created competency profiles for so-called "basic health teams". These include medical doctors, nurses, midwives, and dentists, and the intention is for them to form the basis of primary care delivery, which should address 70–80 percent of demand for services. Nonetheless, an analysis of the training plans of the major training institutes reveals that those do not necessarily put much emphasis on primary care and show major discrepancies with MINSA's competency profiles, including lack of training in prevention, promotion, and management of conditions in all training programs. At the same time, the competency profiles are skewed toward care by medical doctors: for example, in the area of adult care, nurses are only competent in management of tuberculosis and HIV/AIDS, while the care and management of all other infectious and non-infections conditions falls directly to medical doctors. This approach is at odds with international discussions about the need to include a wider spectrum of health professionals in managing noncommunicable diseases (WHO 2011).

Medical specialists are trained through a medical residency program implemented by the medical faculties. Entrance requirements include an entrance exam, previous graduation from an undergraduate medical program, certification by the Medical College of Peru (Colegio Médico del Perú), and completion of SERUM (see just below). For most specialties except family and community medicine, there are excess applicants to the specialization programs. The specialist profiles are established by the CONAREME (Consejo Nacional de Residentado Médico). Analysis of the training programs shows that the only specialties that include emphasis on community-based competencies are OB/GYN and family medicine. Pediatrics, general surgery, and other specialties do not include this type of training.

3. Rural internship program (SERUM)

One of the strategies the government is using to increase the coverage of health professionals at primary care level across regions is the Rural Internship Program (Servicio Rural Urbano Marginal en Salud—SERUM). SERUM is an internship that health professionals must go through to qualify to work in the public sector. They spend one year usually in a remote and rural setting providing

health care for the local population. Starting in 2009, SERUM was refocused toward the poorest communities and the number of available placements was increased significantly, reaching 6,384 in 2013. SERUM has been effective at increasing the presence of health professionals in the most remote and underprivileged locations. In 2008, of the 800 poorest districts in the country only 53 percent had a doctor carrying out their SERUM; by 2011, 89 percent had. Furthermore, in the three poorest regions (Ayacucho, Apurimac, and Huancavelica), 95 percent of districts now have a medical doctor.

Yet there are concerns. First, SERUM tends to place an inexperienced professional, trained to provide care mainly at the secondary and tertiary levels, into a primary care setting without much support or mentorship, which may undermine the quality of care. Second, the links between training, SERUM, and insertion into the public sector are not straightforward. For health professions other than medical doctor—nurses, midwives, pharmacists—the number of graduates far exceeds the number of available SERUM positions. For medical doctors, the number of positions is similar or slightly higher than the number of graduates. More dramatically, 75 percent of health professionals who conclude a SERUM do not continue working in the public sector. This reflects on the capacity of the public sector to attract and contract new health professionals. In addition, over 2007–11, among professionals who completed a SERUM and did start working in the public sector, over 75 percent did so under a temporary administrative contract.

4. Contracting modalities and the health labor market

The public sector uses more than 10 types of labor contracts in the health sector, which have wide disparities in conditions, salaries, and benefits, especially among medical doctors. Within the public sector, those on permanent "276" contracts can earn up to twice as much as those on temporary, newer contracts (e.g. Régimen Especial de Contrato Administrativo de Servicios—RECAS). The difference with health professionals working outside the public sector (e.g. EsSalud) is even starker, particularly for nonphysicians, with public sector workers making up to PEN 19,000 (around $6,800) less annually. Although income is not the only factor that health professionals consider when taking up employment, these differences are still an obstacle to attracting high-quality, motivated professionals to the public sector.

The national level has significant shortages of doctors in the public sector to be able to provide the basic PEAS package of services. This shortage is not a result of a lack of graduates with medical training, but a result of the lack of absorption of graduates into the public sector. CRONICAS (2014) estimates that if the current insertion rates continue, the deficit of medical will be resolved—by 2027. However, if the public sector managed to double the insertion rate, the deficit would disappear by as early as 2020. Little information is available about the number of health professionals in the private sector, but a study by MINSA in 2005 suggests that in Lima and other urban areas, a large group of health professionals were working in conditions of underemployment, new graduates had difficulty getting job placements, and there was an expansion of dual practice or multiple employment, job instability, and ongoing search for new opportunities, including migration. The 2010 university census shows that 78 percent of medical students, 67 percent of nursing students, and 60 percent of midwifery students intend to migrate (ANR 2010).

Table 6. Health professionals: Estimated numbers, deficits, and number of annual graduates

	Estimated number (2013)	Estimated deficit (2013)	Yearly number of graduates (2011)
Medical doctors	33,669	11,779	2,011
Nurses	33,491	8,780	3,477
Midwives	11,533	4,950	1,075
Dentists	4,471	27,515	1,982

Source: CRONICAS (2014).

In 2012, the public sector had 7,048 specialists, of whom about 58 percent were in Lima (MINSA 2012). Even among those specialties considered to be priority (anesthesiology, general surgery, OB/GYN, family and community medicine, internal medicine, pediatrics), 53 percent of public sector doctors were in Lima. Zevallos (2011) estimates that need for specialists based on the epidemiological profile is 11,738—implying a 40 percent deficit overall. The four specialties with the largest shortages are OB/GYN, pediatrics, internal medicine, and general surgery. However, just increasing training is unlikely to resolve the overall deficit of specialists, as the absorption problem into the public sector is even starker than for medical doctors and other health professions: in 2009–10, only an estimated 10 percent of specialists who completed their residency went on to work in the public sector.

Part II: Lessons for Other Countries

Although the following conclusions are specific to Peru's experience with UHC, the associated recommendations may also have relevance for other middle-income countries.

In the past two decades, Peru has made impressive progress on health indicators, partly by increasing public spending on health and partly by instituting important reforms such the creation of SIS and the passage of the Universal Health Insurance Law in 2009. There is a political will to implement a health reform that will progress toward UHC. The SIS now covers over 10 million Peruvians, and health coverage has increased to 65 percent in 2013 (ENAHO). Health insurance affiliation is higher among the extremely poor and poor than among the nonpoor.

A. Health Financing

Despite this progress, the country still faces deficiencies in its financial protection for the households. For example, while public spending on health increase in absolute terms, it has not kept up with general economic growth. OOP on health remain the main source of total health spending, the quantity and quality of health services is inadequate, and economic barriers are still significant determinants of access to health services.

The SIS now covers over 35 percent of Peruvians with a package of services; however, there is a long way to be able to ensure its beneficiaries with access to high-quality health coverage. In recent years, for instance, the tendency has been to expand the SIS benefit plans to show an expansion in coverage, but these expansions were not based on actuarial projections of the cost of care nor did they take into account the demographic and epidemiological profile of the population or the availability of services. As a result, the benefits package is a theoretical plan that does not correspond well to available services, especially for poor, rural populations. It would be key for the country to improve benefits-package management, basing it on the population's demographic and epidemiological profile, definition of services covered under the plans, and actuarial projections of the cost of covering the plans (based on available health care service providers).

The Peruvian health system is also fragmented in its insurance risk pooling, financing, and service-provision functions, leading to duplication and wastage of resources. Funding to public providers is fragmented between MEF and SIS, with SIS only covering a marginal amount of the cost of providing services. The two sources of funding will need to be better aligned to generate incentives for providers to generate more and better services. SIS needs to transform itself from a source of funding to a real purchaser of services, with the managerial tools and organizational structure that will allow it pool funding, purchase services from providers, and monitor use and quality of services.

EsSalud faces challenges of its own, both on the efficiency side and on the revenue side, which it hopes to address using a newly developed Master Plan for 2013-2021. Given the epidemiologic transition and its acute, hospital-based model of care, EsSalud will need to adjust the model to focus more on preventive and primary care. Fiscal sustainability of the model is also at stake in the long run—it will need to recover debt owed to the institution and find long-term solutions to ensure that its affiliates' contributions match its expenditures.

B. Health Services Organization

Decentralization presents both opportunities and challenges. The relationship between national and regional governments and SIS has changed substantially with the introduction of management agreements that include capitation payments from SIS to the regions for the first and second level of care, as well as performance indicators. However, initial experiences suggest that changes are needed in those contracts and in how SIS operates more generally to align incentives between the actors. Changes are also necessary in the funding arrangements with the regions—there is little accountability for how regions spend the funding from MEF. There needs to be a concerted effort by MINSA, MEF, and SIS to improve coordination of sources of funding to increase accountability in the regions.

Recent pilots of service exchange between the regions, SIS, and EsSalud offer opportunities for integration; they also point to the operational challenges of integrating networks with different beneficiaries, rules and modus operandi. Still, integrated health service delivery networks could improve the accessibility of the system, improve overall system efficiency, prevent duplication of infrastructure and services, reduce production costs, and respond more effectively to people´s needs and expectations.

In order to use current supply more efficiently, the health network should not only be formed by public establishments, but also mechanisms should exist to integrate private establishments with the health network. With the implementation of integrated networks, the current model of care—centered on disease, acute care, and hospital-based treatment—would change. The focus, without neglecting acute care and hospital-based treatment, should be on primary and secondary attention, where evidence shows that most health problems (70–75 percent) should be solved.

Peru needs substantial investment and modernization of its health information systems to build effective service networks. On the one hand, Peru is one of few countries that have annual household and demographic and health surveys—in that sense general information on health status, household expenditures, and socioeconomic well-being is updated and easily available. On the other hand, health information systems tend to be fragmented between the different networks of providers and even within networks. Data collection and management systems are outdated, duplicative, and unreliable. For the system to move to an articulated system of insurers and providers, a major effort and investment is needed to align protocols and ensure the inter-operability of IT systems.

Peru will also need to modernize its health service delivery processes, such as the supply chain for medicines, perhaps involving the private sector, to resolve issues with availability. OOP on medicines could be cut heavily by improving systems to ensure the quality of generic medicines and by encouraging their use. Most public hospitals in Peru do not have a hospital management information system, and so patients spend time in multiple queues at every stage in the service delivery process. EsSalud also needs to improve clinical management and focus on primary and preventive attention for its beneficiaries.

C. Human Resources for Health

Peru trains enough medical professionals, yet there are continued challenges in terms of ensuring the relevant of training programs, recruitment, and efficient management of human resources. The supply and demand of training for the medical professions in Peru is high, and there is a pending agenda to adjust the content of training the priorities of the country in terms of health, in particular to a renewed focus on primary care. One option would be to develop alternative, shorter training modalities with high likelihood of employment on graduation. MINSA and regional governments, as majority employers, will need to work with professional boards and universities to ensure an appropriate focus on primary care.

In addition, the accreditation process of health training programs needs to move faster to perform its function of signaling the quality of training. The SERUM strategy has been successful in increasing the number of health professionals in rural and isolated areas, but needs to be complemented with a clear strategy as to retention of recent SERUM graduates by the public sector.

Recruitment of trained health professionals into the health sector is also a challenge: while the country trains sufficient health professionals to be able to close the deficit of health professional in few years, in reality a large portion of this investment is wasted. While Peru trains significant numbers of specialists, only 10 percent of those get integrated into the public sector, and little information is available about the whereabouts of those who do not get integrated. A

comprehensive strategy that includes appropriate incentive structures, working conditions, and better information on the labor market would help bring services to where they are needed within a realistic financial scenario.

Too little information is readily available about health human resources, especially outside the public sector. Even within it, MINSA does not have a comprehensive, up-to-date list of health personnel. There is need for a concerted effort and strategic alliances between the various networks of providers—EsSalud, professional colleges, the private sector, the Ministry of Finance, and even migration authorities—to improve the availability of basic *and* strategic information.

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Annex: Distribution of the main causes of premature death in Peru, 1990–2010

Causes of premature death	Distribution of YLLs (%)		Percentage of variation
	1990	2010	
Maternal, child and communicable diseases causes	61.1	31.9	-48
• Lower Respiratory Infections	20.8	11.8	-43
• Diarrheal Diseases	12.7	1.4	-89
• Preterm Birth Complications	6.6	4.9	-26
• Neonatal Encephalopathy	4.8	4.4	-8
• Tuberculosis	3.7	2.0	-46
• Protein Energy Malnutrition	3.5	1.1	-68
• Neonatal Sepsis	3.1	3.3	+6
• Syphilis	2.5	0.8	-68
• Iron Deficiency Anemia	1.6	0.6	-62
• Meningitis	1.0	1.0	-
• Maternal Disorders	0.8	0.6	-25
Noncommunicable diseases	18.4	34.1	+85
• Neonatal Encephalopathy	4.8	4.4	-8
• Stroke	2.5	3.9	+56
• Ischemic Heart Disease	2.4	5.6	+133
• Congenital Anomalies	2.2	3.1	+41
• Stomach Cancer	1.1	2.0	+82
• Cirrhosis	0.9	2.8	+211
• Chronic Kidney Disease	0.9	1.8	+100
• Diabetes	0.9	1.5	+67
• Leukemia	0.7	1.3	+86
• Other Cardio-Circulatory	0.6	1.3	+117
• Cervical Cancer	0.5	1.2	+140
• COPD	0.4	1.1	+175
• Lung Cancer	0.3	1.0	+233
• HIV-AIDS	0.2	3.1	+1450
Injuries	6.1	8.9	+146
• Road Injury	2.2	4.4	+100
• Interpersonal Violence	1.8	2.2	+22
• Drowning	1.0	1.3	+30
• War and Legal Intervention	0.8	-	-
• Self-Harm	0.3	1.0	+233
Total of related causes	**85.6**	**74.9**	**-**

Source: The Institute of Health Metrics and Evaluation, "GBD Profile in Peru," www.healthmetricsandevaluation.org, accessed April 17, 2013.