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Foreword

There is much to praise in Costa Rica's health care system: institutional stability around financing and planning; a closely integrated but well-differentiated provider arm, with strong primary care at its base; an impressive degree of inter-sectoral co-ordination at national level and, at local level, effective dialogue between users and health service managers to drive service improvement. Innovation around professional roles and ambitious use of electronic health records are also achievements that other health systems could learn from. All this leads to health outcomes on a par with several OECD economies: life expectancy is 79.9 years, compared to 80.6 OECD average, and less than 1% of the population report failing to seek care because of financial reasons.

Serious strains are nevertheless evident. Spending is on a steep upward trajectory, fuelled by salaries as well as facility payments based on last year's outlay. This increase in spending is not always associated with improvement in services: some key performance indicators, such as door-to-needle times for patients who have suffered a heart attack, are worsening. The system is perhaps *too* stable: institutional rigidity and vested interests have stalled vital reforms, meaning that Costa Rica still lacks systematic application of DRGs and health technology assessment, despite attempts to introduce these reforms. This review sets out recommendations and examples of international best practice to strengthen performance of Costa Rica's health care system.

This review was prepared by the OECD Secretariat to support the OECD Health Committee's evaluation of Costa Rica's health care system, which is currently being undertaken as part of the process for Costa Rica's accession to the OECD (see the Roadmap for the Accession of Costa Rica to the OECD Convention [C(2015)93/FINAL]). In accordance with paragraph 14 of the Roadmap, the Health Committee agreed to declassify the review and publish it in order to allow a wider audience to become acquainted with the issues raised in the review. Publication of this document and the analysis and recommendations contained therein, does not prejudge in any way the results of the ongoing review of Costa Rica as part of its process of accession to the OECD.

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ABBREVIATIONS

ACE	Insurance by the State (*Asegurados por Cuenta del Estado*)
AV	Voluntarily insured (*Asegurados Voluntarios*)
CAIS	Centres for Integrated Health Care (*Centros de Atención Integral en Salud*)
CCSS	Costa Rican Social Security Institute (*Caja Costariciense de Seguridad Social*)
CEN-CINAI	Education and Nutrition Centres – Children's Centres for Nutrition and Integrated Care (*Centros de Educación y Nutrición – Centros Infantiles de Nutrición y Atención Integral*)
CHE	Catastrophic health expenditure
COESAINCO	Commission for liaison between health, industry and commerce (*Comisión de Enlace Salud, Industria y Comercio*)
CONAPAM	National Council for Older People (*Consejo Nacional de la Persona Adulta Mayor*)
DALY	Disability adjusted life years
DRG	Diagnosis-related group
EBAIS	Integrated health care basic teams (*Equipos Básicos de Atención Integral en Salud*)
EDUS	Unified digital health record (*Expediente Digital Único en Salud*)
FFS	Fee for service
FODESAF	Development and Family Assignation Fund (*Fondo de Desarrollo y Asignaciones Familiares*)
HDI	Human Development Index
HTA	Health technology assessment
IHE	Impoverishing health expenditure
INCIENSA	Costa Rican Institute for Research and Education on Nutrition and Health (*Instituto Costarricense de Investigación y Enseñanza en Nutrición y Salud)*
LAC	Latin America and the Caribbean
NCD	Non-communicable disease
OOP	Out-of-pocket
P4P	Pay for performance

PCIC	Person-centred, integrated care
PPP	Public-private partnership
PPP	Purchasing power parity
SEM	Insurance for disease and maternity (*Seguro de Enfermedad y Maternidad*)
SHA	OECD System of Health Accounts
SINAVIS	National Health Surveillance System (*Sistema Nacional de Vigilancia de la Salud*)
SIVM	Insurance for disability, ageing and death (*Seguro de Invalidez, Vejez y Muerte*)
UHC	Universal health coverage
UNDP	United Nations Development Programme
YLL	Years of life lost

Executive summary

Costa Rica's health care system is widely regarded as a success story. Its single-payer national health service was created in 1941 and has demonstrated considerable institutional stability since then. Costa Ricans have near universal access to a full range of health care services (including the most technologically complex, such as heart and lung transplants) and enjoy effective protection from catastrophic health expenditure. Life expectancy exceeds that in many OECD countries.

But spending is on a steep upward trajectory, rising by around 7% per year in nominal terms, almost double general inflation, between 2011 and 2015. National health expenditure currently accounts for 9.3% GDP (remarkably, for a middle-income country, above the OECD average). This is mainly driven by strong increases in medical salaries, which have increased by 6% per year over the past ten years, much faster than productivity growth in the sector. Cost-containment mechanisms are poor, with little evidence that increased spending is benefitting patients. Frustrated by waiting times of a year or more for procedures such as children's surgery, people are increasingly paying out-of-pocket for care in the private sector, creating the risk of two-tier system.

Reforms that would have tackled some of these challenges, such as results-based payment systems, hospital accreditation programmes or the DRG-accounting system in hospitals, have been attempted but later dropped. Sustainable policy making at times, therefore, appears to be a challenge in Costa Rica's health system. This is likely to be related to the governance arrangements that are in place: no clear mandate is set for the institution that arranges health care insurance and provides health care services, the *Caja Costariciense de Seguridad Social* (CCSS), and no effective mechanisms for regularly and independently auditing CCSS performance are in place. One priority, therefore, is to consider how the role of Ministry of Health in determining the strategic priorities of the CCSS could be strengthened within the current legal framework that underpins the health care system, whilst maintaining the constitutional independence of the CCSS.

Another fundamental reform concerns the funding of the health system. The CCSS is heavily reliant on employment-linked contributions for revenue, but these have come under pressure as an increasing share of workers is in the informal sector and the population is ageing. Today, only 53% of the population are formal contributors to the CCSS, compared to 70% ten years ago. Over the mid to longer term, then, reduced reliance on employment-linked contributions and a shift to a greater share of revenue from the general government budget must be achieved. More immediately, robust expenditure ceilings and regular spending reviews will also help ensure sustainability.

As these structural issues are tackled, a number of operational weaknesses should also be addressed in order to ensure equitable, sustainable and high-performing health care system for current and future generations. Priority areas for action include:

- Reinstituting performance management processes for hospitals, through benchmarking of quality and outcomes, to complement the performance management framework that has been developed for primary care;

- Reinstituting a DRG system in hospitals, in order to better understand spending patterns and drivers of inflation within the health system;
- Systematising cost-effectiveness analysis of new (and, where appropriate, existing) services, allowing a benefits package to be defined for secondary and tertiary care to complement that which already exists in primary care;
- Expanding supply of the health care workforce, by giving the CCSS greater flexibility in how and where it employs clinicians (for example, by allowing less than full-time substantive contracts), and encouraging the further development of advanced roles for nurses, pharmacists and technicians.

To extract the most out of these reforms, effective use of health system data will be critical. Costa Rica is making good progress in building its health system data infrastructure, but data on needs and activities are not yet adequately linked to the costs and outcomes of care. Making such links, for key patient groups at facility level, will allow resource allocation to be increasingly based on performance and value, rather than historical spending patterns. Health system performance will also be enhanced by fuller participation in the international benchmarking initiatives, such as the OECD's *System of Health Accounts* and *Health Care Quality Indicators*.

Assessment and recommendations

Costa Rica's health care system is, broadly, strong. Life expectancy exceeds that in many OECD countries and Costa Ricans have near universal access to a full range of health care services (including the most technologically complex), with effective protection from catastrophic health expenditure. There is scope, as in all health care systems, to improve accessibility (particularly waiting times) and the quality and outcomes of care. But a much bigger concern is sustainability. Remarkably, for a middle-income country, Costa Rica's health care spending (as a share of GDP) is above the OECD average, and rising twice as fast as general inflation.

This opening chapter puts forward policy recommendations for strengthening the performance and sustainability of the health care system in Costa Rica. It is divided into three sections. Section 1 describes Costa Rica's health care needs, recent reforms to the health system and its current configuration. Section 2 assesses the accessibility and quality of the Costa Rican health system, and makes recommendations for strengthening this sector. Section 3 focuses on efficiency and sustainability, again making recommendations for strengthening these dimensions of performance.

1. Health care needs and the health care system in Costa Rica

Costa Rica has enjoyed political stability for decades, allowing the country to make steady social and economic progress. Since the end of the civil war in 1948, the military was abolished and stronger focus was given to investment in education, population health, and culture. At the same time, sustained and ambitious policies around environmental protection and biodiversity have led to major gains in conservation: Costa Rica has managed to substantially reverse deforestation, the only tropical country in the world to have done so. Costa Rica generates about 90% of its electricity from renewable sources and has announced its ambition to achieve complete carbon neutrality by 2021 (OECD, 2016a).

Costa Rica is a middle-ranking country in the UNDP's Human Development Index.[1] It scores 0.766, placing it 69th out of 188 countries and territories and above the average for countries in the Latin America region (UNDP, 2015). Gross domestic product in Costa Rica grew on average 4.5% per year between 2000 and 2013, compared to 3.8% on average among LAC countries. GDP per capita was estimated to be USD PPP 14 737 in 2015 (using current prices), below that of Mexico (USD PPP 18 077) and Turkey (USD PPP 19 916), but similar to Brazil (USD PPP 15 795) and China (USD PPP 13 884, data from OECD.Stat). Steady economic growth has allowed Costa Rica to have one of the lowest poverty rates in Latin America: 12% of the population lives on USD 4 per day (4.5% on USD 2.5), around one third of the LAC average. Total unemployment was 8.5% of the labour force in 2014, slightly higher than the OECD average of 7.3% in 2014. Unemployment rates have, however, increased from 6.6% in 2005, with joblessness particularly affecting younger generations, women, the poor and residents of rural areas (OECD, 2016a).

Large socioeconomic inequalities persist, however, and are growing. Costa Rica's Gini coefficient[2] for income inequality now stands at 0.509 before taxes and transfers, and 0.487 after taxes and transfers (OECD, 2015a). On average across Latin America, income inequality

was 9% lower in 2013 than in 2001, while in Costa Rica it was 9% higher (although baseline inequality in many Latin American countries was worse than in Costa Rica). Between 2010 and 2014, rising public sector salaries made the largest contribution to inequality – particularly salaries of qualified workers in public agencies outside central government, including the main provider of health services in Costa Rica, the CCSS. Wages in the CCSS are discussed further in Section 3.

The country's major health care needs stem from chronic diseases of lifestyle

Life expectancy at birth in Costa Rica is similar to the OECD average, having increased from 66.9 years in 1970 to 79.9 years in 2015 (OECD, 2016b). Longevity in Costa Rica is now higher than in many developed countries (see Figure 1.2 in Chapter 1) and exceeds all comparable Latin American countries.

Population ageing is happening rapidly. In 2010, the population older than 65 years of age represented around 5% of the total population in Costa Rica. By 2050 this figure is expected to have increased four-fold to 21% (Figure 1.3). Demographic are thus happening more quickly than across the OECD (where the equivalent average figures are 15% in 2010 and 27% in 2050). Ageing, which is often associated with an increasing prevalence of multi-morbidities, therefore, will have an important impact on the health of the population in Costa Rica and put pressure on the health care system.

Health care needs in Costa Rica, as in many OECD countries, increasingly stem from non-communicable disease (NCD) such as heart disease, cancer and diabetes. In 2012, 83% of all deaths in Costa Rica were due to NCD; cardiovascular diseases being the principal cause of death accounting for 30%, followed by cancers with 23% of all deaths (Figure 1.6) (WHO, 2014). In a 2010 survey, 38% adults had hypertension, 42% high cholesterol levels and 51% had low or no engagement in physical activity. Prevalence of obesity was 24.4% of the population in 2014, which is higher than the OECD average of 19% (OECD, 2016b). Furthermore, it was found that 60% of Costa Ricans between 20 to 44 years of age were either overweight or obese. On a more positive note, smoking rates in Costa Rica are lower than the OECD average: 14.5% of the population 15 years and older smoked daily in 2012 (19.8% among men and 9.2% among women) against the OECD average of 19.7% in 2013 (24.2% among men and 15.5% among women).

Overall, Costa Rican's rate their health above the average score in OECD countries: 6.4 (out of a normalised maximum score of 10) compared to 6.1 OECD average, on the OECD's well-being indicators (Figure 1.1).

The health care system benefits from long-standing institutional stability

Health care insurance and health care services in Costa Rica are provided through a single publicly-funded, integrated purchaser-provider, the *Caja Costariciense de Seguridad Social* (CCSS). The CCSS was established in 1941, with the introduction of mandatory health insurance for city-dwelling, lower-income workers. Twenty years later, Congress established universal health insurance for all workers and their families. In the 1990s, insurance was extended to the uninsured, using transfers from the national budget. The CCSS is now the largest decentralised autonomous public entity in Costa Rica (and also administers state pensions). It provides universal health care insurance by combining social security schemes for four groups into a single national pool:

- Salaried workers and their families: around 60% of the pool (with the employee contributing 5.5% of income, employer 9.25% and state 0.25% via mandatory payroll deductions);

- Self-employed workers and their families (earning above a specified minimum wage, determined annually) and their families: around 25% of the pool (with the employee contributing between 3.45 and 10.69% of income, and the State an inverse proportion to reach a total 12.25% of income);
- Pensioners and any dependents: around 15% of the pool (with the pensioner contributing 5% of their pension, the pension fund 8.75% and state 0.25%);
- Fully subsidised beneficiaries (financing is the sole responsibility of the State and is based upon taxes levied on luxury goods, tobacco, liquor, imports and proceeds from the national lottery).

This revenue design is progressive: the poorest 20% (those earning less than 5% of national income) receive close to 30% of public spending on health care. No co-payments are charged for CCSS services.

Health care insurance reached almost 90% of the population by 2000. Thereafter, a period of stagnation occurred, until coverage began to expand once more in 2008, reaching 95% in 2014 (Figure 1.7) (CCSS, 2014). The about 5% that continue to lack registration with the CCSS includes some informal or temporary workers (particularly those from neighbouring nations); poor refugees that are not accepted as in charge of the State (and hence, only covered for medical services through the United Nations High Commissioner for Refugees); undocumented migrants; some indigenous groups without civil registration (lacking knowledge of their rights); and, poor individuals who should be fully subsidised but are not identified as such.

All inhabitants, even if uninsured have access to CCSS health care services in emergencies. Uninsured individuals can receive emergency room care at no cost. The uninsured individual is also entitled to further necessary health care (including hospitalisation and surgery), and will be billed for the care given. In non-urgent situations, payment in advance is required, or enrolment in one of the insurance modalities offered by CCSS, according to payment capacity.

On some measures, access to services and financial protection appear good. In a 2006 survey, only 3% of the population reported unmet primary health care needs, of which 70% was because an appointment could not be made. Public funds accounted for 73% of total health spending in 2014, equal to the average among OECD countries (OECD, 2016b and Figure 1.11). Out-of-pocket (OOP) as a percentage of total health care spending was 24.9% in 2014, less than OECD countries in the region (32.8% in Chile, 40.8% in Mexico) – although above the average of 20.1% among OECD countries (OECD, 2016b). Failing to seek care for financial reasons was reported by only 0.8% in Costa Rica in a 2012 survey, as compared to 4.2% in Chile (Knaul et al., 2012). However, these high-level snapshots are liable to offer false reassurance, given that they hide worrying trends. This is explored in more detail in Section 2.

The structural and functional cohesiveness of Costa Rica's health care system is an undoubted strength, particularly in a region where fragmented and inequitable health care systems persist. Its stability is also exceptional. As noted by Cercone and Pacheco (2008), "One remarkable feature is that all the regulatory institutions are solid entities with at least 50 years of existence … The CCSS Constitutive Law has stayed largely the same since its promulgation in 1943. Changes have been made, but on average only once every 10 years".

The unity and stability of the CCSS has allowed it to develop a deep institutional relationship with local communities and offers an example of good practice also for OECD health systems. The Law on Decentralisation in 1998 created democratically elected community health boards to supervise the delivery of local health care services (Balabanova,

2011). They improved responsiveness and increased community participation for setting priorities and health-related performance targets. A network of almost 150 local users' groups (*juntas)* is well-established, which actively collaborate with the CCSS to discharge a wide range of responsibilities. As well as mediating public queries/complaints and generally seeking to improve relations between the CCSS and users, *juntas*' activities include identifying local service needs and assisting in procurement decisions (for a new ambulance, pain clinic or mammography kit, for example); assisting in local epidemiological surveillance (particularly of infectious disease such as dengue); organising blood donations; and, organising local health promotion activities. *Juntas* report feeling fully integrated into the local CCSS infrastructure, and the CCSS appoints a named professional (such as a social worker) to support their activities. It has been reported that the CCSS is the public institution with the highest level of approval among Costa Ricans (Cercone and Pacheco, 2008).

Box 1. Key features of the Costa Rican health system

The Ministry of Health (MoH) is the highest responsible authority within the health care sector in Costa Rica. Its role is to implement the strategic direction, regulate providers, enable epidemiological surveillance and steer the direction of research and technological development. The MoH is also responsible for funding some public health services alongside the *Caja Costariciense de Seguridad Social,* such as vaccination. The ministry also has offices at the regional and local level, in charge of epidemiological monitoring and outbreak control. Additional regulatory powers address policy around sports, nutrition, water quality, waste and other environmental matters.

The *Caja Costariciense de Seguridad Social* (CCSS) is the main insurer and provider for personal health services. An autonomous institution with its own authorising law, the CCSS was created in 1941. It independently organises the financing, purchasing and the provision of most health care services in Costa Rica. Its mission is to provide health and some social care services in an integral form to the individual, the family and the community, as well as financial protection from catastrophic expense.

The benefits package is not explicitly defined for secondary care. In primary care, there is a defined benefits package that specifies what should be offered at this level of care. There is also a national drugs list.

The CCSS's provider network is organised by three distinct levels of care (primary, secondary and tertiary). The CCSS has 55 000 employees, working across 29 hospitals, 103 health regions and 1 094 primary care units (called *Equipos Básicos de Atención Integral en Salud*, EBAIS). It provides 13.5 million consultations a year, of which just under 10% are secondary care consultations.

Patients do not have any choice of provider or insurer. Individuals are assigned to an EBAIS according to their address, and EBAIS are networked with defined secondary care facilities. Patients cannot access secondary care directly, but must be referred from primary care.

Provider payment systems are traditional, and are typically not need- or performance-adjusted. Both primary care facilities and hospitals receive a global budget, based on last year's outlay. Some adjustments can be made if additional services are offered, but the budget is not explicitly based on risk-adjusted capitation. Primary care workers are paid a basic salary, with adjustments for experience, availability and other factors, which may comprise up to 50% final earnings. Hospital-based clinicians also receive a basic salary, with additional fee-for-service elements as part of special programmes to reduce waiting lists.

Private providers play an increasingly important role. A purchasing division within the CCSS was created in the mid-1990s, to allow contracting with independent providers. Now, around 15% primary care takes place within this model, paid for by the CCSS.

The *Instituto Nacional de Seguros* (INS – National insurance agency) is a specialised insurance agency. It uniquely covers health care needs arising from employment or traffic accidents, including any related hospitalisation or rehabilitation. In 2009, Costa Rica partially deregulated the health insurance market in 2009 to allow private companies to offer competitor insurance products for occupational and transport risks.

Voluntary private health insurance plays a small role, covering just 0.3% of the population and accounting for just 2% of total national expenditure on health.

The provider arm of the CCSS is built upon a well-developed primary care base

Costa Rica, rightly, points to its well-established primary care infrastructure as a successful illustration of ambitious reform. Primary care stands as a solid base for the rest of the health care system, and serves as a model of interest for other health systems at all stages of development. Reforms began following the WHO Alma-Ata Declaration on Primary Health Care in 1978 to improve the reach and quality of primary care, particularly in under-served areas. Efforts were deepened in the 1990s, when Costa Rica established community clinics called *Equipos Básicos de Atención Integral de Salud* (EBAIS, or integrated health care basic teams) as the functional unit of primary care delivery.

Each EBAIS serves around 1 000 households, and each consists of at least one medical doctor, one nurse and one health care assistant. Higher-level personnel, such as social workers, dentists, laboratory technicians, pharmacists and nutritionists may also support the clinic. Outpatient services, family planning and community medical services, health promotion and disease prevention interventions, are all delivered through the EBAIS. The EBAIS can refer patients to higher levels of health care when required. By 1995 there were 232 EBAIS in Costa Rica, mostly among underserved communities, greatly improving rural access to primary care. In these areas, adequate access to the health service rose from 64% in 1995 to 79% in 2000. Today, more than 1 000 EBAIS are present in every territory of the country and constitute the basis of the national health care system. On a more negative note, EBAIS only offer appointments in the morning and early afternoon, which limits access to primary care.

A specialist primary care workforce is not, however, well developed in Costa Rica. Most doctors working in EBAIS do not have specialist post-graduate training in primary care. Family Medicine exists as a speciality, but very few (less than ten a year) doctors train in it, apparently because the tough qualifying exam discourages potential recruits. Costa Rica is currently aiming for each local health authority (of which there are around 100; see Box 1) to have a family medicine specialist, but not each EBAIS.

Primary care services are continuing to develop with the establishment of three Centros de Atención Integral en Salud (or Centres for Integrated Health Care, CAIS). These represent an extended model of primary care, and offer maternity services, intermediate care beds (to avoid hospital admission or expedite early discharge), minor surgery, rehabilitation, speciality clinics (such as pain management), and diagnostics such as x-rays. CAIS support the more typical primary care providers by holding workshops for local EBAIS (to compare and discuss their performance indicators, described below), by offering telemedicine and home visits, and by keeping a focus on preventive care (in one CAIS, for example, most of the 15 000 home visits undertaken in 2015 were for health promotion and preventive care; the same CAIS also established a local commission on domestic violence). CAIS integrate upward with secondary care providers by leading the development of protocols and patient pathways for service networks in psychiatry, paediatrics, elderly care and other specialities. This ambitious and innovative model of primary care will be of significant interest for OECD health systems looking to strengthen people-centred, integrated care.

Out-patient secondary care and in-patient care is provided through 10 major clinics, 13 peripheral hospitals and 7 regional hospitals. Treatment and rehabilitation procedures of the highest specialisation and complexity are provided at the tertiary level through 3 national general hospitals and 5 national specialised hospitals (specialised in pediatrics, gerontology, women, rehabilitation and psychiatry). These hospitals are located in the metropolitan area of San José, and equip the CCSS to provide highly complex procedures, such as heart and lung transplants. The systematic approach that CCSS has taken to establishing a hub-and-spoke model across Costa Rica is illustrated in Annex A.

Levels of care are well differentiated. Even though the CCSS is vertically integrated (or perhaps because of this), a clear hierarchy of services exists and efforts are made to ensure that care is delivered at the most appropriate level. CCSS data show that 80% of primary care presentations are resolved at that level, without referral to secondary care. Referral guidelines exist, and referrals are turned back if appropriate steps have not been completed in primary care (data from one hospital visited demonstrated that some 20% of primary care referrals were turned back for this reason). Hospital doctors also train colleagues working in EBAIS to strengthen primary care management.

The CCSS has developed a detailed primary care performance framework. The framework evaluates local health authorities across 30 indicators in the domains of access, continuity, effectiveness, efficiency, patient satisfaction and organisational competence. Many indicators reflect processes (such as coverage of vaccination or cancer screening), but each of the five effectiveness indicators reflect outcomes, such as adequate control of lipids and blood pressure in people with diabetes (see Annex C for full list of indicators). For each indicator, a national target is set. Dashboards of local results are published, allowing providers to compare their performance against national, regional and local benchmarks (Annex D), and a detailed analysis of regional variation in performance was included in CCSS's 2014 evaluation report (CCSS, 2014).

Performance dashboards at provider level are being created, using information from the EDUS data system (see Box 1.2 in Chapter 1). Both clinical indicators (similar to those presented in Annex B) and productivity indicators are included, the latter measuring aspects such as EBAIS opening hours, number of patients seen per day, the share of consultations conducted in-person, by telephone and via internet, and the number of unused appointments. An illustration of the information available is given in Annex C. In that illustration, dating from May 2016, 64 006 in-person primary care appointments, 5 869 telephone appointments, and 6 505 internet appointments were allocated in the Huetar Atlántico region (population 445 000). On average, EBAIS saw just over 25 patients a day. Benchmarking is possible by health authority (Cariari, Guácimo and Matina are shown) and by EBAIS (those within Matina are shown).

Efforts to deliver integrated, people-centred health services are well advanced in Costa Rica. A number of innovative approaches illustrate service delivery models that other health systems could learn from. Home care is well-established, for example. Patients are given a journal, explaining that home care is an integral part of the hospital/EBAIS network, and allowing them to record their diagnoses, treatments, test results and appointments. Space for recording preferences, concerns and questions is also allocated. The back page explains that the point of the journal is to help the patient and their family to be more involved in care, encourage multidisciplinary care and avoid duplication and waste. Planned hospital discharge is also systematised, supported by national policy frameworks that stress that planning for discharge begins at admission (or even before), with a multidisciplinary assessment of likely needs upon leaving hospital. Regions are expected to develop service frameworks that bring the various elements of integrated, people-centred health care together. The framework for the Huetar Atlántica region, for example, sets out in detail how its home care and intermediate care facilities, day hospitals, planned discharge programmes and telemedicine should articulate to deliver more person-centred care. Efforts that align with the OECD Council's recommendation on Integrated Mental Health, Skills and Work Policy are also evident (see Box 2.1 in Chapter 2).

Costa Rica has developed a rich, multi-sectoral approach to tackle the challenges of an ageing society that serves as a model of good practice. The rights of people aged over 65 are set out in a dedicated law that specifies rights to participate in the economic life of the country, as well as cultural, sport and recreational activities. Rights to credit; to continuing

education and to preferential treatment in dealing with administrative bodies are also specified. The *Consejo Nacional de la Persona Adulta Mayor* (National Council for Older People, CONAPAM) is a dedicated unit within the Office of the President. It co-ordinates a range of services and programmes to support healthy ageing, particularly focussed on elderly individuals living in poverty and/or lacking family support. In addition, Costa Rica was the first Latin American health system to develop a plan for managing the health and social care burden from dementia (including development of a network of ten memory clinics), and was one of the first globally to participate in the WHO's Dementia Observatory.

Private health care providers are increasingly used to deliver primary care. In an effort to expand access, a diversified provider market is developing for primary care. Currently, around 15% of primary care is delivered by independent providers that hold contracts with the CCSS. Reportedly, however, there are still problems with access to primary care (particularly in the afternoons, since many EBAIS only see patients until 3pm), leading to congested hospital emergency departments. Individuals may also seek private care, financed directly out-of-pocket or, more rarely, through private insurance. Private providers are both for-profit and not-for-profit. The CCSS also contracts with a small number of private institutions to provide high complexity diagnostics and treatments, most often for cancer patients.

Government's oversight of the CCSS's strategic objectives and performance is too weak

The Ministry of Health's influence over the planning, funding and delivery of health care in Costa Rica is weak. The CCSS is an arms-length body, with its own authorising law. It formally has a "relation of confidence" with central government (Cercone and Pacheco, 2008) but remains constitutionally independent and operates autonomously.

The 2015-2018 National Policy for Health *(Política Nacional de Salud "Dr. Juan Guillermo Ortiz Guier" 2015-2018)*, signed by the President and Minister of Health, sets the strategic direction for the public health and health care sectors. It sets out ambitions in five key areas: inter-sectoral action and citizen participation; universal access and equity; healthy behaviours, recreation and sport; environmental health; and, climate change and risk management. The Policy is operationalised through the 2016-2020 National Plan for Health *(Plan Nacional de Salud, 2016-2020)*. This specifies baselines and targets for key indicators, and assigns responsibility for implementation to named institutions, including the CCSS.

Despite these mechanisms, it is reported that the ministry struggles to influence the CCSS's strategic planning. The National Plan for Health, for example, comprises well over 200 targets and indicators, which are not prioritised. Furthermore, the CCSS has no incentive to follow recommendations issued by the ministry, and the ministry has no direct mechanism to require it to do so – in the past, the ministry was also required to seek judicial orders for the CCSS to release performance data.

Audits of CCSS performance are also lacking. As described in Section 2, the CCSS has, in the past, produced performance reports. The last of these was in 2014, however, and its coverage of indicators was patchy. The CCSS has a statistics and analysis unit, which compiles and analyses service delivery data, and its Directorate for Service Purchasing also monitors activity levels. Neither of these, however, produces regular and transparent audits of performance. The Ministry of Health recognises that the information made available to it to understand CCSS performance is fragmented and inadequate, limiting its ability to monitor quality and outcomes of health care services. It is seeking greater inter-institutional co-operation, including the establishment of a new technical advisory unit, to better monitor CCSS performance.

Publicly-owned entities may be at particular risk of under-performance, because of the absence of two key disciplining factors: the possibility of takeover or of bankruptcy (OECD, 2016a). The CCSS currently enjoys both privileges: it is the monopoly provider of general health insurance and near-monopoly provider of general health care services in Costa Rica, and financial shortfalls are regularly met by transfers from the Treasury (see Section 3). Given failures in performance that have been identified in the past (through now discontinued accreditation programmes or deteriorating door-to-needle times for patients with a heart attack, for example; see Sections 2 and 3), lack of detailed, transparent and rigorous processes to set a clearly prioritised mandate for the CCSS and audit its performance is a serious concern.

The Ministry of Health has a strong focus on public health and preventive health care

Given the ministry's minimal role in health care delivery, it focuses instead on public health. Current priorities include health promotion and prevention, environmental health and the impact of migration. Tobacco and alcohol taxes are used to fund the national institute that tackles alcoholism and drug dependency, as well as funding CONAPAM (see above). The national strategy against non-communicable disease and obesity defines several targets, including a 12% reduction the prevalence of smoking, a 15% reduction in salt intake and a 2% reduction in childhood obesity levels before 2021. A number of national bodies are called upon to work in partnership to deliver these targets, including the Ministries of Education, of Sport and Recreation and of Agriculture. Public-private partnerships are also exploited to improve public health, particularly to encourage physical activity. The CCSS invests in public health, and recently agreed funding for health and nutrition coaches, to work with individuals in priority regions. Although a wide range of public health initiatives are in place, their impact is rarely evaluated. Furthermore, a recent WHO evaluation against essential public health functions found weaknesses mechanisms for performance and accountability (particularly at sub-national level) and training of the public health workforce.

The ministry has also become very good at inter-sectoral collaboration. A good example of this is the *Comisión de Enlace Salud, Industria y Comercio* (COESAINCO, the Commission for liaison between health, industry and commerce), established in 2012. This brings together the Ministries of Health, Economics, External Trade and the Presidency, and a number of national trade and industry bodies (including those representing the pharmaceutical sector). COESAINCO has issued several norms and recommendations around, for example, streamlining market authorisation for new products or voluntary salt reduction in foodstuffs. The third sector (religious, charitable and other non-governmental bodies) also plays an important role in providing some aspects of health and social care. The national *junta* (committee) for social protection dates back to 1845 and uses income from its national lottery to fund a variety of health promotion programmes, palliative care programmes, drug and alcohol treatment programmes and support for disabled people and the elderly, amongst other things.

Institutional stability has been an obstacle to reform in key areas

Costa Rica has been unable to introduce health system reforms in a number of important policy areas. This is particularly true of the hospital sector. Attempts to introduce initiatives to improve quality and efficiency, such as DRG-accounting system or accreditation (see Section 2), have been later abandoned. In the case of DRGs, this occurred because the licence for use expired (and no home-grown system was developed to replace it). In other cases, such as with accreditation, reasons for abandonment are not always clear. Attempts to systematise health technology assessment, which is not generally carried out in Costa Rica, have also failed. In other cases, directives have been implemented (including government directives in 2011, 2012

and 2013 on cost containment) but are clearly not implemented effectively, given the continuing upward trajectory in spending (see Section 3).

Rigidities are to some extent characteristic of the Costa Rican health system, the flipside of its long-standing stability. The inability of the Ministry of Health to hold the CCSS and its providers to account has already been discussed. In turn, the ability of the CCSS to reform is significantly constrained by professional groups. A recent High Level Commission (*Comisión de Notables*) reviewing the CCSS in 2010-11, noted that senior appointments within it were rotated around a small group of directors, without open competition or performance management. The Commission recommended that all senior management positions within the CCSS should be renewed through open competition. As of 2016, this recommendation has still not been acted upon. Similarly, although user groups are well-established (see the discussion on *juntas,* above), they seem ineffective in exerting pressure to extend opening hours in primary care, to give one example, a significant source of public dissatisfaction. The *juntas* are not disruptors; they have the capacity to be, but vested interests are too strong.

The overly-rigid system should be put in context. The 1990 reforms to decentralise the CCSS architecture, primary care reforms to create EBAIS and creation of a unified health and social care electronic patient record (EDUS, as discussed earlier), demonstrate that the CCSS is able to reform. In the hospital sector, however, and more critically, in the broader issues of transparency and accountability, the system has made little or no progress.

Reforms to steer and hold the CCSS to account more effectively are needed

Costa Rica should consider how central government can determine CCSS's public service obligation, and hold it to account for delivery, more effectively than it currently does. The Ministry of Health, for example, should better prioritise annual performance objectives for the health care insurance/provision arm of the CCSS, as occurs in other health systems with similar institutional configurations (OECD, 2015a, 2016c). Any recasting of the relationship between central government and the CCSS should preserve the operational flexibility that the CCSS already has.

In parallel, there is a need to establish better reporting systems to allow the Ministry of Health (as well as other bodies in central government, such as the Ministry of Finance) to better monitor CCSS performance, and audit compliance with relevant standards. Two distinct aspects are critical here. First, accountability for service delivery and quality; second, accountability for financial stability and probity. A public account of progress against agreed objectives and standards, by CCSS and/or an independent auditor, would be strengthened by systematic benchmarking of CCSS performance both domestically and abroad. Domestically, such benchmarking could assess compliance with standards on transparency, citizen participation, data governance etc., as well as metrics on clinical outcomes, patient satisfaction etc. Internationally, benchmarking should address key indicators of health system performance, and be aligned with the OECD's *System of Health Accounts, Health Care Quality Indicators* and other benchmarking initiatives.

In looking to establish clearer accountability of the CCSS to central government, Costa Rica starts from a good position. The CCSS enjoys a high level of public trust; it is clear that CCSS and central government objectives (to meet Costa Rica's health care needs efficiently and equitably) are fairly well aligned; and multi-stakeholder processes for agreeing health system priorities exist (even if the national plans which currently emerge lack teeth). Recent reforms in the United Kingdom offer an interesting case-study for Costa Rica to consider. There, the 2012 Health and Social Care Act substantially recast relations between central government (the Department of Health) and the monopoly provider of health care insurance and services (the National Health Service). A new entity, *NHS England*, was created whose principal function is to provide or purchase health services, and deliver continuous

improvements in quality and outcomes. The intentions of the Secretary of State are communicated to *NHS England* via a mandate, which sets out priorities such as enhancing quality of life for people with long-term conditions and freeing the NHS to innovate. The *Care Quality Commission* is an independent auditor of service quality, and *Monitor* is an independent auditor of financial stability (OECD, 2016c).

2. Access and quality

In assessing the accessibility of health care in Costa Rica, a key issue concerns long waiting times, which are a persistent problem in the CCSS. While these are now improving, financial accessibility may be worsening, with evidence of an upward trend in out-of-pocket spending. A preoccupation with waiting times also means that other dimensions of quality, particularly patient outcomes, have not received sufficient attention.

Although UHC has nominally "been achieved", people can wait years for scheduled care

Waiting times for elective surgery are well over a year. According to the CCSS's last published self-evaluation, average waiting time for general surgery was 452 days (CCSS, 2014). Almost a third (31%) of patients were waiting for longer than 540 days. Particularly long average waiting times affected certain specialities, including joint replacement (978 days), varicose vein removal (525 days), or inguinal hernia repairs (365 days). These are not life-threating conditions, but such long waits must fall short of patients' expectations. Tertiary specialist hospitals were also worse affected. This includes the national children's hospital, where average waiting time for surgery was remarkably long, at 701 days. It is interesting to note that waiting times in the hospitals belonging to the INS insurer-provider network (see Box 1) are typically less than a week. Although the INS offers a restricted set of services compared to the CCSS, its short waiting times include elective surgery.

Poor access to primary care is also leading to congestion in hospital emergency rooms. Although primary care sector is well developed (see above in Section 1), most EBAIS only offer appointments in the morning and early afternoon, closing at around 3pm. Patients reportedly get up very early to start queueing for an appointment. Such difficulties make many patients go directly to hospital emergency departments for primary care. In 2010, 44% of all public consultations were held in emergency services (43.5% in hospitals and 56.5% in health areas), out of which 60% turned out not to be actual emergencies. As a comparison, non-urgent visits to an emergency department (ED) accounted for nearly 12% of all ED visits in the United States, 20% in Italy, 25% in Canada, 31% in Portugal, 32% in Australia and 56% in Belgium.

Waiting times for surgery have improved in recent years, as shown in Figure 2.5 in Chapter 2. The CCSS introduced a national initiative to tackle lengthy waiting lists in April 2014. By September 2015, 93% of hospitals had managed to reduce waiting times, with an overall reduction of over a year (from 613 days in 2012, to 256 days in 2015). This was achieved by encouraging more efficient use of surgical theatre time and recovery beds, extending the operating day into the early morning and evening, specifying maximum waiting times and establishing a unit that monitors and intervenes in services with excessive waits.

Lengthy waiting times are likely to be due, in part, to substantial shortfalls in the number of doctors and nurses working for the CCSS. Despite success in reducing waiting times through efficiency initiatives, Costa Rica's relative lack of medical workforce is likely to be an underlying structural factor that maintains long waits. The number (headcount) of physicians and nurses working in Costa Rica has risen considerably over the past two decades (Figure 1.8), yet physician density per 1 000 inhabitants remains just 2.1 per

1 000 inhabitants, below the OECD average of 3.3 practicing physicians per 1 000 inhabitants (OECD, 2016b) (Figure 1.9). In particular, it is reported that the lack of secondary care doctors is likely to be contributing to long waiting times.

Institutions to monitor workforce needs are well developed, but the flexibility with which the CCSS can plan and deploy the medical workforce is restricted. The *Centro de Desarrollo Estratégico e Información en Salud y Seguridad Social* (Centre for Strategic Development and Information in Health and Social Security, CENDEISSS) is a unit within CCSS that, for over 40 years, has been responsible for the planning and strategic development of the health care workforce. Costa Rica also has *Observatorio Nacional de Recursos Humanos en Salud* (National Observatory for Human Resources in Health) to monitor workforce trends and support dialogue between professional associations, the Ministry of Health, the CCSS, private employers, academics and other stakeholders. Notably, however, the *Colegio de Médicos y Cirujanos de Costa Rica* (College of Physicians and Surgeons of Costa Rica) also exerts significant influence in this sphere.

The doctors' professional association has prevented liberalisation of employment practices. The *Colegio,* citing concerns over medical unemployment and maintenance of professional standards, has secured restrictions on the ability of foreign-trained doctors to work in Costa Rica when physician shortages have been declared, known as "inopia". The CCSS reports these restrictions as being excessively prohibitive. The *Colegio* also has influence over the number of training places in Costa Rica's medical schools. The number of medical graduates grew some 50% between 2010 and 2014 (Figure 2.9). In addition, doctors can only be appointed to numbered, full-time positions.

Current workforce plans allow for 200 new specialists a year, just covering expected retirement, even though CENDEISSS estimate that 1 500 additional specialists are needed immediately. Dual practice, however, is unregulated. This means that doctors have no minimum commitment to the CCSS and can develop a private practice without restriction, and there are reports of doctors exploiting lengthy waiting lists to steer patients toward private care. Given comparative workforce numbers internationally, it is also unlikely that the *Colegio's* concerns over medical unemployment are well-founded.

Deficiencies in the nursing workforce are even more concerning. On average across the OECD, there are about three times more nurses than doctors. Costa Rica, on the other hand, reports around 1.5 nurses for every doctor. There are 3.1 nurses per 1 000 inhabitants, compared to 9.1 per 1 000 inhabitants on average among OECD countries (OECD, 2016b). Differences in the way a "nurse" is defined may partly explain this finding (for example, auxiliary nurses without a degree may not be counted in Costa Rica, but included in other health systems' nursing headcount). Promisingly, there has been rapid growth in numbers of nursing graduates, from 647 in 2010 to 1 541 in 2014. The supply of new nurses, as a result, now substantially exceeds that of doctors.

Nurses' contribution to health care is substantial, given that they have an unusually extended scope of practice compared to other health systems. There are a number of defined nursing specialities, including anaesthetics or cancer care, supported by Masters and Doctoral programmes. Nurses also go abroad for advanced specialist training. Nurses run their own clinics for a wide range conditions, including diabetic complications (such as foot ulcers), anticoagulation and cardiac rehabilitation. Such well-developed advanced nursing roles are unusual even in OECD health systems, and offers an example of good practice for other health systems to consider.

Out-of-pocket spending is drifting upward, risking creation of a two-tier system

Direct spending out-of-pocket now accounts for a quarter of health system revenue. Health system financing is discussed in detail in Section 3, but a steady upward drift in out-of-pocket spending is worth noting during this discussion on accessibility. As a share of total health spending, OOP expenditure has risen from 18.7% in 2000 to reach 24.9% in 2014 (Figure 1.11). In contrast, the majority OECD health systems have managed to reduce out-of-pocket costs in recent years.

Household surveys show that around 30% of the population uses private health services at least once a year, typically provided by CCSS doctors engaged in dual practice. In one survey, 60% respondents reported preferring private health care providers to CCSS services (Gutiérrez, 2009). Furthermore, 50% of the population thought they should be able to stop contributing to the social security system and join a private insurance instead. In another survey, however, 68% thought that the government, rather than private institutions, should be responsible for managing the health care system (Hernández and Salgado, 2014). This may explain why voluntary private health insurance (VHI) remains little exploited. VHI accounts for just 2% of total national expenditure on health, covering just 0.3% of the population.

The trend in OOP spending, with large numbers using private sector services, suggests development of a two-tier system. Studies have shown that the main components of OOP spending in Costa Rica are medical consultations and drugs, accounting for over 80% OOP spending, with laboratory tests accounting for around 7% (Knaul et al., 2012). Those who can afford to, then, are increasingly bypassing lengthy waits (or perceived poor quality) in the public system, and purchasing basic procedures in the private sector. Catastrophic spending remains low, because individuals opt back into the CCSS for major procedures. Costa Rica's long tradition of solidarity and publicly-funded basic service means that the insidious emergence of an inequitable two-tier system would be a major failure of good governance. Avoiding this must be a priority, especially given that society may already be fragmenting, as evidenced by a worsening Gini coefficient (see above in Section 1).

Costa Rica needs a more flexible workforce policy, designed around the needs of patients

Costa Rica should increase the domestic supply of health care workers. Nearly all OECD countries have considerably increased the number of students admitted to medical and nursing education in recent years to meet current and anticipated shortages (OECD, 2016d). In the United States, for example, intake at medical schools increased by a third between 2001 and 2013. Occasionally countries, such as Australia, have abandoned *numerus clausus*[3] policies in some clinical areas to stimulate supply. Policies to improve retention rates throughout professionals' working lives (particularly for nurses) have also been pursued, such as financial incentives to resume training or work after a career break. Costa Rica should also consider relaxing rules which prevent appointment of new specialists unless into a centrally-listed, full-time role.

Accelerating the supply of Family Medicine specialists and Advanced Nurse Practitioners will also deliver more patient-centred care. Although Costa Rica's primary care base is strong, it is staffed by relatively few clinicians with specialist post-graduate training in primary care or family medicine. A number of OECD countries, such as England, France and Canada, have expanded specialist post-graduate training in primary care, and sought to make it a more attractive option for new doctors (by increasing pay, for example). The professional group(s) responsible for providing primary care need not be exclusively limited to doctors, since some of its core functions (comprehensiveness, continuity and co-ordination) can be discharged by other professional groups. Accordingly, some countries such as the United States, Canada and the Netherlands have sought to improve access to primary care by

expanding advanced education programmes for nurses (OECD, 2016d). Costa Rica is well advanced in developing extended nurse roles, and the CCSS should consider expanding the opportunities for nurses to offer more services traditionally undertaken by doctor, in line with recommendations from the High-Level Commission on Health Employment and Economic Growth (WHO, 2016).

Greater openness to foreign-trained health workers may also be part of the solution to Costa Rica's short-term needs. OECD countries have, in the past, depended heavily on clinicians trained elsewhere. On average across the OECD in 2013-14, about one in six doctors and one in sixteen nurses was trained abroad, surpassing more than one in three doctors in countries such as Israel, New Zealand, Australia, Norway and Ireland (OECD, 2016d). Such figures displace any concerns that professional associations in Costa Rica may have about the quality or value of foreign-trained clinicians. Ethical practice (avoiding active recruitment from developing countries suffering critical workforce shortages, for example) is clearly necessary, and most OECD countries are gradually reducing their dependence on foreign-trained workers by expanding domestic supply. The CCSS and the government should also explore using training locations abroad for Costa Rican health professionals, if the domestic supply of training locations cannot be expanded given the small size of the country.

Waiting times should also be tackled through effective enforcement of waiting time guarantees

Supply-side initiatives alone will not be enough to substantially reduce Costa Rica's long waiting lists for scheduled care. OECD experience shows that funding additional activity, including contracting with the private sector (or subsidising private insurance), are weak and poorly-sustainable solutions to lengthy waiting times (Siciliani et al., 2013). Waiting time guarantees (such as those recently introduced by the CCSS) are also weakly effective, unless effectively enforced. Approaches combining additional activity and waiting time guarantees with sanctions (for breaching them) and patient-choice of provider (if breaching is likely) have shown the greatest, sustained impact on improving access.

Costa Rica should consider allowing patients a choice of hospital, including private sector providers. This is not a pro-privatisation argument, but an argument to bring peoples' increasing use of private providers back into the fold of a unified, publicly-funded social security system. A number of single-payer OECD health systems have introduced reforms that allowing choice of provider, including private-sector providers paid for publicly. These countries include Portugal, the Netherlands, the United Kingdom and Denmark. The Portuguese model has been particularly effective in decreasing waiting times – vouchers allowing free choice of any provider are issued to patients when 75% of the waiting time guarantee is reached (Siciliani et al., 2013). Experience shows that only small numbers of patients need to choose an alternative provider to seriously concentrate hospital managers' minds on improving their service. Sophisticated pre-requisites must be in place, however, including an effective purchase-provider split; a DRG-type provider payment system; and an accurate and timely national database of hospital waiting times for specific procedures. Cost-control can also be difficult to achieve when trying to reduce waiting lists rapidly, particularly if activity-based financing is predominant the underlying payment mechanism.

Quality and outcomes are not monitored consistently

A significant volume of data around CCSS services is routinely collected, but little relates to quality or outcomes. The CCSS published evaluations of its service delivery in 2013 and 2014, addressing some thirty indicators access, quality and efficiency in both primary and secondary care. Most indicators address inputs and activities. A few outcomes, however, are measured. Encouraging results were found for hypertension, where adequate control was

achieved in 66% individuals with high blood pressure, unchanged from 2012. Blood pressure screening also increased from 30% to 34% (of the undiagnosed population) between 2013 and 2014. In contrast, adequate control of cholesterol levels was achieved in only around 45% people with dyslipidaemia. The evaluation considered reasons for falling short of the 55% target, including poor adherence to clinical guidelines or deficient information systems.

The evaluation also reported hospitals' risk-adjusted mortality rates, using methods developed by the Canadian Institute of Health Information. Six out of 23 hospitals had rates significantly above the national average of 2.4 deaths per 100 patients. In another section, door-to-needle times for patients with a heart attack were reported. Of significant concern, these had worsened substantially between 2013 and 2014: 74% received thrombolysis within 30 minutes in 2014 (and 89% within 60 minutes), compared to 85% (97%) the year before. Inter-hospital variation was not analysed for this indicator, nor were reasons for its deterioration explored.

Cervical cancer screening rates were reported (and found to be worsening), but breast and colorectal cancer screening were not reported. No cancer survival rates were reported. Independent studies, however, have reported that cervical cancer five-year relative survival rate for patients diagnosed in 1999 was 68.3%, higher than the OECD average of 64% for the period 1998-2003 (Quirós, 2015; and OECD, 2016b). A breast cancer survival rate of 88% was observed in Costa Rica for patients diagnosed in 2009 after a median follow-up of 46.8 months, as compared to the OECD average of 84.5% (although this OECD average is over a follow-up of five years) (Rivero, 2014; and OECD, 2016b). Costa Rica has a national cancer registry, but it does not appear to be used for quality monitoring and improvement.

It is concerning that the last CCSS performance report was published in 2014. More recent reports are not available for comparison, even though the stated intention of the 2013 and 2014 reports was to establish a baseline for future comparison. Furthermore, several important indicators were not measured in the 2014 evaluation. Survival rates after a heart attack, for example, were not reported – a key indicator directly relevant to deteriorating door-to-needle times. It should also be noted that Costa Rica has not, to date, submitted any data to the OECD's *Health Care Quality Indicators* project.

The CCSS undertook a patient satisfaction survey in 2012/13, with encouraging results. Several dimensions of satisfaction were assessed (such as quality of the physical environment, punctuality, and staff empathy) but sample sizes were very small – just 120 in-patients per hospital, for example. Overall, 86% patients appeared satisfied with in-patient services, and 83% with out-patient services. The survey was repeated in 2015, capturing more patients and extending to primary care (results not available at time of writing.

Policies and institutions to improve quality are also poorly developed

A national health care quality programme is nominally in place, but is very restricted in scope. The programme, run by the Ministry of Health and applying to CCSS as well as private facilities, focuses on accrediting health care providers. Accreditation is at a basic level, however, and essentially comprises verification that the facility complies with minimum requirements around staffing levels, equipment and documentation.

More ambitious quality monitoring and improvement programmes have been abandoned. Between 1998 and 2007, a voluntary accreditation programme for general hospitals was developed with assistance from Canada. Evaluations were carried out annually between 2000 and 2006, during which time the only hospital to fulfil all accreditation criteria was one in the private sector. No CCSS hospital attained the necessary standards; indeed, serious emergent deficiencies led to the closure of a number of units. Despite this, the programme was discontinued. The private hospital that had attained accreditation swapped to an international

(commercial) accreditation agency, and now the only hospitals actively engaged with a formative accreditation and improvement programme (such as that run by the Joint Commission International) are in the private sector.

Similarly, tailored accreditation standards for specific sectors (such as elderly care and palliative care facilities) previously existed, but have fallen into disuse. And until 2008, the Ministry of Health ran a programme with the CCSS to evaluate primary care services, including patient satisfaction, with results made public at facility level. This too, was abandoned, although the primary care performance framework described in Section 1 has rectified this.

A number of minimum service standards and clinical guidelines are produced, both by the Ministry of Health and CCSS in a collaborative process that involves clinical, technical and administrative personnel at each service level from both institutions. These guidelines not only cover specific diseases (such as breast cancer), but also address the needs of defined patient groups (such as adolescents or post-partum mothers), in order to encourage integrated, patient-centred care. The ministry issues such guidelines by executive decree, and compliance is technically compulsory. There are, however, no mechanisms to monitor compliance and no accompanying incentives, sanctions or support to help providers adapt their processes to comply. There is a risk, then, that these guidelines are not adequately adopted at the clinical front-line.

Patient safety is not well addressed. The CCSS does have a system in place to monitor, respond to and prevent hospital-acquired infections. A national monitoring and learning system for other adverse events is not, however, in place.

Steps are being taken to address acknowledged gaps in Costa Rica's quality monitoring and improvement architecture. The ministry's 2015-2018 National Health Plan established a health care quality programme that focuses on wider implementation of the EDUS information system and reduction of waiting times. It also, however, aims to systematise measurement of patient experiences and establish quality standards and indicators, initially around organ donation and transplantation. The CCSS recently established quality monitoring programme in primary care (see Section 1), with plans to develop a similar programme for hospitals.

Quality governance must be embedded more effectively in the health system

Health system performance, at local and national level, needs to be better measured using data focussed on patient outcomes. Not enough is known about the quality and outcomes of care in Costa Rica. Although some important initiatives are underway, such as the primary care performance monitoring framework, quality does not emerge as the dominant governing idea within Costa Rican health care. "Quality" is still thought of in limited terms (typically, waiting times) meaning that important gaps in the health system's information infrastructure persist. Even though there is a national cancer observatory, for example, authorities were unable to produce data on the stage of cancer at diagnosis (vital for understanding the effectiveness of screening and prevention programmes) when asked.

A richer set of quality indicators, with particular attention to patient outcomes, should be a priority. Quality indicators should focus on chronic conditions such as obesity, diabetes and cardiovascular disease, as well as mental health, given Costa Rica's evolving health care burden. Validated metrics of the quality of primary care for these conditions are well established internationally (such the OECD's *Health Care Quality Indicators*), and should be adopted by Costa Rica. Costa Rica should aim to submit data to the OECD's *Health Care Quality Indicators* project in 2017.

Critical gaps in the policy and institutions that monitor and improve health care quality also need to be addressed. It is very concerning, for example, that the only hospitals actively

engaged with a formative accreditation and improvement programmes are in the private sector. To ensure that this issue receives proper attention, Costa Rica should consider establishing an independent commission for quality monitoring and improvement. This authority, independent of the CCSS, should be responsible for setting standards for safe and effective care across all providers, including private ones. It should also be attributed powers to collect, analyse and publish quality and outcomes data, sharing the lessons of good performance. The United Kingdom's *Care Quality Commission* (see Section 1) offers a model to consider.

Improving quality also requires effective mechanisms to monitor adverse events and disseminate good practices that avoid them. Arrangements in Italy are a model of particular interest. There, the National Observatory on Good Practices for Patient Safety has been established that identifies transferable learning from adverse events in hospitals and clinics, and organises workshops and materials to share good practices. The Observatory has been very effective by raising awareness among health care professionals and nurturing a culture of change across the whole country (OECD, 2015c).

3. Efficiency and financial sustainability

Health spending in Costa Rica now surpasses the OECD average, as a share of GDP. Spending increases have been almost entirely consumed by increases in the number and salary of CCSS employees, without clear evidence of benefit to patients. Costa Rica should consider expenditure ceilings and spending reviews in the short term to control spending. In the longer term, better use of performance data and innovative payments systems will be needed, as well as a shift away from employment-linked contributions as the main source of health system revenue.

Over-reliance on employment-linked revenues threatens the CCSS's financial sustainability

CCSS income is heavily dependent on employment-linked contributions, which have been under pressure following the global financial crisis. Prospects for improvement are bleak – informal employment is increasing in Costa Rica, contrary to many Latin American economies, and now accounts for almost half of all employment (Figure 1.5). In addition, worsening income inequality and population ageing (see Section 1) may both imply greater numbers of self-employed, informal workers and elderly individuals falling within the threshold for non-contributory affiliation to the CCSS.

Costa Rica's overall fiscal system is excessively dependent on social security contributions. By way of broader context, the OECD's *Economic Survey of Costa Rica, 2016* notes that total fiscal revenue amounts to only 23% of GDP. Social security contributions account for 8% GDP and about 34% of total government revenue, substantially above the regional average of 18% in Latin America and OECD average of 27%. Revenues from income tax and VAT are lower than in other Latin America economies (and much lower than OECD economies) because of a narrow tax base and low tax rates. The standard VAT rate, for example, is 13%, compared to 19.1% average across OECD economies. In addition, the tax-free threshold for income tax is around twice the average wage – much higher than most OECD economies, including Mexico and Chile. The Survey concluded that failing to broaden and deepen the tax revenue base is likely to lead to public debt rising to unsustainable levels (OECD, 2016a).

Cost-containment mechanisms are poor, with little evidence that increased spending is benefitting patients

Budgetary discipline is not robustly applied to the CCSS. Its authorising law gives the CCSS complete autonomy over financial matters. Accounts must be presented to the Comptroller-General of the Republic, but this institution does not have the authority to direct the CCSS to reallocate or reduce spending. Neither does the CCSS annual budget have to be approved by the Legislative Assembly. Furthermore, the CCSS is exempt from most regulations established by the Ministry of Finance and other national authorities. It is only required to adhere to codes of conduct around employment. Any other type of regulation, either issued by the Ministry of Finance or by other bodies within central government, do not apply to the CCSS (Cercone and Pacheco, 2008).

Operational spending is heavily skewed toward the hospital sector. CCSS data show that since 2010, costs in this sector have risen annually by an average of 7.9%. In contrast, operational costs in the primary care sector are around 40% of those in the hospital sector and are rising more slowly, at an average of 6.7% per year (see Table 3.3 in Chapter 3). Of note, both primary care areas and hospitals receive an annual global budget based on last year's outlay, which is likely to explain the inflationary trend.

Broad measures of efficiency suggest that Costa Rica's health system is struggling to deliver value for patients. As described earlier, 7.5% GDP was spent on health care in 2005, rising to 9.3% GDP in 2014. This is slightly more than the OECD average, yet life expectancy in Costa Rica falls just below OECD average (although life expectancy also depends on other factors including the level of development). Long-standing problems with excessive waiting times and inconsistent performance indicators (such as the worsening door-to-needle times for patients who have suffered a heart attack, described in Chapter 2) also imply that increasing investment in health care is not translating into value on the front line.

Key indicators of productivity are also concerning. Physicians, who are salaried, are seeing fewer patients year on year. The rate of consultations fell from 2.21 per capita population in 2010 to 2.18 in 2015. This is substantially lower than the OECD average of 6.8 – no OECD health system reports such a low consultation rate (the lowest is Mexico, at 2.6). In short, there is little evidence that rapidly growing spending is benefitting patients. Payment systems are tied to activities, inputs or last year's outlays, and do not reward quality or outcomes. The negative effects that one would expect from traditional payment systems are manifest – increasing spend, with no improvement in productivity or outcomes.

Principal drivers of spending include growth in hospital activity, poor price control and increases in medical salaries

Increases in hospital expenditure can be linked to steady expansion in the volume of hospital activity. The rate of hospital discharges per bed has risen from 45 discharges per bed in 1990 to 62 in 2015, as shown in Figure 3.15. Average length-of-stay (all causes) in Costa Rica was 6.6 days in 2015. While this is less than the OECD average of 6.9 days (excluding Japan and Korea), it should be noted that this figure has not fallen in last decade in Costa Rica, in contrast to most OECD health systems.

Critically, the CCSS cannot accurately price episodes of hospital care. The CCSS maintains a list of the price of particular services, updated every six months. But this list has been criticised on several fronts. First, costs are derived from prices set by the *Colegio de Médicos y Cirujanos*. The *Colegio* claim to have a fair and robust process for determining such prices, but they are clearly not independent. Second, national tariffs do not reflect variations in operating cost across hospitals. The DRG system that the CCSS used to employ

revealed significant cost and productivity variation across providers. Once the DRG system was abandoned, however, this analytic capability was lost leaving the CCSS with mere approximations of cost at individual provider level. Finally, the CCSS is unable to sum costs across a pathway of care for a given admission, and link total cost to outcomes. Overall, the CCSS finds itself in the unsustainable situation of increasing hospital activity, with little understanding of the costs thereof.

Salaries account for around 65% of operational expenditure and are going up by around 7.0% a year. This is true of both the hospital and primary care sector (see Table 3.3), and is being driven by the increase in the headcount of individuals working for the CCSS (appropriately, given the shortage of personnel as discussed earlier). Additionally, however, generous increases in individuals' salaries are also causing wage bill inflation. It was reported, for example, that salaries for CCSS employees increased by 27% in 2010 and 18% in 2011, despite the prevailing global economic crisis (Boddiger, 2012). In contrast, annual growth rate in Costa Rica's consumer price index (a measure of inflation) averaged 4.8% between 2011 and 2014 (OECD CPI indicators, http://dx.doi.Org/10.1787/eee82e6e-en, accessed on 10 September 2016). The growth in salaries is perhaps remarkable given doctors' falling productivity, discussed below.

Unsustainable public sector salaries are a systemic problem in Costa Rica. Government salaries are equivalent to 13% of GDP, on a par with Norway (13.6%) and easily exceeding the OECD average of 10.6%. As noted in the OECD's *Economic Survey of Costa Rica, 2016*, Costa Rica's "public-sector wage bill as a share of GDP is higher than in most OECD countries, even though its public employment share is among the lowest". Effective increases in public sector salaries have far exceed negotiated targets and inflation in recent years (Figure 3.19). Excessive wage bills pose a threat to the wider social fabric. The Survey also noted that "rising public sector salaries made the largest contribution to inequality between 2010 and 2014, particularly salaries of qualified workers in public agencies outside central government" – such as the CCSS (OECD, 2016a).

Demographic trends and worsening risk factors, self-evidently, will also add to spending pressures. As noted in Section 1, for example, obesity rates are higher in Costa Rica than most OECD countries.

Expenditure ceilings, regular spending reviews and early warning systems should be used to control spending and encourage efficiency in the short term

Central government control over health system spending needs to be reinforced. In most OECD health systems, the central budgetary authority (e.g. the Ministry of Finance) sets expenditure ceilings for the health sector, annually or over multi-year cycles. Ceilings are usually determined by economic rather than health factors, and they may be rigidly enforced. A number of countries have also introduced "early warning systems", which alert central government to the risk of overspending and allow proactive measures to be taken – rather than relying upon *post hoc* settlements, as the CCSS currently does. Several central budgetary authorities also undertake regular health sector spending reviews to identify inefficiencies, opportunities for disinvestment and potential savings (OECD, 2015a).

The OECD's System of Health Accounts should be used to help manage spending growth. Costa Rica submission to the SHA, to date, is very basic. Data solely comprise high level aggregates of total expenditure and cannot be broken down by function or provider. Aligning CCSS accounts with the SHA would equip Costa Rica with a robust framework to analyse spending patterns and compare them to international trends. This work is underway (SHA-formatted data were prepared for 2013, apparently) and should be accelerated.

Central government and the CCSS should draw from OECD experience to use the full range of the policy instruments that control spending growth. In France, for example, *National Objectives for Healthcare Spending (ONDAM) targets* were introduced in 1996, and ratified by Parliament. Coupled with an early warning system, the targets allowed payments to be withheld from health providers if they exceeded agreed spending limits. Controlling the CCSS wage bill is a particularly urgent priority in Costa Rica. In the United Kingdom, central government has insisted upon caps on health spending in recent years, to be achieved through pay freezes (or limits to pay growth) and reductions in administrative spending (OECD, 2015b).

In the longer term, health system funds should increasingly come from the general government budget

Costa Rica should reduce reliance upon employment-linked revenues, and increasingly fund its health system from the general government budget. OECD health systems that have historically depended on the labour market for revenue are gradually switching to the general government budget as a source of funding. Payroll-deductions are too narrow a basis for health system funding as fewer and fewer people engage in formal employment. This is true in Costa Rica too (see Figure 1.5), but other arguments make the case especially compelling. Structured and more regular use of government funds should introduce a greater measure of budgetary discipline to the health system. In addition, central government already funds important preventive, public and environmental health programmes, so greater reliance on the general budget would allow a more integrated approach to be taken to all health care activities.

France provides an interesting case study that Costa Rica could consider. From 1999 onwards, France has substantially reconfigured the health system's funding base, first by introducing an ear-marked tax on all income (beyond just salaries) and reducing employees' payroll-linked social insurance contributions to almost zero. Later, consumption taxes and taxes on tobacco, alcohol, pharmaceutical companies, pollution and other elements were used to provide extra revenue (OECD, 2015b, 2016e).

A detailed technical review of future funding options for the health system should be undertaken. Costa Rica is considering, for example, whether local taxes could fund some health care services, such as primary care. "Sin taxes" on alcohol, tobacco and other products are also being discussed. Formally defined user charges or co-payments may also be an option at the margin, to substitute and better target rising levels of OOP spending by encouraging use of high-value services and discouraging unnecessary care. Caution, though, is needed with any reconfiguration of the funding base. Both co-payments and sin taxes, for example, are typically regressive and ear-marking new taxes for health care at local (or national) level can introduce unnecessary rigidities into resource allocation, and/or backfire if the general allocations for health care are reduced. Overall, an independent technical review of future funding options for Costa Rica's health care system should be commissioned. Critically, this work should go hand in hand with efforts to cut waste and increase value from spending today.

A defined benefits package in secondary care should be introduced, supported by systematic health technology assessment

Costa Rica should establish an independent, transparent and rigorous process to assess the cost-effectiveness of health care activities. Previous attempts to establish a health technology assessment function have been unsuccessful, and currently only budget-impact analyses are undertaken. Establishing systematic and rigorous cost-effectiveness analysis would allow the coverage of secondary care services to be more closely defined, by excluding poorly cost-effective interventions. Whether Costa Rica sets up its own agency and/or

collaborates in regional initiatives, it is important that adequate funds, workforce, political support and international technical assistance are in place to deliver timely, robust and transparent assessments. Encouraging public/patient participation in cost-effectiveness assessment will also support credibility.

An increasing number of countries in the Latin America region are developing sophisticated health technology assessment agencies. In Colombia, for example, the *Instituto de Evaluación Tecnológica en Salud* (IETS, institute for technical health evaluations) was created in 2012. This public-private institute has developed its own methodology to perform evaluations of evidence-based technologies and produce guidance and protocols over medicines, procedures and treatments. It makes recommendations on which technologies should be covered by the national health system, and offers Costa Rica a model to follow (OECD, 2015c).

Opportunities for identifying and disinvesting from low-value care should also be sought. The full range of OECD experience in this regard will be set out in a forthcoming OECD publication *Releasing Health Care System Resources: Tackling Ineffective Spending and Waste.* One particularly promising example concerns the *Choosing Wisely* campaign to reduce waste, overuse and harm. The campaign distills complex clinical guidelines into "nuggets of evidence-based don't do's". These are intended to be shared and discussed with patients, avoiding alarm about rationing. An example would be MRI scan of the lower back in the first six weeks of uncomplicated back pain (http://www.choosingwisely.org).

Innovation in payment systems would allow value and patient outcomes to be better rewarded

In hospitals, DRG-based data should be used to shift reimbursement away from historical budgets. Historically-based global budgets can be inflationary if not underpinned by detailed analyses of whether activities are appropriately meeting needs. In contrast, funding based on DRG analysis can allow for a more finely tuned prospective budget, coupled with add-on payments to encourage particular activities or expenditure caps on others. Accordingly, many OECD health systems use DRG systems not just to monitor hospital activity, but as the basis for payment as well. This is especially true in countries with social health insurance, such as Australia or the Netherlands. Even in systems that are tax-financed (and/or use residence-based health insurance coverage as in Costa Rica), DRG-payment systems increasingly used for hospital payment. DRGs form the basis for hospital payments in England, for example. Downward-adjustment of the national tariff attached to these realised savings of, on average, of 1.5% in cash terms between 2011-12 and 2014-15 (OECD, 2015b) demonstrating the potential power of DRGs in better understanding hospital budgets. Costa Rica should look to move away from budgeting based on historical outlays, to more strategic methods of targeting and controlling spending.

In primary care, budgets should include a greater element of risk-adjusted capitation. Although Costa Rica's historic budgets in primary care imply some degree of responsiveness to local health care needs, a more transparent risk-adjusted capitation scheme would allow more strategic resource allocation, and proactive prioritisation of particular health care needs. Nearly all OECD countries that use capitation adjust for risk factors (including age, gender and health status) to ensure that the health care needs of specific groups (such as the elderly) are properly addressed. Capitation is usually combined with fee-for-service, to encourage particular activities. Costa Rica starts from a good base here, since it already has a blended payment system in primary care, and a rich understanding of local health and social care contexts through the family record held within EDUS.

Health care worker salaries should be better linked to performance. There is an urgent need to better control growth in Costa Rica's public-sector wage bill, and it is unacceptable

that recent large increase in health care workers' salaries have not been accompanied by any convincing improvement in productivity or patient outcomes. Ideally, payments to clinicians should reflect value, as far as possible. This can be accommodated within existing FFS schemes, by expanding the definition of a "service". In Japan, for example, the FFS schedule has matured to include packages of pro-active care for people with chronic diseases. Furthermore, value should be measured by improved patient outcomes where possible. In Sweden, for example, 10% of the payment for spine surgery is related to the patient's functionality after surgery. Although the evidence base for performance related pay is still evolving, it is clear that any physician P4P scheme should be aligned with non-financial incentives and complementary incentive schemes at institutional and/or locality level. At the very least, no further pay increases should be awarded for CCSS employees (beyond those permitted by labour law, such as inflation-linked increments), unless they can be clearly linked to increased productivity or value.

The availability and use of performance data needs to be improved

More robust and detailed information on health care activities, costs and outcomes is Costa Rica's most pressing need. Without a fuller understanding of how health care needs link to activities, costs and outcomes – at individual patient level – the CCSS will struggle to control costs, achieve full separation of the purchaser and provider functions, and develop more innovative payment models that incentivise quality and productivity. This information should be collected system-wide as well as for specific patient groups, and be used to predict evolving health care needs and model potential service reconfigurations.

Reinstituting a DRG system to analyse hospital activity should be the first priority, given that costs are accelerating most rapidly in this sector. Nearly all OECD health systems use a DRG system to monitor and analyse hospitals' activity. Although these vary significantly in their detail and complexity, they allow health system planners to better understand trends and variation in hospital care. Extensive international experience is available to support Costa Rica to re-establish a DRG system (Busse et al., 2011).

Better information on hospital activity should be linked to patients' outcomes, as well as to pathways of care outside the hospital system. This is a challenging undertaking, but Costa Rica's EDUS framework offers a solid basis to achieve it. Costa Rica should look to OECD country experience to accelerate progress with EDUS. In Finland, for example, the *PERFormance, Effectiveness and Cost of Treatment* (PERFECT) project links individuals' data to report outcomes and costs for whole pathways of care for patients with breast cancer, schizophrenia and several other conditions. Likewise, reforms in Portugal demonstrate success in optimising both cost and quality across numerous clinical areas including prescribing, day-case surgery and care for chronic conditions (OECD, 2015d).

Finally, the CCSS should resume annual publication of performance reports, in formats oriented to the public as well as more technically detailed analyses for professional groups. The fact that performance reports are only accessible for 2013 and 2014 is a significant failing. Other publicly-funded health systems make detailed analyses of performance readily available in a variety of formats. The CCSS should aspire to a similar level of transparency, and ensure that indicators are aligned to international benchmarks such as OECD's *System of Health Accounts* and *Health Care Quality Indicators*. Canada offers a particularly rich illustration to emulate (https://www.cihi.ca/en/health-system-performance).

Policy recommendations

Costa Rica, broadly, has a sound infrastructure in place to deliver good health care for all its citizens. In order to ensure equitable, sustainable and high-performing health care system for current and future generations, however, substantial reforms are needed. Priority areas for action are:

Reformed governance of the health care system, by:

- Considering how the role of Ministry of Health in determining the strategic priorities of the CCSS could be strengthened whilst maintaining the constitutional independence of the CCSS, for example by better prioritising public service obligations and agreed performance targets;
- Holding the CCSS to account for delivery, by requiring public reports of progress against its mandate through annual performance reports, independent audits and other mechanisms of public scrutiny. Richer performance data focused on patient outcomes should be a priority;
- Deepening Costa Rica's participation in the international benchmarking of health system performance, through fuller submissions to the OECD's *System of Health Accounts, Health Care Quality Indicators* and other initiatives.

Improved accessibility and quality, by:

- Expanding supply of the health care workforce, by giving the CCSS greater flexibility in how and where it employs clinicians (for example, by allowing less than full-time substantive contracts). Some regulation of dual practice is also appropriate;
- Encouraging the further development of advanced roles for nurses, pharmacists and technicians, to undertake tasks traditionally performed by doctors;
- Allowing patients choice of provider, including private-sector providers (paid for publicly), where appropriate;
- Reinstituting accreditation and performance management processes for hospitals, through benchmarking of quality and outcomes, rather than one-off assessments of compliance with minimum standards;
- Developing a specialist primary care workforce.

Strengthened efficiency and financial sustainability, by:

- Better understanding spending patterns and drivers of inflation within the health system. Reintroduction of a DRG-accounting system in hospitals is a particular priority;
- Reducing reliance on employment-linked contributions and increasingly funding health care from the general government budget, as part of a broader review of future funding options;
- Blocking further pay increases for CCSS employees (beyond those permitted by labour law, such as inflation-linked increments), unless they can be clearly linked to increased productivity and value;
- Systematising cost-effectiveness analysis of new (and, where appropriate, existing) services, allowing a benefits package to be defined for secondary and tertiary care;
- Better linking funding for primary and secondary care providers to local health care needs and facility performance, rather than historical outlays.

Notes

1. The Human Development Index (HDI) is a composite statistic of life expectancy, education, and per capita income indicators, published by the United Nations Development Programme.
2. The Gini coefficient summarises the income distribution within a population. A Gini coefficient of zero expresses perfect equality (i.e. everyone receives the same income). A Gini coefficient of 1 expresses maximal inequality (i.e. one person receives all income).
3. Pre-determined quotas on the number of students admitted nationally to a training programme.

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Chapter 1

Health care needs and the health care system in Costa Rica

This chapter describes the demographic, socioeconomic and epidemiologic context in which the Costa Rican health care system operates. Costa Rica's path toward achieving universal health coverage is explained, as well as the major actors in the health care system and main policy frameworks upon which the system is built.

Systems for raising and distributing health care resources are outlined, before the chapter ends by describing the data and analytic systems that underpin health service planning and management.

1. Introduction

Costa Rica's health care system is widely regarded as a success story. Early prioritisations on primary care permitted population health indicators to improve and today Costa Rica has the second highest life expectancy among countries within the western hemisphere. Access to health in Costa Rica has continuously improved over the past decades, achieving significant progress towards universal health coverage; data from 2014 indicate that health care coverage in Costa Rica reached 94.7% of the population. Being dominated by public health care providers, the Costa Rican health care system has also managed to keep patient costs relatively low. While out-of-pocket payments in Costa Rica were around 25% of total health care expenditure, which is slightly above the average of around 20% among OECD countries, Costa Rica had significantly less catastrophic health expenditures for patients than in comparable OECD-countries such as Chile. Spending only USD PPP 1 380 per capita on health in 2014 (as compared to an average of USD PPP 3 453 per capita among OECD countries in 2014), Costa Rica's health care system appears to offer a lot of value for money. Demographic and epidemiologic transitions, however, along with increasing opportunities for private health care service providers, are challenging the financial sustainability of the Costa Rican health care system.

This chapter describes the Costa Rican health care system by analysing the demographic, socioeconomic and epidemiologic context in which the system operates, as well as describing the policy frameworks upon which the system is built. Major actors in the Costa Rican health care sector are also described, as well as how these actors raise and distribute health care resources. The chapter ends by describing information systems for health data collection that have been developed in Costa Rica in order to provide information for health care service planning and management.

2. Health and health care needs in Costa Rica

Costa Rica has achieved a stable social and economic development during recent years, allowing the country to improve many health indicators such as life expectancy, as well as infant and maternal mortality. Along with increases in life expectancy and reduced risks for communicable diseases, non-communicable diseases now account for the biggest burden of disease in Costa Rica. This section further explains the demographic, economic and epidemiological context of the Costa Rican health care system.

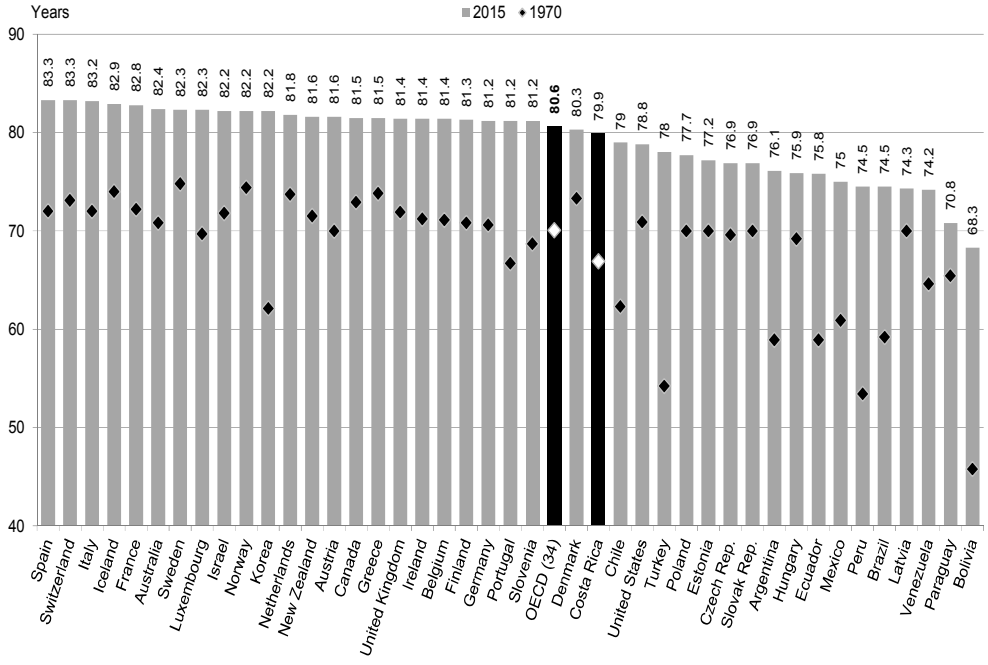
Demographic shifts in Costa Rica are challenging the health care system

Costa Rica is located in Central America, neighboring Nicaragua to the north and Panama to the southeastern side of the country. In the southwest and the eastern part, Costa Rica has coasts to the Pacific and to the Atlantic Ocean respectively. This Spanish-speaking country has a land area of 51.100km^2 and its territory is divided into 7 provinces, 81 cantons and 482 districts. In 2016, the population in Costa Rica is estimated to be 4.89 million inhabitants, and annual population growth 1.1% (CCP-INEC, 2013). Around 84% of the population in Costa Rica is white or mestizo, 8% afro-descendent or mulatto and 6% unknown (Muiser, 2012). Furthermore, Costa Rica is the country with the highest percentage of immigrants in Latin America (Pizarro, 2014). These inhabitants comprised 9% of the Costa Rican population in 2010. Population density reached 93.2 inhabitants per km^2 in 2014, compared to 60.6 inhabitants per km^2 in 1990. In addition to an increased population, the country has seen fast urbanisation during the last decades. The urban population growth in 2014 was 2.4%, leaving less than 1/4 of the population living in rural areas, as compared to nearly half of the population in 1990 (World Bank, 2016c).

Life expectancy at birth in Costa Rica increased from 66.9 years in 1970 to 79.9 years in 2015, meaning that the country had nearly caught up with the average life expectancy of 80.6 years across OECD countries (see Figure 1.1; OECD, 2016). Infant mortality rates have decreased from 14.3 deaths per 1 000 live births in 1995 to 8.5 deaths per 1 000 live births in 2015. Despite this decrease, the infant mortality rate in Costa Rica is still above the OECD average of 0.4 deaths per 1 000 live births. The same is true for maternal mortality rates in Costa Rica, which have decreased to 29 women per 100 000 live births in 2014 (INEC, 2015), although still higher than the OECD average of 7 per 100 000 live births. Nevertheless, Costa Rica presents one of the best life expectancy [second highest life expectancy in the Western Hemisphere, after Canada (Knaul et al., 2012)], infant mortality and maternal mortality rates in the LAC region.

Figure 1.1. Life expectancy at birth in Costa Rica is comparable to the OECD average

Life expectancy at birth, among OECD and Latin American countries 1970 and 2015 (or nearest years)

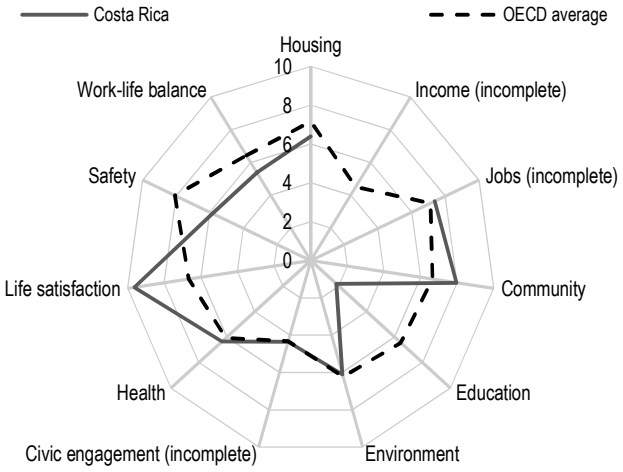


Source: OECD Health Statistics 2015, http://dx.doi.org/10.1787/health-data-en.

Overall, Costa Rican's rate their health above the average score in OECD countries: 6.4 (out of a normalised maximum score of 10) compared to 6.1 OECD average, on the OECD's well-being indicators (Figure 1.2).

Figure 1.2. Costa Rica's health and well-being indicators are comparable with OECD average

OECD Better Life Index scores (preliminary and incomplete)



Note: Each well-being dimension is measured by one to four indicators taken from the OECD Better Life Index set. Normalised indicators are averaged with equal weights. Indicators are normalised to range between 10 (best) and 0 (worst) according to the following formula: (indicator value – minimum value) / (maximum value – minimum value) x 10.

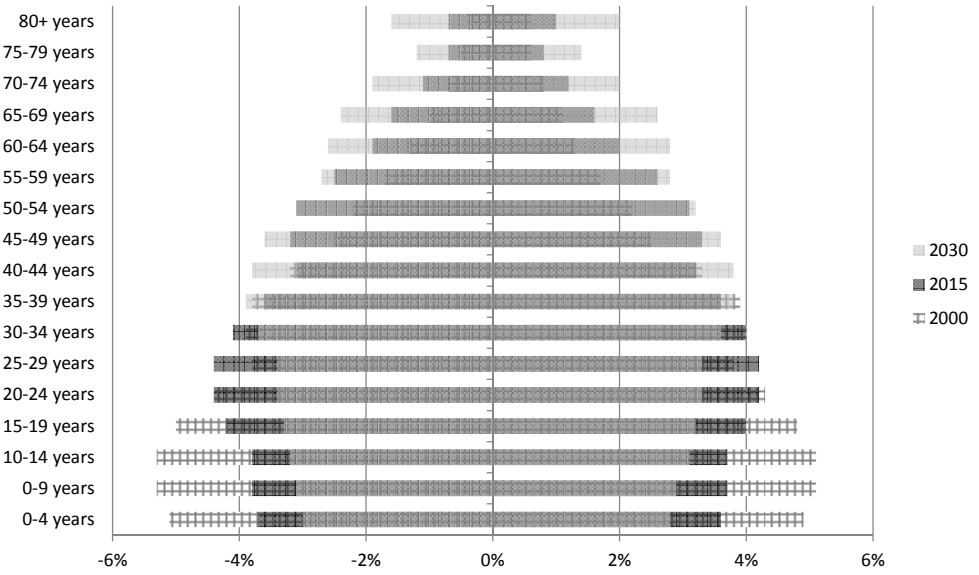
Source: OECD (2016), *OECD Economic Survey: Costa Rica 2016: Economic Assessment*, OECD Publishing, Paris, http://dx.doi.org/10.1787/eco_surveys-cri-2016-en.

These positive developments in Costa Rica are largely due to improvements in sanitation and access to primary health care – and ultimately this has led to decreasing mortality rates. The crude mortality rate in Costa Rica decreased from 10.1 per 1 000 inhabitants in 1950 (Sáenz et al., 2011) to 4.4 in 2013 (WHO, 2016a).

Fertility rates have fallen rapidly in Costa Rica, decreasing from 3.2 births per woman in 1990 to below 2 births per woman, as in many OECD countries. Falling fertility rates, along with increasing life expectancy means that Costa Rica is experiencing a demographic transition similar to that of OECD economies; a narrowing younger base and an expanding number of older adults in the population pyramid (Figure 1.3). In 2010, the population older than 65 years of age represented around 5% of the total population in Costa Rica and in 2050 this figure is expected to increase to 21%. This development is having an important impact on the health of the population in Costa Rica and it is putting pressure on the health care system.

Figure 1.3. By 2050, one in five Costa Ricans will be aged over 65

Population pyramid in Costa Rica by sex and age for 2000, 2015 and projections 2030 (population, %)



Source: United Nations Department on Economic and Social Affairs, Population Division. World Population Prospects: The 2015 Revision, https://populationpyramid.net/costa-rica/2015/.

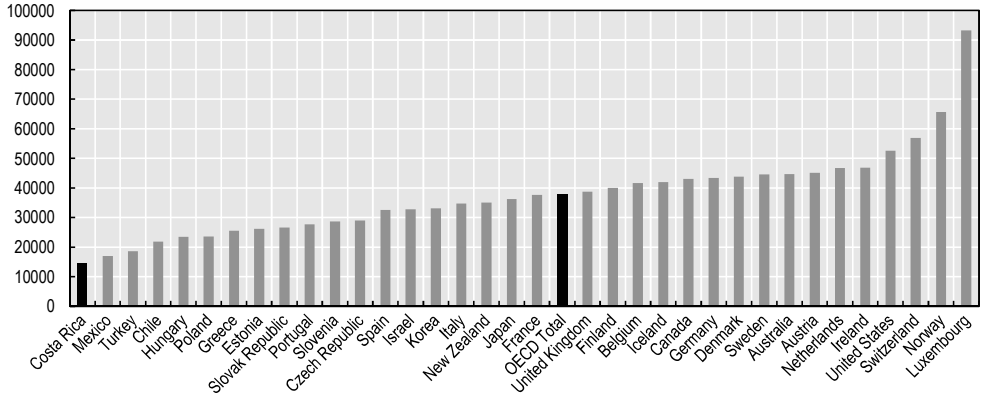
Costa Rica has demonstrated steady social and economic development over recent years

Costa Rica has been spared from much of the conflicts that have plagued the Latin American region and political stability has allowed the country to develop in a socially more favorable manner. The military in Costa Rica was abolished in 1948, and this abolition was introduced in the Costa Rican constitution in 1949. Instead, it was decided that the country would invest in heath, security, education and culture. Impressive political determination towards environmental policies has led to important environmental accomplishments in protecting forest and biodiversity conservation. Costa Rica has managed to reverse deforestation, being the only tropical country in the world with such a success.

Since the 1980s, Costa Rica has gradually developed its economic strategy to become outward-oriented and open for foreign investment (World Bank, 2016d). This trade liberalisation has led to stable, export-led economic growth, often as high as 8 to 9% annual GDP growth (Unger et al., 2008). Despite the global economic crisis, the gross domestic product in Costa Rica grew on average 4.5% between 2000 and 2013 (comparing to 3.8% on average among LAC countries). The GDP per capita was USD PPP 14 361 in 2013, which is almost double that of USD PPP 7 589 in 2000 (standardised to 2016 prices in each case) (World Bank, 2016e). Thus, the GDP per capita in Costa Rica is catching up with OECD economies (Figure 1.4). With a cumulative growth of 22% from 2007 to 2010, public social investment has begun to accelerate in the country and Costa Rica has now become a middle-income country.

Figure 1.4. Costa Rica's per capita GDP is substantially less than the OECD average

GDP per capita in Costa Rica and OECD countries, 2013



Source: OECD National Accounts Statistics, http://dx.doi.org/10.1787/data-00001-en and World Bank (2016), "GDP per capita, PPP", http://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD.

The steady economic growth, along with public policies favoring income redistribution, has allowed Costa Rica to have one of the lowest poverty rates among LAC countries. 12% of the population lives on USD 4 per day, whereas 4.5% lives on USD 2.5 per day (which is around 1/3 of the LAC average) (World Bank, 2016d). However, despite these relatively low poverty rates and a solid economic growth, Costa Rica's economic success is concentrated in a small elite group and thus, large socioeconomic inequalities persist in the country. According to the *Encuesta Nacional de Hogares* 2015, from INEC, the Household Gini Coefficient[1] 0.510 whilst the Person-based Gini Coefficient was 0.516. These are considerably higher than the OECD average of 32.2 (although lower than the Gini Coefficient in Chile that was 50.5 in 2013) (OECD, 2016). This indicator has increased from 45.6 in 2000, suggesting inequality levels in Costa Rica remains a stubborn issue. As a consequence, 10.7% of poor households have no access to drinking water within their homes, a number that decreases to 5.2% of non-poor households (Ministry of Health, 2014a).

In 2014 Costa Rica ranked 69 out of 188 countries and territories in the Human Development Index (HDI)[2] with a value of 0.766 (UNDP, 2015). This puts Costa Rica above the average for countries in the high HDI category (0.744) and above the average for the LAC region (0.748). According to the Encuesta Continua de Empleo from INEC, in the second trimester of 2016 the unemployment rate reached 9.4%. The men's rate was 8.3% and women's 11.2%. These figures are distinctly higher than the 4.7% among countries with a high HDI – but only slightly higher than the average of 7.3% among the OECD countries in 2014 (OECD, 2015a).

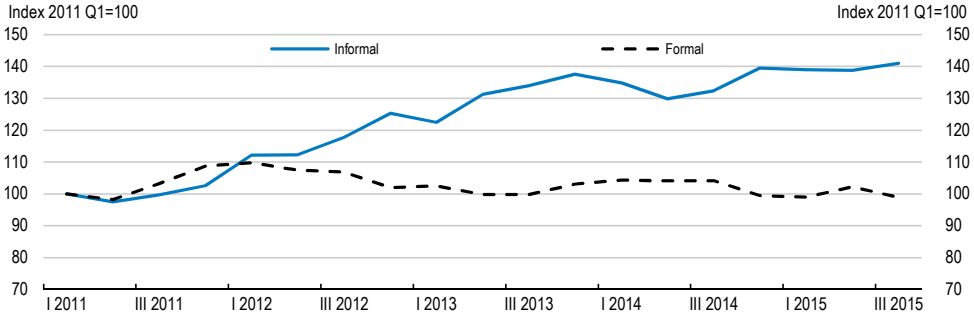
Unemployment rates in Costa Rica have increased from 6.6% in 2005, a concerning development. The largest unemployment rates can be found among women, among the poor and young population and among residents of rural areas, specifically in the Chorotega and Central Pacific regions. In a national university study it was estimated that the economic value of unpaid household work made by women in Costa Rica represents 16% of GDP in bigger urban areas (IDESPO-UNA, 2014). Importantly, Costa Rica devotes 20% of GDP to social programmes, an investment that can generate further human development in the country (Knaul et al., 2012).

Employment rates are relevant to the health system because the CCSS relies heavily on payroll contributions for its income. This income stream is under pressure, and prospects for improvement are bleak – informal employment is increasing in Costa Rica, contrary to many

Latin American economies, and now accounts for almost half of all employment (Figure 1.5). Worsening income inequality and population ageing also imply greater numbers of self-employed individuals, informal workers and elderly people – all of whom fall qualify for non-contributory affiliation to the CCSS.

Figure 1.5. Informal employment is increasing

Relative rates of informal and formal employment in Costa Rica, Q1 2011-Q3 2015



Source: OECD Economic Survey: Costa Rica 2016: Economic Assessment, OECD Publishing, Paris, http://dx.doi.org/10.1787/eco_surveys-cri-2016-en.

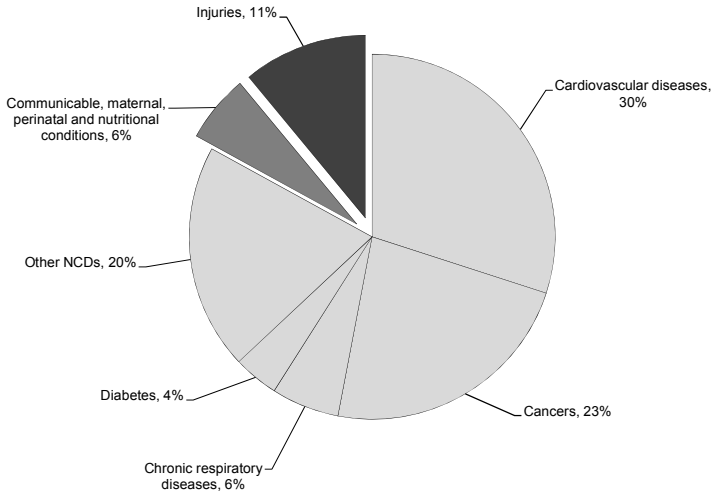
Non-communicable diseases are now the greatest burden of disease in Costa Rica

Even though many countries in Latin America are described as to having a "triple burden of disease", health care needs in Costa Rica increasingly stem from non-communicable disease (NCD) such as heart disease, cancer and diabetes. In 2012, 83% of all deaths in Costa Rica were due to NCDs; cardiovascular diseases being the principal cause of death accounting for 30%, followed by cancers with 23% of all deaths in the country (Figure 1.6) (WHO, 2014).

During the last decades, Costa Rica has experienced rapid epidemiologic transition. Whereas mortality due to communicable diseases decreased by 7.7% between 2000 and 2005, NCDs are becoming increasingly prevalent. The incidence of all cancers increased by 48% from 1995 to 2010 – breast cancer being the most common cancer form among women (Sáenz et al., 2011). Breast cancer mortality increased by 13% between 2000 and 2014; from 10.8 per 100 000 women in 2000 to 12.2 per 100 000 women in 2014 (Quirós, 2015). Nevertheless, the age-standardised death rate in Costa Rica decreased from 556 per 100 000 inhabitants in 1990 to 462 per 100 000 inhabitants in 2010. Important for this development was an improved access to primary health care services during the 1980s and 1990s, allowing for quicker detection of diseases.

Figure 1.6. Chronic disease causes most death in Costa Rica

Causes of mortality in Costa Rica in 2012



Source: WHO (2014), "Costa Rica", http://www.who.int/nmh/countries/cri_en.pdf?ua=1.

In terms of years of life lost (YLL) due to premature mortality, 62% were due to NCDs, 25% due to injuries and 13% due to non-communicable diseases in 2008 (UN, 2014). Ischemic heart disease ranked highest with 10.2% of all YLL in 2010, which corresponds to a 40% increase from the levels in 1990 (Table 1.1) (IHME, 2011). However, the second and third causes of YLL due to premature mortality in 2010 were road injury and interpersonal violence, with 7.3% and 4.5% of all YLL respectively (59% and 142% higher than levels in 1990 respectively), pointing out an urgent need in the prevention of injuries and violence in the country. As measured by disability adjusted life years (DALY),[3] it was estimated that the leading cause of burden of disease in Costa Rica in 2010 was ischemic heart disease, followed by major depressive disorder, lower back pain, road injury and asthma.

NCDs are closely associated with avoidable risk factors such as unhealthy diets and low physical activity leading to obesity; smoking and harmful alcohol consumption, as well as hypertension and high levels of cholesterol in the blood. These risk factors in combination with increasing life expectancy have driven up the prevalence and mortality of NCDs. In a public questionnaire on cardiovascular risk factors in 2010, directed to adults in Costa Rica above 20 years of age, it was found that 37.8% of the population had hypertension and 42% presented high cholesterol levels (Ministry of Health, 2014a). Furthermore it was found that 50.9% of the Costa Rican population above 20 years of age had low or none engagement in physical activity. Obesity levels in Costa Rica were 24.4 in 2014, which is higher than the average of 19% among OECD countries in 2013 (OECD, 2016). Furthermore, it was found that 60% of Costa Ricans between 20 to 44 years of age were either overweight or obese.

Table 1.1. Years of life lost (YLL) due to premature mortality in Costa Rica, 2010

Rank and disorder	Number of YLL in thousands (% of total)	% change since 1990
1. Ischemic heart disease	46 (10.2%)	40
2. Road injury	33 (7.3%)	59
3. Interpersonal violence	20 (4.5%)	142
4. Congenital anomalies	19 (4.3%)	-55
5. Stroke	18 (4.0%)	14
6. Cirrhosis	17 (3.8%)	103
7. Self-harm	16 (3.7%)	90
8. Chronic kidney disease	16 (3.5%)	347
9. Preterm birth complications	14 (3.2%)	-56
10. Stomach cancer	14 (3.1%)	5

Source : IHME (2011), http://www.healthdata.org/sites/default/files/files/country_profiles/GBD/ihme_gbd_country_report_costa_rica.pdf.

On a more positive note, smoking rates in Costa Rica are lower than the OECD average. In Costa Rica 14.5% of the population 15 years and older smoked daily in 2012 (19.8% among men and 9.2% among women); whereas the OECD average was 19.7% in 2013 (24.2% among men and 15.5% among women). If the WHO goal of reducing NCDs by 25% to 2025 is to be reached, it will be crucial to strengthen access to the whole range of health care services (including fast diagnosis leading to effective prevention of acute events) and to invest in promoting healthy lifestyles, accompanied by the appropriate regulation to create environments that encourage physical activity (Ministry of Health, 2014a).

3. Costa Rica's path toward universal health care coverage

Costa Rica has made important steps towards universal health care coverage. Early reforms that prioritised collectively-financed health care allowed Costa Rica to build solidarity within the health care system. Health care coverage increased from 47.2% of the population in 1970 to 94.7% in 2014, giving the affiliated population the right to the same services, since the benefit packages does not discriminate between different affiliation schemes. Furthermore, the health care system in Costa Rica has also managed to maintain financial protection against catastrophic health expenditure. The path toward universal health care coverage in Costa Rican is described in this chapter, as well as the different regimes for affiliation and reforms undertaken to achieve better service, coverage and financial protection.

The health care system in Costa Rica is built upon a strong public sector dominated by the Costa Rican Social Security Fund (CCSS)

The Ministry of Health is responsible for overall stewardship of the health system and, nominally at least, has ultimate responsibility for its governance. Health care services and health care insurance is largely delegated, however, to the *Costa Rican Social Security Fund* (Caja Costarricense de Seguro Social, CCSS). The CCSS is the main provider of personal health services, while the Ministry of Health (MoH) and specialised institutions linked to it are responsible for providing focused services to inhabitants with nutritional deficiencies and psychoactive substance addiction problems. In the private sector there are five insurance companies, co-operatives (non-profit organisations contracted by the CCSS, the self-management enterprises and the private clinics and hospitals. The *Instituto Nacional de Seguros* (INS – National insurance agency) operates both within the public as well as in the private sector and is responsible for covering occupational and traffic risks, as well as providing related hospitalisation, rehabilitation and trauma services.

The right to health care services was originally offered to the working population – and with time has been extended to new beneficiaries affiliated to the contributive and non-contributive regimes of the system. These are categorised according to three distinct modalities of insurance:

- Directly insured: employees, retired population from any of the state systems, people that individually or collectively are voluntarily insured, independent workers that contribute to the insurance and thee poor population (insured by the state).
- Indirectly insured: families and people dependent on directly insured that have been granted benefits as family member.
- Not insured: people with contributive capacity that do not pay social security, poor population lacking knowledge of their rights and undocumented migrants.

Existence of the "not insured" modality has allowed inhabitants with contributive capacity to choose not to contribute to the social security. Both the Constitution and the CCSS Creation Law, state that that social insurance is universal, solidary and compulsory. There are no formal or legal mechanisms, however, that the CCSS currently uses to assure that all citizens and residents once they turn 18 years old will be enrolled on the system and contribute to it or will stay permanently on the system.

However, people within this modality have the right to make use of secondary and tertiary medical services in case of emergency. Health care in Costa Rica is indeed a universal right to emergency attention and primary health care that no one can be denied. Moreover, all minors (under 18 years of age) and pregnant women without family beneficiary coverage, the retired population, HIV patients from the non-contributive regime and the people without contributive capacity (identified as such by the authorities) are insured in charge of the State.

The CCSS administers three regimes: the insurance for disease and maternity of Health Insurance (*Seguro de Enfermedad y Maternidad,* SEM), the insurance for disablement, ageing and death or Retirement Insurance (*Seguro de Invalidez, Vejez y Muerte*, SIVM) and the regime for people not contributing to the social security system because of poverty. SEM covers health promotion and disease prevention interventions, treatment and rehabilitation, specialised medical and chirurgical assistance, ambulatory care, hospitalisation, provision of medications at the pharmacy, clinical laboratory services, as well as dental health services, rehabilitation, and control pain and palliative care (Asamblea Legislativa, 2006). The spouse of the insured, as well as unmarried children below 18 years of age and students (below 22 years of age for high-school education or below 25 years of age for superior education) are also entitled to the SEM through the family insurance. The following groups are also covered:

- Parents, when they depend economically of their children;
- Children with severe disability no matter of their age;
- Common law companion, including same-sex couples, as long the union can be proved;
- Siblings, when there is a direct economic dependency, applying basically the same regulation of children.

The SIVM includes age related retirement and benefits in case of invalidity, orphanage and loss of spouse. Invalidity benefits are given to insured population under 65 years of age that have contributed to the social security according to their age and that has lost 2/3 or more of their working capacity for their employment and that cannot obtain sufficient remuneration for his/her subsistence and that of his/her family because of the invalidity. Current regulations state that the minimum age to retire is 65 for both men and women.

Finally, the CCSS administers the non-contributive regime, which has the objective of giving financial aid to poor elderly and disabled persons (and their families) that cannot contribute to the social security system because of their social and economic situation. These are population groups whose monthly revenues are the same or inferior to the national poverty line and that for well-founded reasons cannot incorporate into a remunerated job, hence, being in an economic situation that is not sufficient to satisfy the basic needs of their subsistence. Benefits of the non-contributive regime insurance include a monthly monetary transfer and access to health care facilities. This coverage is the same as the ordinary service package of integral health care as stated in the SEM. Thus, the service packages available for the Costa Rican population do not discriminate according to different insurance schemes.

After some stagnation between 1990 and 2008, achievements towards universal health coverage (UHC) have been made

Since the foundation of the CCSS in 1941, health insurance coverage in Costa Rica increased consistently until the 1990s, when insurance coverage exceeded 80% of the population. From there on, the percentage of the population insured oscillated between 85.6 and 87.6% until 2008. After 2008, health care coverage increased again, reaching 94.7% of the population in 2014 – representing significant progress towards universal health coverage (Figure 1.7).

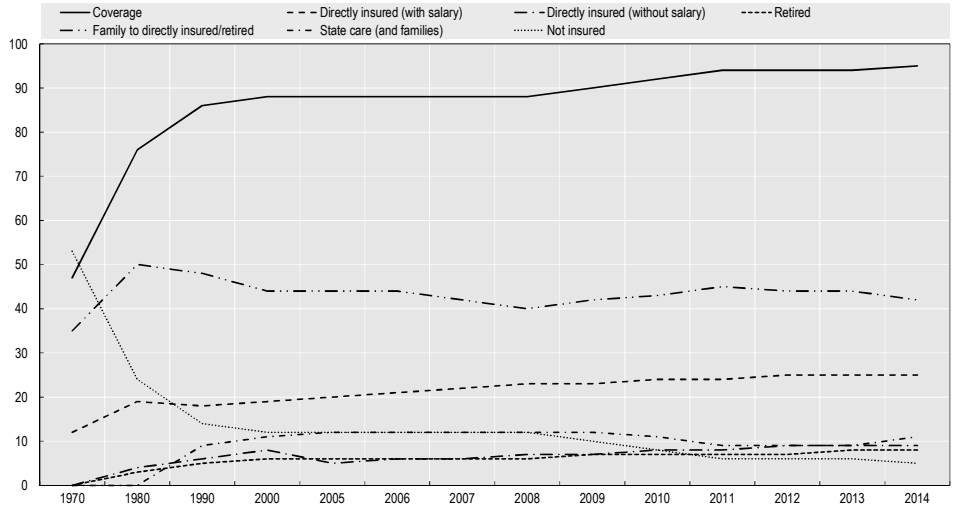
Affiliation to the CCSS (for both health insurance and pension rights) became mandatory for self-employed workers in 2005, increasing coverage in this group from 38.6% in 2004 to 56.1% in 2015. Further expansion after 2008 was mostly due to an increase in the number of employed individuals insured through payroll contributions (or other personal income), plus family members. Additional increases in coverage came about through increases in the number of retired individuals insured through the publicly-funded insurance scheme for elderly or disabled people; and other targeted programmes have sought to enroll indigenous peoples and the urban poor, among other groups. Of particular note, in 2014, the concept of "family members" was extended to same-sex couples, allowing these individuals to benefit from their partner's enrollment in health insurance.

In 2014, 72% of the salaried economically-active population were contributing to the CCSS health insurance scheme, and 80% of the non-salaried economically-active population. Tables 2.1 and 2.2 in Chapter 2 gives further detail on health insurance coverage population by income quintile, sex and employment status.

Although increases in health care coverage have been made, there are nevertheless still population groups without access to the social security through the CCSS. Some of the people without social security through the CCSS are insured through private insurance – but, as the Costa Rican health care system is strongly dominated by the public sector, only 2% of the population has private insurance. Population groups that totally lack health insurance include some informal or temporal workers, poor refugees that are not accepted as beneficiaries in charge of the State (and hence, only covered for medical services through the United Nations High Commissioner for Refugees), undocumented migrants, some indigenous population whose geographical access to health care services is limited and poor population not identified as such (lacking knowledge of their rights). All Costa Ricans, however, have access to CCSS health care services in emergencies. In these cases, the individual is entitled to all necessary health care (including hospitalisation and surgery), and will be billed for the care given. In non-urgent situations, payment in advance is required, or enrollment in one of the insurance modalities offered by CCSS, according to payment capacity.

Figure 1.7. Universal health care insurance has effectively reached

Share of the population covered by CCSS health insurance, 1970-2014



Source: Authors' elaboration based on Sáenz 2011, and CCSS (Costarricence del Seguro Social), Memoria Institucional 2002-2014.

The degree to which Costa Rica's insurance universal health insurance translates into effective protection against high out-of-pocket costs (including impoverishing or catastrophic health care spending) is discussed in Chapter 2.

Recent reforms have focused on primary care and reorganisations in the administrative structure

Over recent decades, Costa Rica has had a clear national consensus on the role of the health care system. In particular, efforts towards increasing access to the primary care were accelerated in the early 1990s, when Costa Rica opened up community clinics called Basic Comprehensive Health Care Teams (*Equipos Básicos de Atención Integral de Salud*, EBAIS). By 1995 there were 232 EBAIS in Costa Rica, mostly among underserved communities, thus, greatly improving rural access to primary care. The continuing development of EBAIS and other primary care services are described further in Chapter 2.

The focus on strengthening primary care in Costa Rica was followed by reorganisation of the administrative structure. The Law on Decentralisation in 1998 decentralised the CCSS by creating democratically elected community health boards (Balabanova et al., 2011). These boards supervise the delivery of local health care services and they improved responsiveness since more power was given to local decision makers. It also increased community participation for setting priorities and health-related performance targets. A purchasing division within the CCSS was also created to further separate this function from the functions of financing and service provision. This unit purchases services with health care providers based on performance management contracts. The reform has allowed for improvements in quality and efficiency of services, while enhancing production and user satisfaction. Another institutional reorganisation of the Costa Rican Ministry of Health was implemented during the 2006-11 period. In the scope of this new structure, it was decided that the strategic health policy of Costa Rica would be to go from disease management to a health promotion approach.

New laws regulating the standards of public and private health services were promulgated in recent years. Two of the most important for the interest of public health were the Comprehensive Waste Management Act (Law No. 8839) and the National Vaccination Law (Law No. 8111). These two laws fostered during the period of 2006-10, facilitated creation of the National Vaccination and Epidemiology Commission. Finally, a new migratory law that impacts on the many immigrants that have come into Costa Rica was approved in 2010. This law obliges permanent immigrants, temporal residents and trans-frontier workers to contribute to the social security of the CCSS in order to renew their migratory status. Likewise, employees working at trans-national companies and established in Costa Rica should now enroll with the CCSS. This law does not establish any labour condition for these groups to contribute to the social security.

Costa Rica's health care reforms have been widely successful in improving population health care indicators (see Section 1). However, both demographic and epidemiologic transitions are straining the financial sustainability and equity of the health care system. Since the system depends on solidarity and high participation rates in the public insurance schemes, it is very vulnerable to low affiliation rates and to contribution evasion among the economically active population. Indeed, the Government of Costa Rica took the decision to deregulate the health insurance market in 2009 to allow private medical insurance companies (Balabanova et al., 2011). This was a consequence of signing the Free Trade Agreement with the United States, and it meant that the INS lost the monopoly within the insurance marked that it have had since 1924 (Muiser, 2012). Fearing this would open up for foreign corporations to dominate the insurance market and risking to loose equity in the system, this deregulation was allegedly put in place in order to enhance the financial sustainability of the health care system.

4. The major actors in the Costa Rican health care sector

The Costa Rican health care system is predominantly publicly-provided. The system is organised functionally by three levels of care, and geographically by seven health care regions. This section presents the major stakeholders within the Costa Rican health care sector, as well as their responsibilities. It also describes important challenges for the actors within the public system, as well as the evolving role of private health care providers.

Central government is responsible for steering the health care sector

The MoH is the highest responsible authority of the health sector in Costa Rica. Its role is to implement the strategic direction, regulate the health care sector, enable epidemiological surveillance and steer the direction of research and technological development. The MoH relies upon a specialised public health network supported by offices at the regional and local level. These units are in charge of epidemiological monitoring and outbreak control, enforcing health regulations, application and follow up of health policies. Besides the steering, monitoring and regulating role of the MoH, the authority is also responsible for delivering public health services with the CCSS.

Within the public sector of the health care system, the CCSS is an autonomous institution in charge of financing, purchasing and the provision of most health care services in Costa Rica. Created in 1941, the mission of the CCSS is to provide health care services in an integral form to the individual, the family and the community and to provide economic, social and retirement protection to the Costa Rican population in accordance to the current legislation (CCSS, 2014). Directed by health boards, the CCSS is made up of health establishments organised functionally by three levels of care (primary, secondary and tertiary) and geographically by seven regions within the three service networks in the country (the southern network, the western network and the northeastern network). The CCSS has divided the national territory into geographical regions in accordance to the geographical location of

its facilities and thus, this division does not coincide with the official division of regions in the country, nor to that of the MoH (CCSS, 2014).

Public health care institutions in Costa Rica handle services with different degrees of complexities and they ensure different resolving capacities. Interrelated, they are intended to form networks that are articulated both vertically and horizontally and satisfy the health care needs and demands of the Costa Rican population. By networked programmes for hospitalisation and home care, there has been a great effort to improve access to health care services among patients with different chronic conditions (PAHO, 2012).

Box 1.1. Other national institutions with important health care functions

***Instituto Nacional de Seguros* (INS, National insurance institute):** Operates both within the public as well as within the private sector and it is responsible for covering the risks of occupational, and traffic accidents. As such, this institute provides medical hospitalisation services and traumatologic rehabilitation related to these areas. It is also responsible for the provision of private health insurance schemes.

***Instituto sobre Alcoholismo y Farmacodependencia* (Institute on Alcoholism and Drug Dependency IAFA):** A public institute ascribed to the MoH with administrative independence in charge of the technical direction, monitoring, prevention, treatment and rehabilitation of alcohol, tobacco and drug addictions. It is also in charge of co-ordination of all public and private interventions within alcoholism and drug dependency.

Costa Rican Institute for Research and Education on Nutrition and Health (INCIENSA): Public institute ascribed to the MoH in charge of prevention and control of public health threats related to nutrition, as well as make research and generate knowledge on the topic. It is also the national reference laboratory for PAHO.

***Centros de Educación y Nutrición y Centros Infantiles de Nutrición y Atención Integral CEN-CINAI*:** National centres ascribed to the MoH in charge of improving maternal and infant nutritional status and to guarantee adequate development of children, bringing the possibility to children from poor families to attend kindergarten and to get educative support in school.

Costa Rican Water and Sewer Institute (AyA): A public institution part of the Health Sector in charge of providing water and sewer system services to the Costa Rican population. Active mostly in urban areas and operates 180 water systems that serve nearly half of the population. In recent years, AyA has been making great efforts to improve infrastructure and promote continuous improvement of service, to provide quality service to all users, and in 2015 it has supply water for human consumption to 2 259 194 inhabitants, of which 99% receive drinking water quality

***Instituto Costariciense del Deporte y la Recreación*:** The National Institute for Sports and Recreation recently became part of the Health, Nutrition and Sports Sector. In this Sector it states that sports, recreation and physical activity contribute to "improve the wellbeing of the population through a model of comprehensive, universal, solidarity and sustainable health" so the proposal seeks to promote active life styles, sports activities, exercise, daily physical activity and physical recreation, has been shown that can benefit health and quality of life of people of different age groups and throughout its life cycle. The ICODER, through their strategic plans, seeks to address these issues.

The Costa Rican health care system is predominantly publicly-provided

Before the creation of the CCSS the health care system in Costa Rica was provided by for profit and non-for-profit private institutions. The CCSS creation in 1941 remodeled this system into a Bismarck type social security system based on employment. In 1943, the CCSS acquired administrative and financial autonomy – and since it is the only public entity that provides health care services in Costa Rica. The CCSS dominates the provision of health care services in Costa Rica – but specific circumstances of the system makes some patients seek services in the private sector.

Public primary health care in Costa Rica is offered by the Basic Comprehensive Health Care Teams (*Equipos Básicos de Atención Integral de Salud*, EBAIS) (Ministry of Health, 2014b). Outpatient services, family planning and community medical services, as well as health promotion and disease prevention interventions, are all delivered through the EBAIS. The EBAIS are thus the gateway into the health care system and they can refer patients to higher levels of health care when it is required. Specialised consultations, hospital admission and surgery among basic specialisations of medicine are offered through the secondary level of public health services (Ministry of Health, 2014b). This level is composed by 10 major clinics, 13 peripheral hospitals and 7 regional hospitals. Supporting primary care, secondary care provides preventive, curative and rehabilitation services (with a varied level of complexity and specialisation). Treatment and rehabilitation procedures of the highest specialisation and complexity are provided at the tertiary level (Ministry of Health, 2014b). This level provides its services through three national general hospitals and five national specialised hospitals (specialised in pediatrics, gerontology, women, rehabilitation and psychiatry). These hospitals are located in the Metropolitan area of San José.

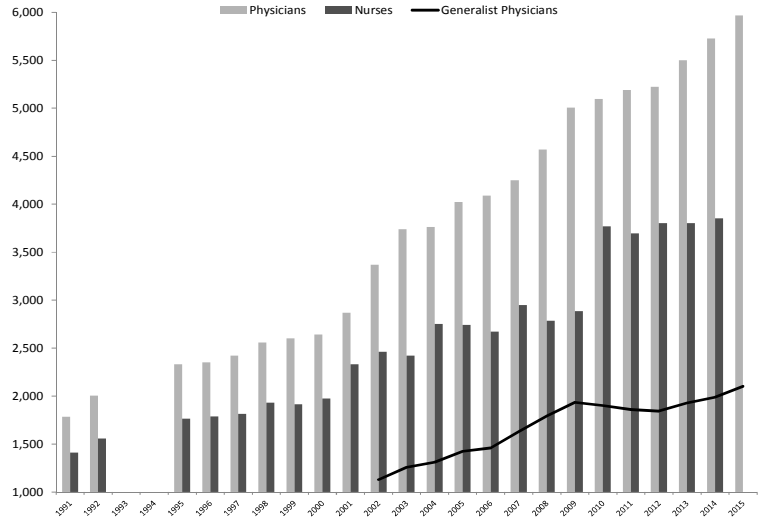
Private sector providers, however, are increasingly used. This issue is discussed in more detail in Chapter 2. This is related, partly, to long waiting times within the publicly provided health care system, a topic that is also discussed in more depth in the same chapter.

Human resources for health in Costa Rica should increase in order to cope with increasing health care needs

Despite good performance in terms of health indicators (see Section 2), human resources for health in Costa Rica are relatively low. The number (headcount) of physicians and nurses working in Costa Rica has risen considerably over the past two decades (Figure 1.8), yet physician density per 1 000 inhabitants remains just 2.1 per 1 000 inhabitants, below the OECD average of 3.3 practicing physicians per 1 000 inhabitants (OECD, 2016b) (Figure 1.9).

Figure 1.8. The number of doctors and nurses working in Costa Rica has risen considerably in recent years

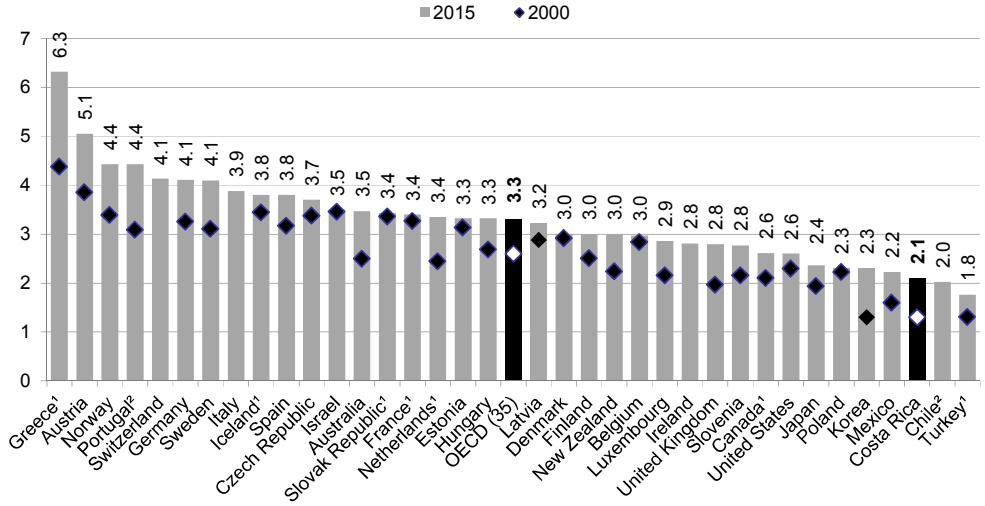
Headcount of doctors and nurses in Costa Rica, 1991-2014



Source: OECD Health Statistics 2016.

Figure 1.9. Costa Rica has many fewer practicing physicians than OECD health systems

Practising doctors per 1 000 population, 2000 and 2015 (or nearest year)



1. Data include not only doctors providing direct care to patients, but also those working in the health sector as managers, educators, researchers, etc. (adding another 5-10% of doctors).

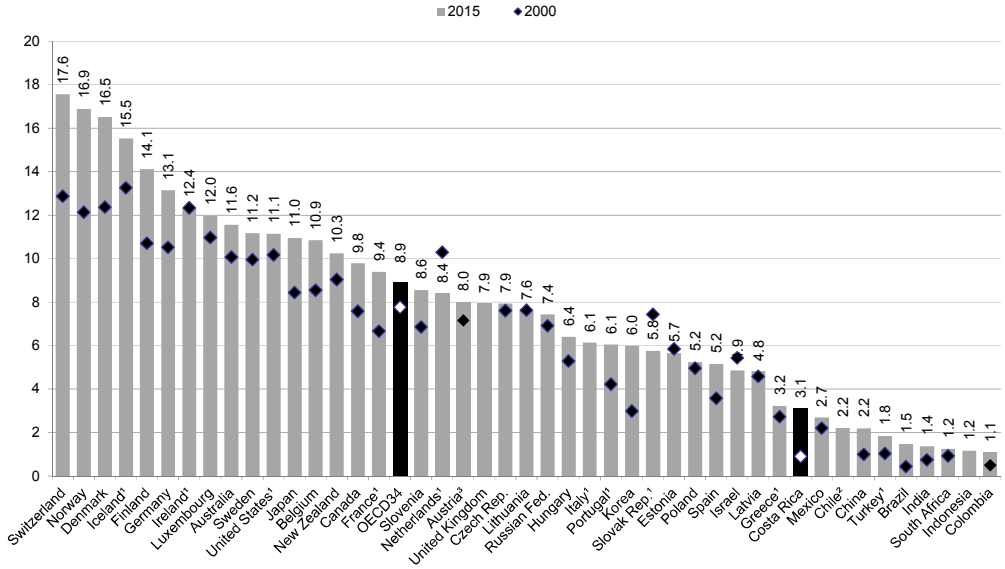
2. Data refer to all doctors licensed to practice (resulting in a large over-estimation of the number of practising doctors in Portugal, of around 30%).

Source: OECD Health Statistics 2016, http://dx.doi.org/10.1787/health-data-en.

Deficiencies in the nursing workforce are also apparent. On average across the OECD, there are about three times more nurses than doctors. Costa Rica, on the other hand, reports around 1.5 nurses for every doctor. There are 3.1 nurses per 1 000 inhabitants, compared to 9.1 per 1 000 inhabitants on average among OECD countries (Figure 1.10; OECD, 2016b). Differences in the way a "nurse" is defined may partly explain this finding (for example, auxiliary nurses may not be counted in Costa Rica, but included in other health systems' nursing headcount). Promisingly, there has been rapid growth in numbers of nursing graduates, from 647 in 2010 to 1 541 in 2014. The supply of new nurses, as a result, now substantially exceeds that of doctors.

Figure 1.10. Costa Rica's shortfall in practicing nurses is even more marked than the lack of doctors

Practising nurses per 1 000 population, 2000 and 2015 (or nearest year)



1. Data include not only nurses providing direct care to patients, but also those working in the health sector as managers, educators, researchers, etc.

2. Data in Chile refer to all nurses who are licensed to practice (less than one-third are professional nurses with a university degree).

3. Austria reports only nurses employed in hospital.

Source: OECD Health Statistics 2016, http://dx.doi.org/10.1787/health-data-en.

As for human resources, hospital beds in Costa Rica also fall short. The amount of hospital beds in Costa Rica was 1.2 per 1 000 inhabitants in 2012, four times below the average of 4.8 among OECD countries in 2012 (World Bank, 2016i; and OECD, 2016). The lack of human resources for health in Costa Rica is of specific concern since it undermines the capacity of the health care system to deliver best possible quality services. Instead, a low health workforce leads to overcrowded health facilities with long waiting times.

Although the MoH has conceptualised its directive role, there are still needs to strengthen its steering role and to increase its effectiveness. More health care workers with the required competencies are needed and the MoH will also need to reinforce its intersectional co-ordination mechanism in order to advance its governance and be able to handle an every so complex national and international scenario.

5. Systems for raising and distributing health care resources

Many health expenditure parameters in Costa Rica are in level with the averages among OECD countries. Revenues for the CCSS are raised through wage taxes in form of affiliation contributions, general taxation and specific taxes with transfer mechanisms to the health care sector. On the other hand, private providers are funded mostly by OOP-payments but also by private insurance schemes. This section describes in further detail how the revenues within the Costa Rican health care system are raised and pooled. It also describes the way health

professionals are paid and it exposes some of the challenges for the financial sustainability of the health care system.

Health care expenditure, as a share of GDP, exceed the OECD average

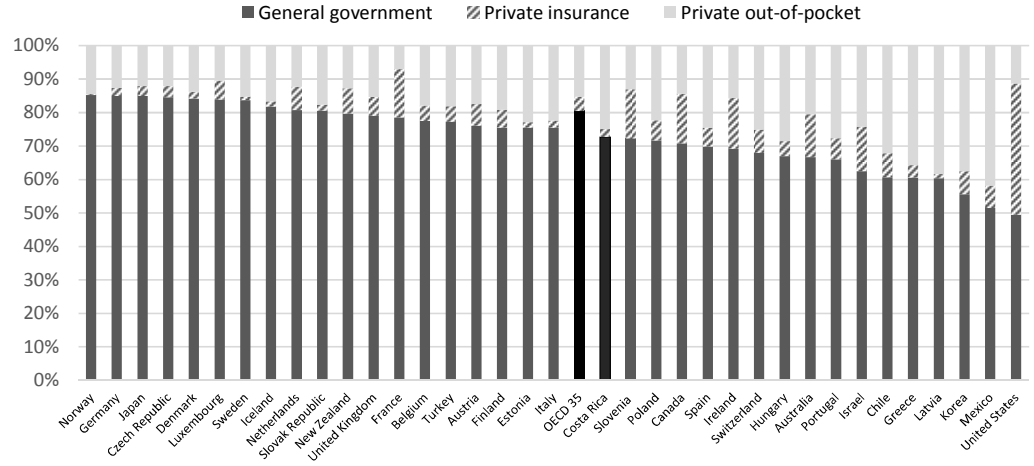
Costa Rica's total health care expenditure went up from 6.5% of GDP in 1995 to 9.3% of GDP in 2014. As a percentage of GDP Costa Rica, thus, spends slightly more on health than the average of 8.9% of GDP among OECD economies. In 2014, public spending in Costa Rica corresponded to 73% of total health spending, which is equal to the OECD average (OECD, 2016). With OOP levels being 25%, only 2% of the total health expenditure in Costa Rica is paid through private insurance schemes, as compared to the OECD averages of 19% and 6% respectively (see Figure 1.11). Out-of-pocket spending is discussed in more detail in Chapter 2.

Total health expenditure in Costa Rica was USD PPP 1 380[4] per capita in 2013, which is 2.5 times less than the OECD average of USD PPP 3 453 per capita (OECD, 2016; see Figure 1.12). Differences in local prices are likely to explain much of this difference. Nevertheless, the fact that health indicators and health insurance coverage are as good as those of many OECD countries spending much higher per capita sums, suggests relatively good value for the money achieved by Costa Rica's health system.

Notably, Costa Rica has chosen to invest in prevention and public health services. From 2002 to 2006, the expenditure in prevention and public health services in Costa Rica was between 6-7% of total expenditure on health, as compared to only 2-3% in comparable OECD countries such as Chile and Mexico (WHO, 2016b). In the long run, this focus on prevention and public health is likely to be cost-effective and bring about important public health benefits.

Figure 1.11. Health care in Costa Rica is largely financed through public funds

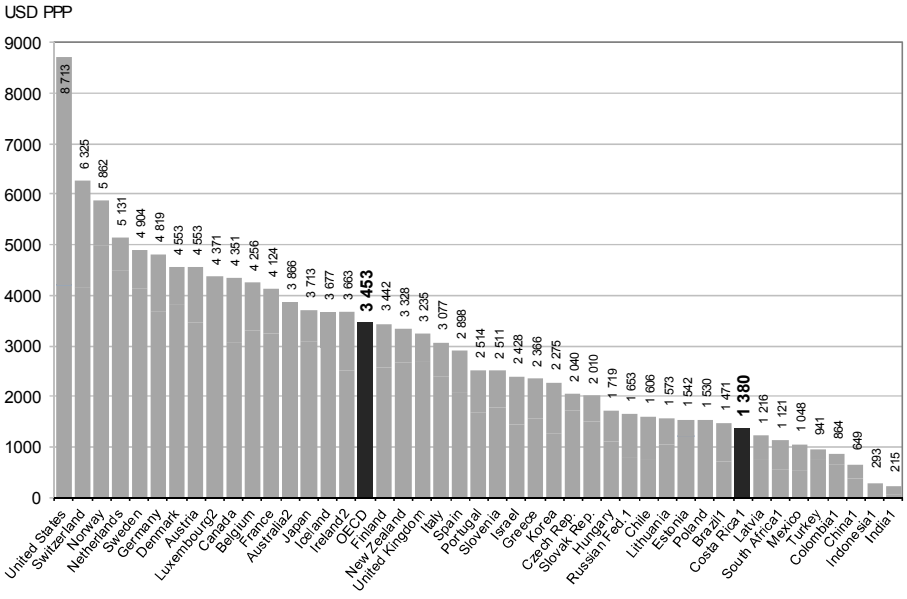
Expenditure on health by type of financing, 2015 (or nearest year)



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).

Source: OECD Health Statistics 2016, http://dx.doi.org/10.1787/health-data-en.

Figure 1.12. Health care spending is substantially lower than the OECD average
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 2016, http://dx.doi.org/10.1787/health-data-en; WHO Global Health Expenditure Database.

Health system revenue largely comes from pay roll contributions

With 86% of public expenditure on health stemming from the CCSS, it is Costa Rica's most important source of financing the health care system (PAHO, 2012). The CCSS is financed through wage taxes and general taxation, as well as specific taxes such as taxes on alcohol, perfumes, luxury goods and products produced abroad, while the private sector is financed mainly through out-of-pocket payments but also through private insurance schemes. Within the Costa Rican public sector, wage contributions stem from the affiliated population, employers and the State. The contribution for affiliation to the social security system is 22.91% of the employee's nominal salary (Sáenz et al., 2011), out of which 14.16% is paid by the employer (divided into 9.25% for the SEM and 5.08% for the SIVM), while the employee pays 8.25% (5.5% for the SEM and 2.84% for the SIVM). Finally, the State contributes with 0.5% (divided into 0.25% for each of the regimes). Voluntarily affiliated contributes with 10.5% to 13.5%, depending on the declared salary and the State contributes with another 0.25%.

Once the funds are raised, these are administered in the three regimes of the CCSS: the insurance for disease and maternity (SEM), the insurance for disablement, ageing and death (SIVM) and the regime for people not contributing to the social security system. Indeed, emergency care in Costa Rica is provided to whatever patient is in need. However, current regulations state that non-emergency care has to be paid upfront by uninsured patients, while emergency care should be paid afterwards. There are established procedures to try to collect payments from these population groups – however, finding a person after the care is given is necessary but not always possible (Knaul et al., 2012). Besides government contribution to the CCSS in terms of being the public employer, the government also compensates the CCSS in case the costs of services provided to uninsured people exceed the payments made by the uninsured population. Importantly, an uninsured patient is offered to join the social security

system upon receiving a health service. Because of this, the CCSS can act as if it were a Beveridge type of national health service mechanism that offers services to everyone in need.

Health professionals within the CCSS are paid a salary, while private health providers mainly receive fee for services

The health workforce within the CCSS is paid centrally and wages are set according to a special salary scale designated for the health care sector, in both primary care and secondary care (Muiser, 2012). The salary system has been criticised because it does not incentivise health professionals to produce more – nor does it incentivises health professionals to offer better quality services, thus making the Costa Rican health system less responsive. The long waiting lists may be a consequence of the low capacity these salaries have on promoting a higher production.

Health care professionals in Costa Rica are allowed to work both in the public- and in the private sector at the same time. There is no fixed limit of time doctors can work in private sector. The only limit is that private practice schedules must not coincide with CCSS commitments. This might be counterproductive for the public health care system, since it may create perverse incentives among health care workers (Muiser, 2012). Private health care providers pay their staff mainly on a fee-per-service basis, thus incentivising overproduction with a provider-induced demand. This historic situation may make health care professionals working both in the public and in the private sector have an incentive to keep waiting times long in the public sector in order to attract more patients into the private market. The payment system within the Costa Rican health care sector is thus not functioning ideally since it is risking financial risk protection as well as population health.

6. Information systems underpinning the delivery, monitoring and evaluation of health care services

Over the recent years, Costa Rica has implemented actions to consolidate the information systems within the health care sector. The many and diverse information systems are however still poorly integrated. Health information systems in Costa Rica should advance in order to provide a solid base for transparent decision making. This section describes the information systems put in place in Costa Rica and what is needed to achieve further progress. Section 3.5 in Chapter 3 also discussed information systems in more detail.

Costa Rica is developing a health information system striving to consolidate available information for transparent decision making

The health care sector in Costa Rica is comprised of several information systems. The country has in recent years put in motion a renovation of their information systems in order to consolidate them and thus improve quality and transparency of public information. A digital platform has been developed by the Costa Rican Government to increase the use of electronic technologies, electronic registers and communications. Through the *Ministerio en línea* (Online Ministry), Internet users are invited to reach information about projects, initiatives, activities, reports and contact details. In particular, the Online Ministry has specific components related to the health sector and managed by the MoH. The health component of the Online Ministry is comprised of the following systems: the National Health Surveillance System (SINAVIS forming a Spanish acronym to *Sistema Nacional de Vigilancia de la Salud*), an information system to facilitate control and administration of wastewater, a national observatory for human resources within the health sector, a registry of offenders to the anti-tobacco law, a system for consultation about registered products (including pharmaceuticals, cosmetics and foods) and a virtual library. The virtual ministry is further a

project in development pretended to preserve and improve access to bibliographic material with relevance to public health.

The SINAVIS was created in order to establish standardised ways to recollect and analyse data related to health determinants and disease trends. This health surveillance system has different modules – among which are found the *Sistema Nacional de Vigilancia Integrada* (national integrated surveillance system, SIVEI), the *Sistema de Información del Registro Nacional de Tumores* (information system of the national tumor registry, SIRNAT), the *Sistema Nominal de Vacunación* (nominal vaccination system, SINOVAC) and the *Sistema de Mortalidad Materno Infantil* (maternal and infant mortality system, SIMMI).

The EDUS initiative is, in addition, one of the most crucial for contributing with vital information for decision making, health policy and evaluation of public health interventions. EDUS is integrated health and social care electronic patient record.

Another important source of information within the Costa Rican health care system is the statistical database created by the CCSS. This database has an actuarial component and a health activity component. Within the actuarial component, users can find information on health service expenditures whereas the health activity component gives information on health services offered divided by diagnose, age, geography, coverage etc. The CCSS has also developed a system called *Sistema Centralizado de Recaudación* (SICERE) where users can manage their affiliations to the social security as well as choose pension funds. Since 2011, all employers should also present the payrolls of their employees through the SICERE system in order to ensure that right contributions to the social security have been made.

Box 1.2. The *Expediente Digital Único en Salud*

The CCSS is developing an ambitious warehouse of personal health data, built around the *Expediente Digital Único en Salud* (unique digital health record, or EDUS). EDUS started by recording hospital emergency attendances, admissions and discharges, and surgical operations digitally. Its second phase integrated a personal health record (containing diagnoses and treatments), with the national appointment system, for planned elective care. Importantly, EDUS also contains a "family" record for each individual, systematically recording broader determinants of health and well-being, such as other family members with complex illnesses, and any financial or housing difficulties. This allows a fuller assessment of the individual's needs, as well as enabling local population health profiles to be built, and needs predicted. Future development will link EDUS to digital imaging, laboratory records, pharmacy records and in-patient clinical notes (nursing as well as medical).

Currently, all EBAIS use EDUS to record patient contacts. Some EBAIS already use EDUS linked to digital imaging – allowing x-rays to be viewed and shared instantaneously. By 2018, it is expected that all secondary and tertiary care facilities will use it. If achieved, Costa Rica will be one of the first countries in the world to have a single, national electronic health record that is unified across all levels of care.

EDUS is intended to be used by patients. It has telephone and web interfaces, to allow users to interact with their records. Text messaging is also being used to send personalised health promotion messages (375 000 had been sent by February 2016). In October 2015, an EDUS app was launched, that allows patients to view their diagnoses, medications, future appointments and other information (31 500 downloads had occurred by February 2016).

More comprehensive and high quality digital infrastructure is needed

Even though efforts to improve information systems in Costa Rica have been made, the country still has some gaps to fill in the field of technology. The diverse information systems within the health care sector are poorly integrated. Furthermore, public reporting of health care quality (such as accessibility and opportunity in primary care services, risk management and user experience), as well as health outcomes, is deficient. These issues affect the use of

the digital platforms, since there seems to be little knowledge among the general public on the availability of information systems and how to navigate within them in order to find useful information. The availability of more and better information for patients on health provider and insurance performance has been a driver of quality enhancement efforts in OECD countries, and should be emulated by Costa Rica.

Lastly, a project to connect the health regions with the health headquarters through an information network has been developed by the MoH. This would enable long-distance consultations and teleconferences throughout Costa Rica. Nevertheless, the use of electronic health records and the possibility of Internet-communication with patients still appear to be limited. The lack of IT infrastructure is likely to significantly impede telemedicine and other IT-based initiatives to overcome challenges of physical remoteness.

7. Conclusions

Stable social and economic development during recent decades, along with early reforms that prioritised collectively-financed health care, allowed Costa Rica to build solidarity within the health care system. Many health indicators have improved and Costa Rica today enjoys the second highest life expectancy among countries in the western hemisphere. Health care insurance reached 95% of the population in 2014. Very low levels of catastrophic health expenditure have been achieved, although out-of-pocket payments, as a share of total national health expenditure, exceed the OECD average.

The Costa Rican health care system nevertheless faces several challenges. In particular, health care workforce numbers fall far below OECD averages. Furthermore, payment systems for health professionals are largely volume-based, and do not reward efficiency or quality. In addition, long waiting times mean that patients increasingly use private health care providers, a situation that threatens fragmentation of the system, as discussed in the next chapter.

Notes

1. The Gini Coefficient measures the inequality across levels of income. A Gini coefficient of zero expresses perfect equality (where everyone has the same income). A Gini coefficient of one (or 100%) expresses maximal inequality (where only one person has all the income and all others have none).
2. The Human Development Index (HDI) is a summary measure that combines indices of health, education and living standards.
3. The Disability Adjusted Life Year (DALY) is a measure that quantifies the burden of disease from mortality and morbidity. One DALY can be thought of as one lost year of "healthy" life. The sum of these DALYs across the population, or the burden of disease, can be thought of as a measurement of the gap between current health status and an ideal health situation where the entire population lives to an advanced age, free of disease and disability.
4. Purchasing power parities (PPPs) are the rates of currency conversion that equalise the purchasing power of different currencies by eliminating the differences in price levels between countries. In their simplest form, PPPs are simply price relatives which show the ratio of the prices in national currencies of the same good or service in different countries.

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Chapter 2

Health care access and quality in Costa Rica

This chapter assesses the accessibility of health care in Costa Rica, as well as its quality. A key issue concerns long waiting times, which have been a persistent and challenging problem. While these are now improving, financial accessibility may be worsening, with evidence of an upward trend in out-of-pocket spending. A preoccupation with waiting times also means that other dimensions of quality, particularly patient outcomes, have not received sufficient attention in recent years. Some key quality indicators, such as those relating to patient experience and patient safety, are not regularly collected, which means that continuous quality monitoring and improvement will struggle to become an embedded feature of the Costa Rican health care system.

1. Introduction

Health status has improved dramatically in Costa Rica over the past decades, with life expectancy country now higher than in many developed countries, and highest amongst its Latin American neighbours (OECD, 2016a, 2016d). Improvements in life expectancy and under-5 mortality exceeded regional trends between 1990 and 2015 (IHME, 2017), and Costa Rica suffers fewer years of life lost due to the top 10 causes of premature mortality than comparator countries, with the exception of stomach cancer. These figures are a testimony to the strength of Costa Rica's health care system and its consistent investment in primary health care, sanitation, roads and other infrastructure.

Nevertheless, the country is undergoing dramatic changes in the causes of death and disability, which will require more proactive and continuous health care, while still tackling infectious disease challenges such as Chikungunya, Zika and drug resistance. These changes, alongside an increase in income inequality and labour informality, as well as a tough fiscal climate, create new challenges for health care access, equity, and quality in Costa Rica's historically comprehensive social security system in health.

This chapter assesses the accessibility of health care in Costa Rica, as well as its quality. A key issue concerns long waiting times, which have traditionally been a problem in the Costa Rican Social Security fund (*Caja Costarricense de Seguro Social*, CCSS). While these are now improving, financial accessibility may be worsening, with evidence of an upward trend in out-of-pocket spending. A preoccupation with waiting times also means that other dimensions of quality, particularly patient outcomes, have not received sufficient attention in recent years.

2. Access to health care services in Costa Rica

Costa Rica's early achievement of Universal Health Coverage, including effective financial protection, is widely known. With a solid primary care base, access to health services in Costa Rica has, historically, been through the public system. However, long waiting times in the public sector are encouraging individuals with the capacity to pay to opt for private providers, thus increasing out-of-pocket spending in health care as well as increasing health inequalities. This section analyses in further detail Costa Rica's strengths and challenges in granting effective and timely access to health care services.

Costa Rica has effectively achieved universal health care insurance

As discussed in Chapter 1, health insurance coverage approached 90% of the population by the 1990s. Increases in health insurance coverage then stagnated, but picked up again after 2008, reaching 94.7% of the population in 2014 (see Figure 1.7 in Chapter 1) – thus practically achieving universal health coverage (UHC).

The increase in health care coverage from 2008 to 2014 was mostly due to increases in the population directly insured through payroll contributions (or other personal income), inclusion these individuals' family members, and inclusion of retired individuals through social protection for invalidity, ageing and death (*Seguro de Invalidez, Vejez y Muerte*, SIVM). Together, these expansions allowed the uninsured population to shrink from 12.4% of the population in 2008 to 5.3% in 2014 (Table 2.1).

Table 2.1. Comparison in health care coverage of the CCSS in 2008 and in 2014

Type of insurance	2008	2014 (change in % points)
Directly insured (with salary)	23.30%	24.9% (+1.6)
Directly insured (own means)	5.20%	7.9% (+2.7)
Directly insured (convention)	1.80%	1.4% (-0.4)
State care (and families)	11.50%	11.1% (-0.4)
Family of directly insured	37.40%	39.3% (+1.9)
Retired SIVM	3.20%	4.4% (+1.2)
Retired special regimes	1.30%	1.3% (±0)
Retired non-contributory	1.60%	2.1% (+0.5)
Family to retired	2.30%	2.3% (±0)
Not insured	12.40%	5.3% (-7.1)

Source: Caja Costarricense de Seguro Social, Memoria Institucional 2014.

In 2014, The Insurance for disease and maternity (*Seguro de Enfermedad y Maternidad*, SEM) had a contributive coverage of 71% of the economically-active population. Moreover, the coverage of SEM with respect to the salaried economically-active population was around 72%, while it was 80% among non-salaried economically-active population. Table 2.2 shows the insurance coverage of the population by income quintile, socio-demographic characteristics, by sex and detailed occupation.

Table 2.2. Health insurance coverage by socioeconomic group

Socio-demographic characteristics	Insurance condition	
	Not insured	Insured
Area	**9.5**	**90.5**
Urban	9.3	90.7
Rural	10	90
Income quintile	**9.4**	**90.6**
I	1.7	98.3
II	14.5	85.5
III	14.2	85.8
IV	10.3	89.7
V	5.9	94.1
Work force (15 years and older)	**12.8**	**87.2**
Salaried	17.5	82.5
Unwaged	11.4	88.6
Occupied	11.5	88.5
Open unemployed	26	74
Our of the work force	8.1	91.9
Gender	**9.5**	**90.5**
Male	11	89
Female	8	92
Level of poverty	**9.4**	**90.6**
Extreme poverty	0	100
Non extreme poverty	0	100
Not poor	12.3	87.7

Source: CCSS (2014), *Memoria Institucional 2014,* Costa Rican Social Security Institute, San José.

The CCSS has designed various forms of contributory and non-contributory insurance over the years, which have allowed the insurance coverage to reach around 95% of the population by 2015. However, the contributory coverage amounted to 65.3% (the figure does not include the voluntary insured), which means that 34.7% of the population covered is through indirect insurance, such as a family beneficiaries, insured by the State and pensioners, while a small group of the population is not registered as insured.

Compulsory affiliation of independent workers in particular has accelerated rates of formal coverage in recent years. Since 2005, independent workers are obliged to pay contributions for health insurance and pensions. This requirement caused coverage in this group to go from 38.6% in 2004 to 56.1% in 2015, an additional 17.5%.

In addition, other initiatives have sought to enrol indigenous peoples, urban poor, among others, particularly since 2005. Currently, the health insurance has seven types of insurance, shown in Table 2.1. Of particular interest is the modality relating to "family of the directly insured". In 2014, the CCSS extended this modality to a historically excluded group, namely same-sex couples.

Some population groups remain, however, without access to the health insurance through the CCSS. These groups include some informal or temporary workers (particularly those from neighbouring nations), poor refugees that are not accepted as beneficiaries in charge of the State (and hence, only covered for medical services through the United Nations High Commissioner for Refugees), undocumented migrants, some indigenous population whose geographical access to health services is limited and poor populations who should be fully subsidised but are not identified as such (lacking knowledge of their rights). Some of the people without social security through the CCSS are insured through private insurance – but no more than 2% of the population has private insurance.

Even without health insurance, all inhabitants of Costa Rica have access to CCSS health services in case of emergencies. Uninsured individuals are entitled to be able to receive emergency room care without out-of-pocket (OOP) payment. These individuals are also entitled to further necessary health care (including hospitalisation and surgery) – but will then be billed for the services given. In non-urgent cases, the patient should either pay in advance or enroll in one of the insurance modalities offered by CCSS, according to their ability to contribute.

A well-developed primary care base improves access to health care services in Costa Rica

Nearly all health care services take place in the public sector, via CCSS providers. The CCSS annually provides more than 14 million outpatient consultations, writes more than 80 million prescriptions, and carries out more than 200 000 surgeries including some 500 organ or tissue transplants. Most contacts occur within primary care, with a World Bank study reporting that approximately 80% of care needs are resolved at this level (Montenegro Torres, 2013).

Early reforms following the Alma-Ata Declaration in 1978 strengthened primary care, with a focus on increasing coverage and improving the quality of primary care, particularly within underserved areas (Balabanova et al., 2011). These efforts were further strengthened in the early 1990s, when Costa Rica established Basic Comprehensive Health Care Teams (*Equipos Básicos de Atención Integral de Salud*, EBAIS). EBAIS are the basic organising unit of primary care delivery. By 1995 there were 232 EBAIS in Costa Rica, mostly among underserved communities, with rates of access in rural areas rising from 64% in 1995 to 79% in 2000. Alongside EBAIS, some 15% of the population is attended by private providers that are contracted by the CCSS to deliver primary care.

Today over 1 000 EBAIS are present throughout the country; in effect, they constitute the basis of the national health care system. With at least one medical doctor, one nurse or nursing assistant and one health care assistant, EBAIS serve around 1 000 households each. Other personnel may include social workers, dentist, laboratory technicians, pharmacists and nutritionists, who may work across more than one EBAIS in clusters called *Áreas de Salud,* or health zones. Services include outpatient services, family planning and community medical services, health promotion and disease prevention, and management of (non-complex) chronic disease. When required, the EBAIS also refer patients to higher levels of health care.

Box 2.1. Mental health and work in Costa Rica

Costa Rica's national mental health plan for 2012 to 2021 states that improving the detection, care and rehabilitation of people with mental health issues through a community-focussed programmes, rather than hospital-dependent approaches, is a priority. The importance of using multisectoral initiatives to achieve this is also stated in the cross-government National Development Plan. A recent collaboration with the Ministry of Planning and Political Economy, for example, focusses on building school children's self-esteem and to tackle low-mood and anxiety. Labour market reinsertion is also a priority.

Multidisciplinary teams in primary care are supported to improve the detection and treatment of people with mental health problems at an early stage. So far, some 400 of the 1 041 EBAIS have received additional mental health training – eventually all will have. The needs of those with more severe mental health problems are monitored through a national register of individuals with depression, bipolar disorder and schizophrenia. Specialised care for people misusing alcohol and substances is available through the national Institute for Alcoholism and Drug Dependency. There is also a national mental health committee, with representation from citizens and service-users, to monitor the accessibility and quality of mental health care services.

Recently, Costa Rica's ambitious and innovative model of primary care has been further developed with the establishment of three Centres for Integrated Health Care (*Centros de Atención Integral en Salud*, CAIS). These centres constitute an extended network for the primary care system, offering maternity services, intermediate care beds (to avoid hospital admission or expedite early discharge), ambulatory surgery, rehabilitation, speciality clinics (such as pain management), and diagnostics such as x-rays. The CAIS also hold workshops in order to support typical local EBAIS by comparing and discuss their performance indicators, offering telemedicine and home-visits, and by keeping a focus on preventive care. In 2015 one of the CAIS established a local commission on domestic violence and most of its 15 000 home visits were for health promotion and preventive care. Upward integration with secondary care providers are established by the CAIS through the development of protocols and patients pathways for service networks in psychiatry, paediatrics, elderly care and other specialities. The Costa Rican primary health care model is thus of significant interest for OECD health systems looking to strengthen people-centred, integrated care.

EBAIS and co-operatives are intended to function as gatekeepers to the rest of the health system. Efforts are made to ensure that care is delivered at the most appropriate level. In order to strengthen primary care management, hospital doctors train colleagues working in EBAIS (including private primary care providers). Nevertheless, despite referral guidelines and the requirement that referrals be turned back if appropriate steps have not been completed in primary care, many patients still seek care directly at emergency rooms – and almost all hospital referrals are accepted. This may be related to the fact that most EBAIS only offer appointments in the morning and early afternoon, and only on weekdays. In 2010, 44% of all public consultations were held in emergency services, out of which 60% were not actual emergencies. In comparison, non-urgent emergency room visits accounted for 12% of all emergency visits in the United States, 20% in Italy, 25% in Canada, 31% in Portugal, 32% in

Australia and 56% in Belgium (OECD, 2017). The growth of emergency care is discussed further in Chapter 3, and displayed in Figure 3.11.

It should also be noted that specialist post-graduate training in primary care is rare among doctors working in EBAIS (see also below for more information on health care workforce). Less than ten doctors a year train in Family Medicine, apparently because the tough qualifying exam discourages potential recruits. The current policy in Costa Rica aims to have a Family Medicine specialist in each Área de Salud (of which there are around 100) – but not, as yet, in each EBAIS.

Costa Rica's health insurance scheme achieves financial protection for poor households

Most health systems have implemented special schemes to provide health insurance for poor communities, which may stand apart from health insurance schemes for the rest of the population. Costa Rica's insurance modality for those who are too poor to contribute directly to insurance themselves is called *Asegurados por Cuenta del Estado* (ACE or Insurance through the State). ACE is provided through the CCSS, meaning that the CCSS is one of the few institutions in the region that combines social health insurance for workers with social assistance for poorer groups. There is, therefore, no explicit differentiation in the provider networks or benefits available for poor and non-poor affiliates. This enhances equity. It also indicates the importance of mobilising adequate resources to sustain ACE and channel resources to those most in need.

These resources are increasingly channelled through the *Fondo de Desarrollo y Asignaciones Familiares*, FODESAF. This is a fund in charge of transferring funds for various antipoverty programmes (including ACE) to state ministries and different levels of government. Resources related to ACE represent between 4.8% (2014) and 6% of FODESAF. It is expected that from 2015 onward this figure will increase to about 10% (Trejos et al., 2015).

There is no specific and publicly available actuarial study of the cost of affiliates insured under ACE. Instead, the CCSS uses the average contribution of those contributing with the minimum contributory income base as a proxy to determine the per capita resources that FODESAF needs to transfer to the CCSS to finance each ACE affiliate. The share of this "cost" paid for by FODESAF is meant to increase over the next year; from 25% of the "cost" estimated by the CCSS in 2014 to 100% from 2015 onwards.

The CCSS and the Ministry of Finance are meant to finance the gap between FODESAF's contribution and the real cost of health insurance for ACE affiliates. The actual cost of care of the groups covered through ACE, however, has not been quantified. Hence, the gap between the minimum average contribution used by the CCSS (to determine FODESAF's transfer) and the actual cost of care is unknown.

An analysis by the University of Costa Rica (Trejos et al., 2015) found that around 70% of the poor were affiliated by the CCSS in 2014. This rate dropped when looking at the most vulnerable subgroups: only 45% of the extreme poor and 35% of the lowest two quintiles of the population were covered by ACE, suggesting gaps in coverage. Questions regarding sustainability also arise.

Poorer communities in Costa Rica are more likely to report illness and experience higher probabilities of illness (Slon and Vargas, 2010). A 2006 survey, for example, found that a greater share of the poor who reported illness was not insured, when compared to the non-poor, suggesting higher need. And a 2008 survey found inequalities in stunting, with the poorest 40% of the population about four standard deviations worse off than the rest of the population (Dmytraczenko and Almeida, 2015). Perhaps unexpectedly, however, the reported

use of services is similar between the poor and the non-poor (Slon and Vargas, 2010). Similarly, there is little evidence of variation by socioeconomic position in the utilisation of basic child health interventions over time (Dmytraczenko and Almeida, 2015). In summary, variation in health care need and health care utilisation by socioeconomic position appears complex in Costa Rica, and should be studied in detail to better understand the extent of *effective* health insurance coverage amongst poorer communities.

Another unknown quantity relates to the number those affiliated under ACE who are truly unable to pay, versus those who could co-finance, at least part, of their contribution (such as those holding informal jobs). There is only very limited publicly available information to quantify this contributory potential. Providing solid analyses of this potential new source of funding, and that of the effectiveness and sustainability of ACE, will provide a clearer picture on the impact of ACE, its capacity for expansion (or reduction), and its financial sustainability. Chapter 3 considers the financial sustainability of the Costa Rican health care system in more detail.

Poor households are protected against catastrophic levels of health care spending

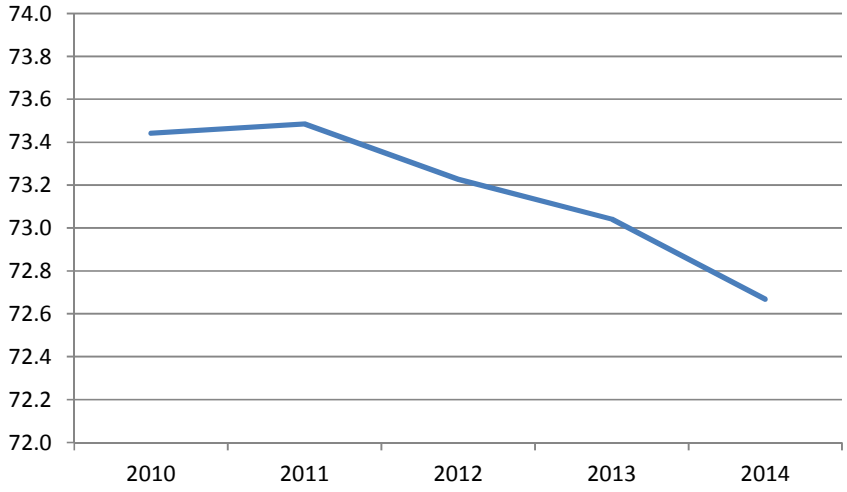
Out-of-pocket (OOP) health expenditure in Costa Rica was as low as 18.4% of total health expenditure in 1998, with a high of 28.7% in 2007 (World Bank, 2016). Recent years have seen OOP steadily increase, however, with a small but constant decrease in the participation of public funding and increase in private spending (see Figures 2.1 and 2.2). The most recent figures show that OOP as a percentage of total health care spending in Costa Rica was just under 25% in 2014, considerably less that the 33% that was paid by patients in Chile, or 42% in Mexico (Figure 2.3). Costa Rica's OOP spending is, however, well above the average OOP spending of around 20% among OECD countries (OECD, 2016).

In a 2012 study, it was found that the two main components of OOP expenditure in Costa Rica are medical consultations and drugs, standing for over 80%, while laboratory tests accounts for around 7%, with most of this expenditure amongst households in the top deciles of the income distribution (Knaul, 2012).

Given the high health care coverage within the CCSS and the fact that no co-payments are required in the public insurance system (nor are there any prescription costs and hospitalisation expenditures are rare), it is perhaps surprising that OOP levels in Costa Rica are not lower. However, it seems that waiting lists in the country may be driving people towards private providers, whom they pay directly

Figure 2.1. Recent years have seen a slight decrease in publicly-funded health care

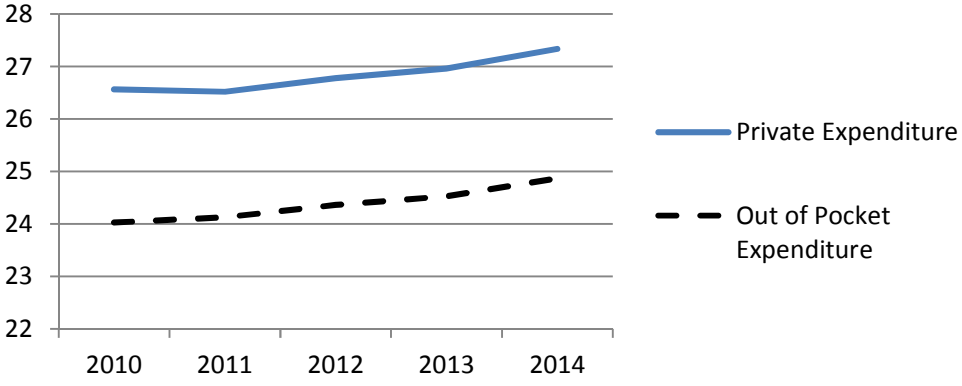
Government's expenditure on health, as a percentage of total health expenditure



Source: Compiled from WHO and NHA indicators (2016).

Figure 2.2. Recent years have seen a steady increase in privately-funded health care

Private and out-of-pocket expenditure on health, as a percentage of total health expenditure



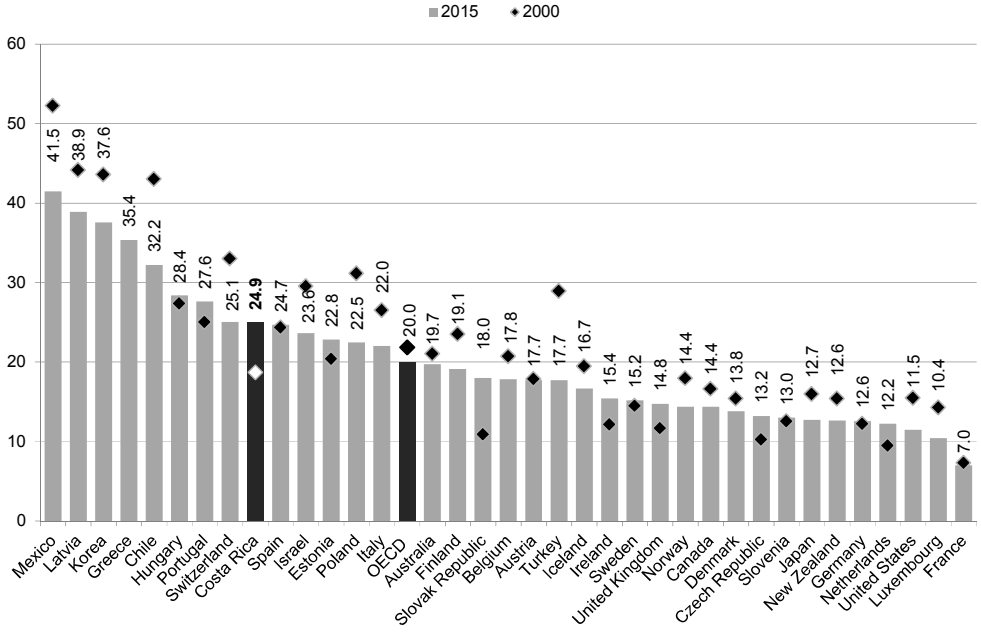
Source: Compiled from WHO and NHA indicators (2016).

High OOP can drive poor households into devastating economic situations, or lead to patients avoiding health care services they need due to fear of high fees. Financial protection is particularly important in lower socioeconomic groups, to reduce catastrophic health expenditure (CHE) and Impoverishing Health Expenditure (IHE). Catastrophic or impoverishing expenditure appear rare, however, in Costa Rica.

Abstention from seeking medical services due to economic reasons in 2012 was reported by only 0.8% of the population, as compared to 4.2% in Chile, a positive sign of an effective insurance system. Indeed, CHE in 2004 in Costa Rica was 0.16 to 0.73% of all households in Costa Rica per month (with OOP's exceeding 30 and 40% of capacity to pay respectively), as compared to the levels in Chile of 6.4% (with a 40% threshold of household's capacity to pay) (Knaul et al., 2012).

Figure 2.3. Out-of-pocket spending is high and increasing despite high health spending

Out-of-pocket spending as a share of total health expenditure, 2000 and 2015 (or nearest year)



Source: OECD Health Statistics.

Overall, universal access to health services has protected Costa Ricans from catastrophic financial risk. Nevertheless, the increasing level of private and out-of-pocket spending is a cause for concern, as discussed below and in the Assessment and Recommendations.

Waiting lists for health services in Costa Rica drive up OOP spending

Waiting lists in Costa Rica are a major problem that drive up OOP spending. According to the CCSS's last published self-evaluation, average waiting time for general surgery was 452 days. Almost a third (31%) of patients were waiting for longer than 540 days (CCSS, 2014). Particularly long average waiting times affected certain specialities, including joint replacement (978 days), varicose vein removal (525 days), or inguinal hernia repairs (365 days). These are not life-threating conditions, but such long waits must fall short of patients' expectations. Tertiary specialist hospitals were also worse affected. This includes the national children's hospital, where average waiting time for surgery was remarkably long, at 701 days. More recent data suggest that, at the end of 2016, the waiting list for all procedures was growing by 15 000 new patients each month, with 96,306 patients on the waiting list for surgeries for more than 90 days, of which just under half were waiting for general or orthopaedic surgery (CCSS, 2016).

Waiting times are also often in the public eye, being subject to special monitoring by the public ombudsperson (La Defensoría de los Habitantes, 2013). In 2015, according to an investigation conducted by the public ombudsperson, 141 deaths had been associated with waiting for needed cardiac catheterisation since 2009 (Ávalos, 2015).

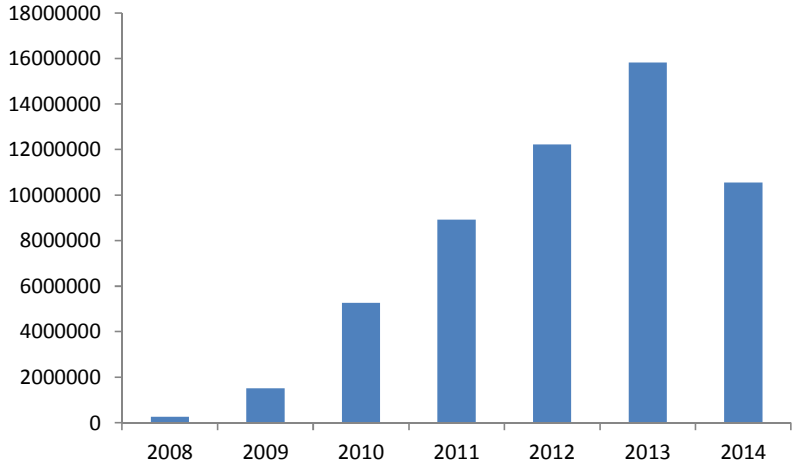
Rapidly changing demographic and epidemiological realities, inadequate funding, outdated equipment and infrastructure, limited access to specialists due to professional regulatory issues, and paper-based medical records and appointment systems are all reported as causes of the growing waiting list. Waiting times for surgery have improved in recent

years, however, as shown in Figure 2.4. The CCSS introduced a national initiative to tackle lengthy waiting lists in April 2014. By September 2015, 93% of hospitals had managed to reduce waiting times, with an overall reduction of over a year (from 613 days in 2012, to 256 days in 2015). This was achieved by encouraging more efficient use of surgical theatre time and recovery beds, extending the operating day into the early morning and evening, specifying maximum waiting times and establishing a unit that monitors and intervenes in services with excessive waits.

Long waiting times at the CCSS make many patients choose to seek higher level of health care assistance, thus increasing the costs of health care in Costa Rica. As earlier described, nearly half of all public consults in 2010 were held in emergency services, most of which were not actual emergencies. This may in part be because most EBAIS only offer appointments in the morning and early afternoon, closing at around 3pm. Patients reportedly get up very early to start queueing for an appointment. Confirming this, a 2014 survey of school-aged adolescents using EBAIS reported frequent difficulties in obtaining an appointment (43% of those surveyed) and waiting more than 120 minutes to see a provider (25%) (Gagnier et al., 2014). Long waiting times also make many patients choose private providers, as discussed next.

Figure 2.4. Waits for elective surgery in Costa Rica have started to improve, after deteriorating for several years

Total days waited for elective surgery, 2008-14



Source: CCSS (2014), *Memoria Institucional 2014,* Costa Rican Social Security Institute, San José.

Private sector health care providers are increasingly used

The private health care sector in Costa Rica comprises a wide network of providers offering both ambulatory and specialised health services, financed directly out-of-pocket or through private insurance. Five private insurance companies operate within Costa Rica, although only 2% of households in Costa Rica had private insurance in 2010 (Sáenz et al., 2011). More recent figures show that the demand for private health insurance has increased rapidly over recent years, from less than 8 000 affiliates in 2010 to close to 14 000 in 2014.

The private provider network comprises private clinics and hospitals, as well as co-operatives (non for profit organisations contracted by the CCSS). The number of such providers was growing at about 7% per year around a decade ago, according to Costa Rica's PROCOMER (Chacón and Cerdas, 2009), although more recent data are not available.

Activity data are not publicly available, but it is reported that consumption of services in the private sector is growing, particularly for diagnostic procedures that are represented on the CCSS waiting lists (discussed later in this section). While the causes of this growth are hard to pinpoint, long waiting times are reportedly an important issue, as noted earlier. Growing demand of medical tourism services may also explain part of the increase.

To address the problem of overcrowded public health care services and insufficient capacity, public facilities themselves also refer patients to the private sector. This way, the CCSS offers health services either within its own premises or through the private sector where public-private partnerships (PPP) have been negotiated. In the 1980s, for example, the CCSS contracted co-operatives in order to provide health care services in areas where there was a shortage (Sáenz et al., 2011). As of 2016, four co-operatives and two non-cooperatives (the ASEMECO association and the University of Iberoamerica) provided health care services to 15% of the Costa Rican population on the basis of primary level contracts (as earlier described). In case of need for specialised care, these providers should refer the patients to the secondary and tertiary level within the public health care network. In some cases however, the CCSS could contract private institutions to provide high complexity diagnostics and treatments.

Private health service providers (both for-profit and not-for-profit) are selected by the CCSS, through competitive bidding, underpinned by technical considerations, such as equity of access and quality across the country as a whole. Once contracted, monthly, quarterly and annual indicators are audited, to verify compliance with contractual conditions. One of the indicators to which special attention given concerns the number of consultations provided in the year, or patients seen per hour. In most contracts, the goal is to reach is four to five patients per hour, whilst also complying with specified quality standards.

Some studies report a preference for the private health care sector amongst the surveyed population. In the national health survey of 2006, for example, 31% of the population reported obtaining health services from the private sector at least once a year, regardless of their coverage under the CCSS. In 2009, 60% of the respondents stated that they preferred private health care providers (Gutiérrez, 2009). Furthermore, 50% of the population thought they could stop contributing to the social security system and join a private insurance instead, a situation that would potentially worsen financial sustainability within the Costa Rican health care system: it is estimated that the resources of the CCSS would be reduced by 48% if the 18% of the richest contributors would withdraw from the public insurance system (Sáenz et al., 2011). Nonetheless, 67.5% of Costa Ricans thought that the government, rather than private institutions, should be responsible for managing the health care system (Hernández and Salgado, 2014).

Obstacles to access health services are leading to judicial litigation

Over the past decade, many Latin American countries have experienced a rapid rise in the number of lawsuits that seek access to novel, expensive or faster treatment. Often these requests are related to high-cost drugs and/or services that are not being covered by the public health system. This "judicialisation" of health care is the result of a complex interplay of factors: the costs of providing health care may exceed the resources available; citizens are increasingly informed about their rights and prepared to enforce them in court; and the influence of the pharmaceutical and diagnostics industry is increasing. Unfortunately, the judicial system typically lacks the technical expertise needed to make sound and sustainable (from a health system point of view) decisions in this arena (World Bank, 2013).

In Costa Rica, constitutional reforms in 1989 created a Constitutional Chamber of the Supreme Court (*Sala Constitucional* or Sala IV) with far-reaching judicial review powers. Sala IV is typically used as the mechanism to guarantee and enforce health care rights.

Although the impact of judicialisation is less severe than in other countries such as Colombia and Brazil (Iunes et al., 2012), constitutional claims to health care in Costa Rica have been growing rapidly (Norheim and Wilson, 2014). In the last three years, the CCSS received around 1 423 lawsuit obligations, mostly seeking redress for excessive waiting times. According to data presented by Piza (Piza, 2016) an estimated 0.2% of physician visits, 0.6% of surgeries, and about 9% of drug expenditure or 1% of total expenditure can be related to judicialisation in Costa Rica.

A recent study found of litigation for access to certain health care treatments in Costa Rica found that the majority of legal claims for medication were successful and resulted in court-mandated provision of new or expensive drugs (Norheim and Wilson, 2014). More than 70% of the successful cases, however, concerned medications judged to be of low cost-effectiveness or low priority.

The judicialisation illustrates two important issues related to the sustainability of Costa Rica's health care system: weaknesses in the delivery of care (specifically, long waiting times) and gaps in services (mainly high-cost drugs) offered by the CCSS. The first issue results from demand exceeding supply and, given the lack of an explicit benefits package or waiting time guarantees, dissatisfied patients have no alternative but resort to judicial mechanisms. The second relates to differences in the perceived value of treatments, that are not included in the essential medicines list (EML) of the CCSS.

The CCSS provides technical information to argue its decision to deny access to certain treatments not covered by its EML, and help judges to come to reasonable decisions. However, in most cases, the court has argued that "the specialist doctor who treats a patient knows better than anyone else their reality and needs" and that a prescription from that doctor outweighs the technical medical criteria used by the CCSS's *Comité Central de Farmacoterapia* (Central Committee of Pharmacotherapy) to determine which medicines should be on the essential drugs list (Norheim and Wilson, 2014). There is skepticism toward reports developed by the CCSS as they are considered to be biased.

This pressure on the CCSS to allocate resources to health technologies that are considered to be of low cost-effectiveness or low priority risks weakening CCSS sustainability, as well as interfering with effective service delivery. Establishing an independent third-party evaluator of health technologies in Costa Rica should be a priority, therefore. An independent agency, tasked with completing health technology assessments (HTAs) and cost-effectiveness evaluations should be considered with some urgency.

3. Quality of health care provision in Costa Rica

The quality and outcomes of health care in Costa Rica have received less attention than issues concerning access (especially waiting times). Some key international benchmarks, such as screening for cancer or avoidable hospital admission, suggest good care. Others, such as trends in door-to-needle time after a heart attack, are less reassuring. In general, however, scant data is available to assess quality of care more fully, with patient-reported outcomes and experiences being notably absent.

Quality of health care in Costa Rica appears good, according to some key international benchmarks

In terms of avoidable hospitalisations for key conditions, a marker of primary care quality, a recent comparative study found that Costa Rica performs best of all Latin American countries studied and has the longest series of data on record (ten years). Less than 11% of total hospital discharges are related to ambulatory care sensitive conditions with a trend declining slightly since 2001 (Guanais et al., 2012). Costs associated with avoidable

hospitalisations represent about 1% of total public spending on health (Guanais et al., 2012). These figures compare very favourably to other OECD countries.

Costa Rica has also done well on cervical cancer screening, with approximately 76% of eligible women having received a pap smear in Costa Rica in the year prior to being surveyed, as compared to 61.6% on average across OECD-countries (only Colombia performs better in the region, at 95%). However, the country does relatively poor on breast cancer screening and this is the only area where major inequalities in utilisation exist between the poorest 40% of women and the rest (Dmytraczenko and Almeida, 2015). In terms of diagnosed asthma, depression, diabetes and heart disease, the same survey found screenings are relatively low, but that there is little inequality and levels are similar to neighbours.

Cervical cancer five-year relative survival rate for patients diagnosed in 1999 was 68.3%, higher than the OECD average of 64% for the period 1998-2003 (Quirós, 2015; OECD, 2016b). A breast cancer survival rate of 88% was observed in Costa Rica for patients diagnosed in 2009 after a median follow-up of 46.8 months, as compared to the OECD average of 84.5% (although this OECD average is over a follow-up of five years) (Rivero, 2014; OECD, 2016b). Costa Rica has a national cancer registry, but it does not appear to be used for quality monitoring and improvement.

Hospital length of stay was 6.58 days on average in 2015, basically unchanged since 2002. This figure is slightly less than the OECD average of 7.5 days, but longest of all Latin America countries studied in a recent IDB report, driven mainly by hospitalisations related to infectious diseases (gastrointestinal and respiratory) and complications related to diabetes mellitus (Guanais et al., 2012).

Regional differences may suggest variation in the quality of health care across Costa Rica

Although hospital mortality is low overall (2% of all CCSS hospital admissions, according to the CCSS's *Politica insitucional de calidad y seguridad del paciente* report of July 2015), there is large variability amongst facilities; in 2013, five hospitals – including three at the national speciality level that are serving large patient populations (Calderon, San Juan and Mexico) – had numbers of deaths much higher than predicted even after adjusting for the size and characteristics of the patient population and the disease profile (Morera-Salas, 2015). Gross mortality rates among patients over 45 during the first 30 days in hospital following a stroke was 26.5% in 2010 (Soriano et al., 2015). While there are no trends to explore on this indicator, the relatively high level of mortality for some causes and in some hospitals suggests quality concerns that might be analysed further via committees to review deaths and stricter reporting of errors and adverse events. Box 2.2 describes how one hospital (San Vicente de Paúl, within the San José metropolitan area) has undertaken a set of measures that have contributed to quality improvements.

Box 2.2. How one hospital addresses quality challenges

San Vicente de Paúl Hospital serves a population of 511 000 and has undertaken a set of reforms that address long waiting lists, excess emergency room use (80% of which non-urgent) and lack of patient-centred care, including:

- Implementation of a safe surgery programme
- Increasing surgeries by 30% per month to reduce waiting lists by increasing the amount of occupancy rate of operating theatres by 18%
- Introducing a planned discharge programme, allowing 90% of patients to leave by midday
- Extending nursing roles by providing patient education to manage common causes of readmission such as diabetic foot, breastfeeding, ulcers and cardiac rehabilitation
- Working with EBAIS to rationalise referrals to reduce hospital demand (reducing accepted referrals from 90% in 2014 to 78% in 2015)
- Providing larger hospital pajamas for obese patients to improve patient experience (Proyecto Manolo)

Other analyses by the Ministry of Health also suggest that there are substantial differentials in mortality between different health areas of the country. Between 2010 and 2014, more than half of the districts of the Guanacaste region, for example, had higher than expected mortality related to hypertension, while in other areas this figure ranged from a low of 9% in Heredia (a metropolitan area) to 32% in Limon (a more rural, poorer area) (Ministerio de Salud de Costa Rica, 2016a). A study on the evolution of avoidable cervical and uterine cancer mortality found similar results over the period of 1970-2005: the poorest health areas had avoidable mortality that was 18 times greater than the wealthiest health areas, though there was also evidence of improvements over the period (2% decline) (Aparicio-Llanos and Morera-Salas, 2007). Plans to collect regional variation in stage at diagnosis of cancer have been set out as part of the national cancer registry, but these data are not yet available for analysis (Ministerio de Salud de Costa Rica, 2016b).

Key quality indicators, particularly those related to patient satisfaction and patient safety, are not routinely measured

A 2014 evaluation of essential public health functions by the Pan American Health Organization found that Costa Rica was below the regional average in quality assurance and health promotion functions (Golcher et al., 2014). While standards and protocols were found to be in place, there were no systems in place to measure and track quality on a routine basis, nor to track the evolution of quality indicators over time at the time of the evaluation.

In particular, medical errors (injury or harm to patient because of medical care, rather than underlying disease or condition) are not tracked systematically in the CCSS hospital information system. Hospital infections doubled between 2000 and 2005, again with important differences amongst facilities. There is also some documentation of inappropriate prescribing; a two-day study at a public hospital using a process audit found 1 179 dispensation errors (mostly wrong drug, 42%, or wrong dose, 30%), as well as problems in process of reception and transcription of the prescription (Alfaro Víquez et al., 2012).

While most of these data reflect high levels of utilisation given need, many of the datasets are more than a decade old, and likely do not reflect the rapidly evolving patterns of need

and use. Dissatisfaction with perceived quality may also be an issue; more than 40% of the population report being dissatisfied or very dissatisfied with the quality of health services in 2014 (LAPOP 2014 as cited in Prat and Beverinotti, 2016, p. 72). An earlier survey (*Encuesta de Satisfacción al Usuario 2012-2013*) found that users ranked hospital and outpatient care as "satisfactory."

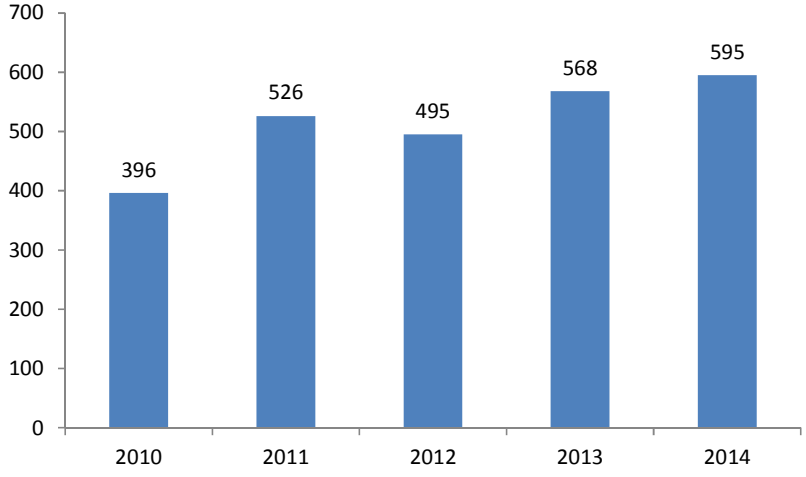
Lack of human resources is a persisting challenge for both access and quality within the Costa Rican health care system

A key determinant of access and quality is the availability and distribution of appropriate human resources for health. Issues of geographical distribution as well as number and speciality of physicians have been persistent challenges in Costa Rica, and despite several work force planning initiatives, ensuring adequate supply of workforce remains challenging. CCSS provides incentives for health care workers to serve in rural areas. However, the incentive has been insufficient to attract doctors to more distant localities, and is particularly problematic for specialists such as anaesthesiologists and ophthalmologists. In addition, specialisation in primary care is not well developed. As earlier mentioned, most doctors working in EBAIS do not have specialist post-graduate training in primary care.

The CCSS plays a key role in determining the number and speciality of physicians, as all clinical training must occur within CCSS facilities. Practically, this means that CCSS and its physical and human resource restrictions/requirements determines the number and specialities of students that can be trained in a given year. The number of new trainees has remained flat over time at about 500 graduates per year since 2011 (see Figure 2.5). As a consequence, Costa Rica has a density of 2.1 physicians per 1 000 inhabitants, below the OECD average of 3.3 per 1 000 inhabitants (OECD, 2016d; see also Section 4 in Chapter 1).

Figure 2.5. Recent years have seen little growth in numbers of medical graduates in Costa Rica

Medical graduates in Costa Rica, 2010-14



Source: Consejo Nacional de Rectores (2015).

The College of Physicians and Surgeons of Costa Rica will only license foreign doctors following a lengthy accreditation procedure. In a closed market in a country with limited supply of home-trained doctors, simplified recognition of qualifications and training obtained elsewhere may be sensible in some cases. More promisingly, there is some discussion of task shifting (e.g., training general medics in ultrasound rather than relying on a radiologist). Some

OECD countries, however, have gone much further in this direction, and allow non-medics or technologists to provide these services. It seems unlikely, however, that the College of Physicians and Surgeons would be ready to embrace this degree of task shifting.

In contrast, there is an oversupply of trained nurses. More nurses graduate than there are jobs available in the public or private sector. Nevertheless, Costa Rica reports well below the OECD average of nurses for every doctor; there are 3.1 nurses per 1 000 population, compared to 9.1 per 1 000 on average among OECD countries (OECD, 2016d; see also Section 4 in Chapter 1). Nursing professionals themselves note that nurses could play a larger role in EBAIS, particularly given that the University of Costa Rica's programmes feature several nursing specialities (hemofiltration, ITU, paediatrics, anaesthetics, mental health, for example) and a home-grown Master's programme. Given that many nurses are highly trained, CCSS could open additional spots for nurses to address the shortage of specialist physicians.

The Centre for Strategic Development and Information in Health and Social Security (*Centro de Desarrollo Estratégico e Información en Salud y Seguridad Social*, CENDEISSS) is a unit within CCSS that, for over 40 years, has been responsible for the planning and strategic development of the health care workforce. Costa Rica also has the National Observatory for Human Resources in Health (*Observatorio Nacional de Recursos Humanos en Salud*) to monitor workforce trends and support dialogue between professional associations, the Ministry of Health, the CCSS, private employers, academics, and other stakeholders. However, existing estimates are built mainly on feasibility (CCSS concerns regarding training "space") or political (*Colegio Médico*) considerations, rather than a forecast of anticipated needs and demands, and a simulation of the necessary profiles and possible reform scenarios that would lead to a set of human resources better suited to resolve main challenges in the system, such as the long waiting lists for health services.

Quality benchmarking within primary care could be expanded

The CCSS has developed a detailed primary care performance framework that evaluates local health authorities across thirty indicators in the domains of access, continuity, effectiveness, efficiency, patient satisfaction and organisational competence, both outputs (screening rates) and outcomes (adequate control of lipids and blood pressure). For each indicator, a national target is set. Dashboards of local results are published, allowing providers to compare their performance against national, regional and local benchmarks, and a detailed analysis of regional variation in performance was included in CCSS's 2014 evaluation report (CCSS, 2014).

Most indicators address inputs and activities. A few outcomes, however, are measured. Encouraging results were found for hypertension, where adequate control was achieved in 66% individuals with high blood pressure, unchanged from 2012. Blood pressure screening also increased from 30% to 34% (of the undiagnosed population) between 2013 and 2014. In contrast, adequate control of cholesterol levels was achieved in only around 45% people with dyslipidaemia. The evaluation considered reasons for falling short of the 55% target, including poor adherence to clinical guidelines or deficient information systems. The evaluation also reported hospitals' risk-adjusted mortality rates, using methods developed by the Canadian Institute of Health Information. Six out of 23 hospitals had rates significantly above the national average of 2.4 deaths per 100 patients. In another section, door-to-needle times for patients with a heart attack were reported. Of significant concern, these had worsened substantially between 2013 and 2014: 74% received thrombolysis within 30 minutes in 2014, compared to 85% the year before.

Based on a study of CCSS medical records and provider interviews, an earlier evaluation (Ministerio de Salud de Costa Rica, CCSS and PAHO, 2006) found that only 58% of patients diagnosed with hypertension achieve treatment goal (<140mmHg and <90mmHg systolic and

diastolic pressures, respectively) at the primary care level. This figure was 30% at the secondary level. The same study found that 42% of providers could cite less than five of the recommended ten steps in taking blood pressure measurements, and that this share was higher at the primary care level. Only 41% of people diagnosed with hypertension had this fact noted in their medical record. Less than half of patients with hypertension received any health education on how to manage their condition. While this is a dated study focusing on only one condition, the findings suggest that primary health care is not performing as effectively as it might. A 2014 special survey of adolescents in public schools found that despite relatively high levels of intercourse and risky sexual behaviour, much less than half of young people had ever received counselling on reproductive health and sexuality in an EBAIS (Gagnier et al., 2014). There is room, therefore, to improve general health promotion within the primary care in Costa Rica.

Data itself is not necessarily lacking, rather there is a lack of analytical capacity and mandate to use it to steer the health system. Indeed, the EBAIS collect a large amount of data as part of their Household and Family Medical Record (*Ficha Medica Familiar*), made up of more than 260 indicators on an annual basis (Montenegro Torres, 2013). These data are in the process of being digitised, but are not yet available for analysis. It is also concerning that the last CCSS performance report was published in 2014. More recent reports are not available for comparison, even though the stated intention of the 2013 and 2014 reports was to establish a baseline for future comparison. Furthermore, several important indicators were not measured in the 2014 evaluation. Survival rates after a heart attack, for example, were not reported – a key indicator directly relevant to deteriorating door-to-needle times. At the time of writing (January 2017) Costa Rica had not yet submitted data to the OECD's Health Care Quality Indicators project.

Policies and programmes to improve quality of health care

The CCSS has developed health care quality and safety policies over a number of years. Among the earliest of these was the *Programa del Mejoramiento Continuo de la Calidad del Sector Salud* (Programme for Continuous Quality Improvement in the Health Sector), launched in 1997. A particular emphasis of this programme was to systematize quality methods across the CCSS, and share innovations and learning across the CCSS's seven regions. In 2005, two national programmes were created: the *Programa Nacional para la Promoción de la Seguridad del Paciente* (National Programme for Patient Safety) and the *Programa Nacional de Garantía de Calidad y Seguridad de los Pacientes* (National Programme to Guarantee Quality and Patient Safety). As part of this renewed focus on safety, Costa Rica participated in a regional study of adverse events, recording an event rate of 8.5% during the two-week survey period in September 2007. Regular reporting of adverse events was institutionalised in 2010, and a Safe Surgery checklist was introduced in the same year.

The CCSS has also adopted several evaluation procedures for quality improvement, such as hospital accreditation, comprehensive evaluation of primary care (EBAIS) and analysis of infant and maternal mortality. The programme, run by the Ministry of Health and applying to CCSS as well as private facilities, focuses on accrediting health care providers. Accreditation is at a basic level, however, and essentially comprises verification that the facility complies with minimum requirements around staffing levels, equipment and documentation. More ambitious quality monitoring and improvement programmes have been abandoned.

Between 1998 and 2007, a voluntary accreditation programme for general hospitals was developed with assistance from Canada. Evaluations were carried out annually between 2000 and 2006, during which time the only hospital to fulfil all accreditation criteria was one in the private sector. No CCSS hospital attained the necessary standards; indeed, serious emergent deficiencies led to the closure of several units. Despite this, the programme was discontinued.

The private hospital that had attained accreditation swapped to an international (commercial) accreditation agency, and now the only hospitals actively engaged with a formative accreditation and improvement programme (such as that run by the Joint Commission International) are in the private sector. Similarly, tailored accreditation standards for specific sectors (such as elderly care and palliative care facilities) previously existed, but have fallen into disuse. Until 2008, the Ministry of Health ran a programme with the CCSS to evaluate primary care services, including patient satisfaction, with results made public at facility level. This too, was abandoned, although the primary care performance framework described earlier has rectified this.

Several minimum service standards and clinical guidelines are produced, both by the Ministry of Health and CCSS. This is done in a collaborative process that involves clinical, technical, and administrative personnel at each service level from both institutions. These guidelines not only cover specific diseases (such as breast cancer), but also address the needs of defined patient groups (such as adolescents or post-partum mothers) to encourage integrated, patient-centred care. The ministry issues such guidelines by executive decree, and compliance is technically compulsory. There are, however, no mechanisms to monitor compliance and no accompanying incentives, sanctions, or support to help providers adapt their processes to comply. There is a risk, then, that these guidelines are not adequately adopted at the clinical frontline. Box 2.3 lays out a number of recent actions taken to improve quality of care.

Box 2.3. Recent guidelines and policies adopted to improve quality of care

- Measures to promote quality of care and patient safety – *Programa de Mejoramiento Continuo de la Calidad* (1997), *Programa Nacional de Promoción de la Seguridad del Paciente* (2005), *Política Institucional de Calidad y Seguridad del Paciente*
- Quality accreditation of hospitals and clinics, although somewhat restricted in scope – *Reglamento General de Habilitacion de Servicios de Salud* (Decree No. 39728, 2016)
- Clinical guidelines for maternal and child health, prostate cancer, lung cancer and HIV/AIDS
- Improvements in integrated care models, particularly for chronic diseases like diabetes and hypertension (*Modelo de Atencion de Redes de Servicios Integradas*, *Proyecto de Fortalecimiento del Modelo de Prestacion de Servicios de Salud*)
- Unique electronic health record (EDUS) for use across all health care providers, and with access by patients.
- The National Development Plan further specifies aims to reduce wait times for ambulatory surgeries and to increase infrastructure and equipment investment (Ministerio de Planificación Nacional y Política Económica, 2014).

Source: CCSS, Ministerio de Salud de Costa Rica and PAHO (2015); Ministerio de Planificación Nacional y Política Económica (2014).

4. Conclusions

Several measures indicate good accessibility of the health care system in Costa Rica. Universal health insurance coverage has been effectively achieved, and rates of catastrophic health expenditure are low by international standards. Other aspects, however, are less reassuring. Long waiting lists are a persistent problem, and appear to be pushing increasing numbers of Costa Ricans to use private health care providers, which threatens the principle of

solidarity, traditionally highly valued. A focus on waiting times means that other aspects of quality have been neglected. In particular, indicators of effectiveness, safety and patient experience are not regularly published.

There are several steps that could be taken to improve the accessibility and quality of the Costa Rican health system. These include effective enforcement of waiting time guarantees; greater use of data on patient outcomes, in order to better measure health system performance at local and national level; a more flexible work force policy designed around the needs of patients; and accelerating the supply of family medicine specialists and advanced nurse practitioners, to support the delivery of patient-centred care. The Assessment and Recommendations chapter discusses each of these in more detail, with international examples of best practice that Costa Rica could learn from.

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Chapter 3

Health care efficiency and sustainability in Costa Rica

This chapter assesses the efficiency and financial sustainability of health care in Costa Rica. Health spending now surpasses the OECD average, as a share of GDP. Upward trajectories of spending mean that the health system's, at best, fragile efficiency is likely to deteriorate.. Spending increases have been almost entirely consumed by increases in the number and salary of CCSS employees, without convincing evidence of benefit to patients. In the shorter term, Costa Rica will need to apply more effective expenditure ceilings and spending reviews to the health sector. In the longer term, better use of performance data as well as innovative payments systems will be needed. A shift away from employment-linked contributions as a basis for health system revenue will also contribute to longer-term sustainability.

1. Introduction

Costa Rica is one of the Latin American countries with the highest levels of public health spending as a proportion of its gross domestic product (GDP), mirroring the government's long-standing commitment to the health of its population. As a result, Costa Rica is rightly celebrated for being one of the countries further along the path to achieving UHC, with indicators such as life expectancy and infant mortality exceeding regional averages.

The combination of a relatively small population (under five million), political stability, steady growth, low poverty rates and the population's historical identification with the *Caja Costarricense de Seguro* (CCSS, the main provider of health insurance and health care services) certainly explain some of the positive results of the Costa Rican health system. As in most countries, however, the health system must confront a complex set of challenges, composed of increasing demand (including for new or expensive treatment options), alongside a tough financial climate.

This chapter first compares the financing structure of the Costa Rican health system with other comparable countries in the Latin America region and OECD countries. It presents a general overall diagnosis of the financial equilibrium of the health system, based on an analysis of both its financing sources and its expenditure. Revenue sources are considered, particularly the role of payroll contributions, which are being squeezed because of increasing informalisation of the labour market. Finally, it makes recommendations to strengthen the sustainability of the health system.

2. Costa Rica's health system financing in perspective

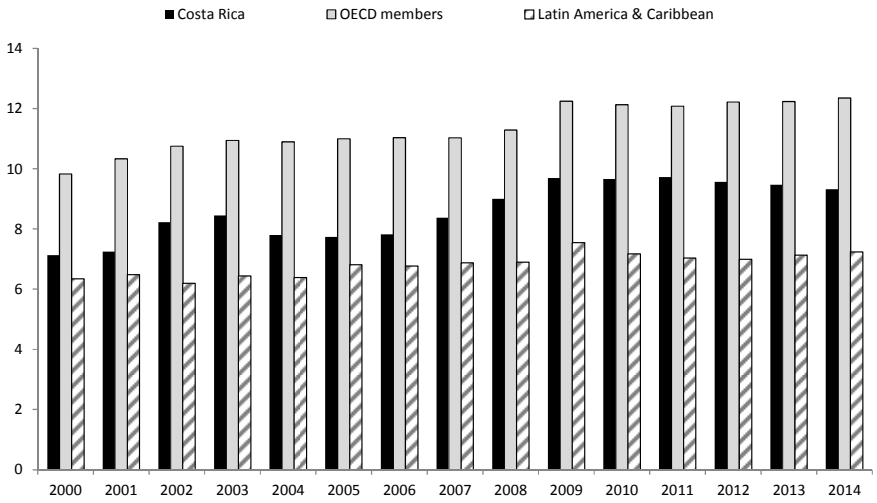
This section gives a broad outline of how health care insurance and health care delivery are financed in Costa Rica. Financing largely comes from pre-pooled, public sources, but private spending (particularly out-of-pocket) is increasing. Attention is also paid to the financial equilibrium of the CCSS, which is facing a tough financial outlook.

Long-standing political commitment to the health sector in Costa Rica translates to a relatively high level of health spending

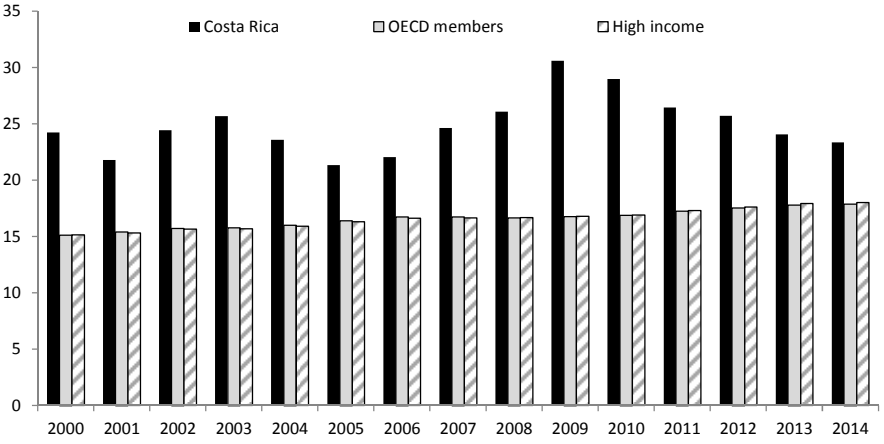
Costa Rica's socioeconomic context as well as its commitment to health care, has allowed it to achieve health, health care access and insurance coverage levels well above the Latin American average and near to those observed in most OECD countries. Even through periods of crisis, health expenditure has remained a priority. Public expenditure on health, expressed as a proportion of the government's budget and as a proportion of GDP, has remained above the LAC average (Figure 3.1, Panel A). Indeed, spending as a proportion of total government expenditure lies above that of many OECD countries (Figure 3.1, Panel B).

Figure 3.1. Costa Rica's public spending on health is above the regional average

A. Total national health expenditure from public sources as a share of GDP, 2000-14



B. Total national health expenditure as a share of government spending, 2000-14

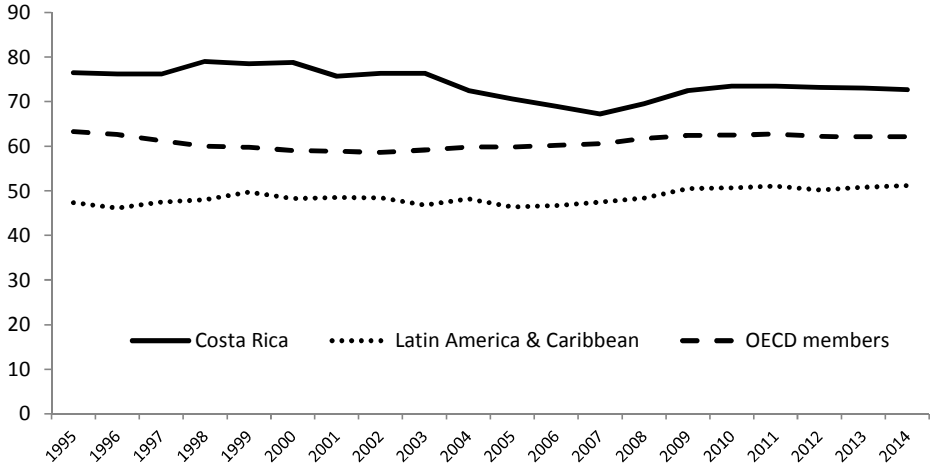


Source: OECD and World Bank data.

Overall, total health expenditure has increased and public sources have remained the key source of financing over the last two decades (Figure 3.2).

Figure 3.2. Public sources have been the key source of financing over the last two decades

Public health expenditure as a percentage of total national health expenditure

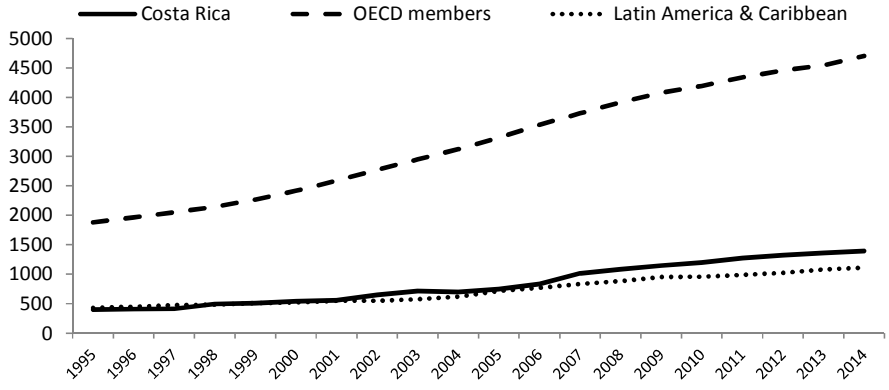


Source: World Development Indicators Database.

Unsurprisingly, per capita spending is below that observed in most OECD countries as a result of a much lower GDP (see Figure 3.3). While OECD countries spend, on average, nearly USD 5 000 per capita per year, Costa Rica spends less than a third of that amount. The fact that per capita spending is relatively low but health indicators and coverage are as good as those of many OECD countries spending much higher amount of resources, is an indication of relatively good value for the money achieved by Costa Rica's health system. It is however also a sign that Costa Rica needs to manage its resources wisely, as it has more limited resources to cover the health needs of its population. In particular, Figure 3.3 also shows that per capita spending on health has grown at a slightly faster rate in Costa Rica than in most other countries in the region, which may signal sustainability concerns.

Figure 3.3. Growth in per capita spending on health has exceeded regional comparators

Per capita spending on health, PPP using 2011 international dollars



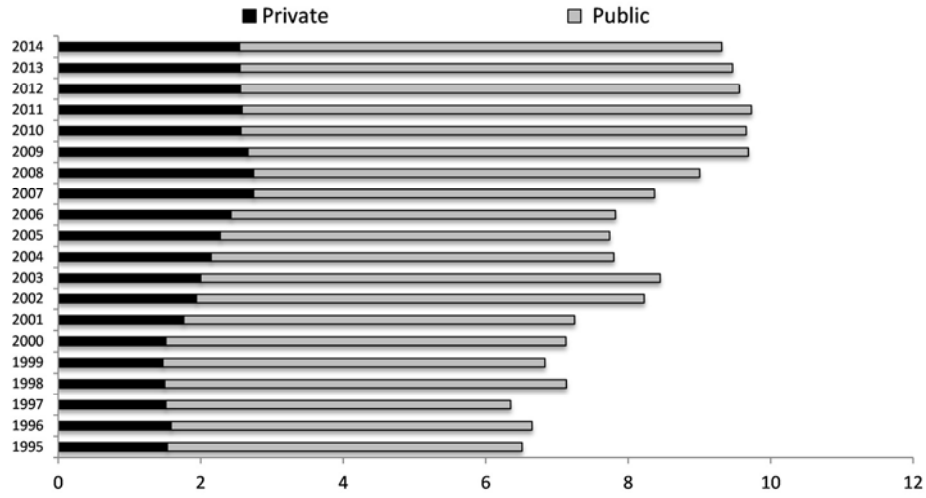
Source: OECD data and World Development Indicators.

Private spending is, however, growing in importance

In the mid-nineties, total health expenditure as a percentage of GDP was similar to the regional average but it has increased to almost 10% over the last two decades leaving the regional average well behind. During this period, however, there was a decrease in the share of health expenditure that is publicly financed, such that private expenditure now represents 27.3% of total health expenditure, up from 21% two decades before (see Figure 3.4). The rise in private expenditure is largely accounted for by out-of-pocket spending (the remainder being accounted for by private health insurance). One possible explanation for the upward trend in out-of-pocket spending concerns long waiting times in the public system. This issue is considered more fully in Chapter 2.

Figure 3.4. The share of health spending that is publicly financed is falling

Public and private health spending as a share of GDP, 1995-2014



Source: World Development Indicators.

Increased out-of-pocket spending risks undermining the basic principles of solidarity, equity and universal health coverage of the Costa Rican health system. As discussed in the Assessment and Recommendations, Costa Rica should explore how to reduce its increasing reliance on OOP financing. At the same time, it will be essential to address inefficiencies in spending.

The financial equilibrium of the CCSS has generally been positive, but risks becoming negative in the near future

Data from recent years show that the CCSS's financial balance (the difference between current and capital income minus total expenses) have been usually positive. Between 1992 and 2012, total revenues and expenditures grew rapidly and faster than the country's GDP. This trend, however, was reversed in 2007 causing a financial crisis of the CCSS within an already difficult fiscal situation (CEPAL, 2014).

The crisis can be explained in part by external factors. The 2008 global financial crisis challenged even the world's strongest economies and developing countries were especially exposed as they are highly vulnerable to shocks in international markets. As a consequence, Costa Rica's GDP growth showed a downward trend from more than 8% in 2006 to -1% in

2009, as discussed in Chapter 1. The fiscal measures taken to counteract the crisis's impact and stimulate growth focused on increasing public spending. This directly impacted the financial equilibrium of the CCSS, as spending increased while payroll contributions, the main source of financing for Costa Rica's health system, decreased (Figure 3.5). The two forces moving into opposite directions were the main causes of the financial crisis of the CCSS. Income levels diminished mainly through a) a reduction of wages which translated into lower levels of contributions, b) increased evasion, elusion and late payments, and c) reductions of government transfers to contributory and non-contributory programmes (Mesa-Lago, 2009). On the other side, human resource expenses of the CCSS increased substantially.

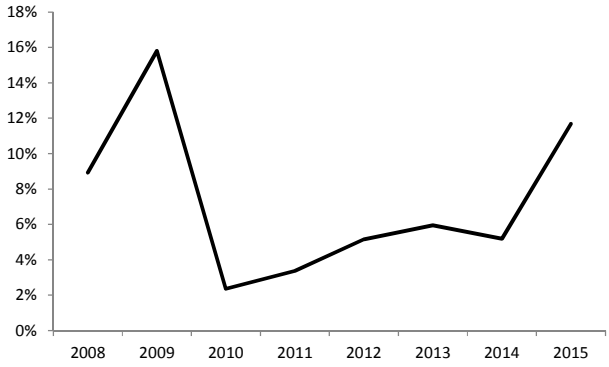
This period of financial weakening of the CCSS was characterised by limited liquidity, impacting investment and late payments of providers. Several policy measures were adopted, discussed in the following sections, that sought to restore the financial balance of the CCSS. This was achieved mainly by improved revenue collection, a reduction of the debt from both the government and employers, and the adoption of several cost containment measures. As a result, during the last three years, revenues have exceeded operational costs. For example, in 2015, total revenues grew by 12.8% compared to 8.3% for expenses.

In 2014, the Treasury Department of the CCSS made an Income and Expenses projection for 2015-25. The model was based on the past behavior (2010-14) of several key variables, including collection of payroll, expenses due to net wages and payment of suppliers. Projections estimated that future cash flow would depend mainly on workforce pay, the timely collection of contributions and government transfers (Valdes, 2015). Complementing the important efforts made in the recent past, therefore, on-going attention to these factors will be needed to avoid further financial disequilibrium in the future.

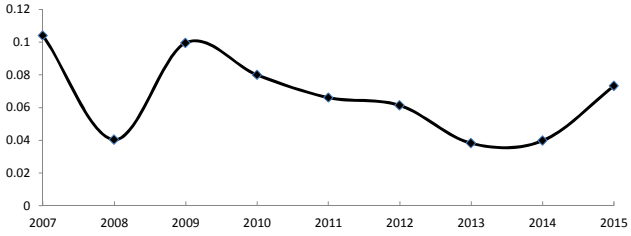
The crisis has brought about the production of several analyses, the adoption of a series of policy measures to increase revenue and control expenditure, and debates on the future sustainability of the CCSS. Numerous analyses have been produced by internal as well as external stakeholders (Muiser and Rafael, 2012; Valdés, 2015; OPS, 2011; Leiva, 2011), and special committees have been formed to analyse the sustainability of the CCSS and provide recommendations (Carrillo et al., 2011). An expert committee produced a set of 91 recommendations, many of which have been implemented or accepted by the CCSS, illustrating how seriously the issue is taken.

Figure 3.5. Growth in CCSS revenue fell sharply following the 2008 global financial crisis

A. Annual percentage growth in CCSS revenue, 2008-15



B. Annual percentage growth in CCSS revenue from payroll contributions, 2007-15



Note: Real prices, using 2006 as baseline.

Source: CCSS data and data from *Instituto Nacional de Estadistica y Censos*.

3. Revenue sources for the Costa Rican health system

This section analyses some of the key drivers of Costa Rica's health system revenues. Prospects for future growth of current revenue sources are bleak, given that payroll contributions – the CCSS's most important financing source – will not grow substantially in the context of growing informal labour markets and rising unemployment rates. It is, therefore, important that Costa Rica optimises the collection of existing resources and diversifies its revenue sources in the future.

CCSS financing largely relies on payroll contributions, although transfers from the general government budget are increasing

The CCSS's financing structure relies mainly on payroll contributions but also, increasingly, on direct transfers from the government through general. Income from payroll contributions, relative to total income of the CCSS, decreased from 90% in 1992 to 75% by 2015 (see Table 3.1), with particularly fast deceleration after 2006. The main causes of this trend are the same as those faced by most employment-based financing systems, namely a growing informal economy, rising levels of self-employment and unemployment, and shifting dependency ratios, all of which imply shrinkage of this revenue base (Thomson et al., 2009). In parallel, government transfers increased over the years, representing now nearly 8% of the total income of the CCSS's health insurance scheme by 2015. Growth in this financing source, however, has also slowed (Figures 3.6 and 3.7).

Table 3.1. Financial inflows into the CCSS health insurance scheme, 1992-2015

Sources of revenue	1992	2000	2005	2010	2015
Revenue from contributions[1]	90%	78%	82%	77%	75%
Non-tax revenue[2]	8%	6%	5%	4%	5%
Government transfers	2%	5%	4%	7%	8%
Capital revenue[3]	0%	3%	2%	3%	0%
Other funding[4]	0%	9%	6%	8%	12%

1. Social security contributions (employers and employees).

2. Sales of goods and services, financial assets revenue, fines and forfeits, other non-tax revenue.

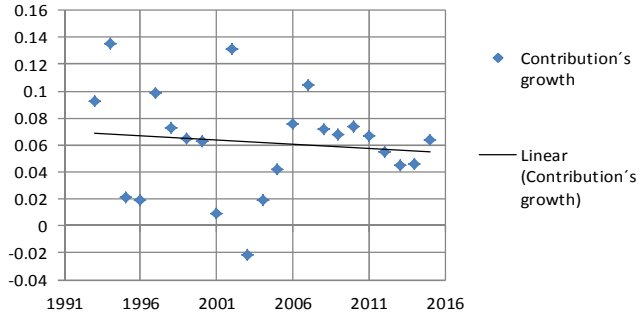
3. Sales of fixed assets, loan payments, capital transfers.

4. Domestic financing, external financing, resources carried over from previous periods.

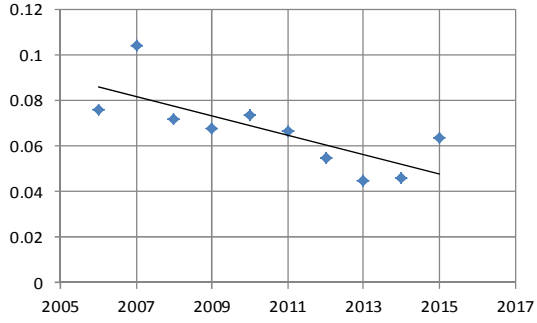
Source: Compiled from CCSS (2016), *Información presupuestaria, histórico de ingresos y egresos*, San José.

Figure 3.6. Growth in CCSS income from payroll contributions has decelerated, particularly after 2006

Panel A. Annual growth in payroll contributions to the CCSS, 1991-2015



Panel B. Focus on 2005-2015

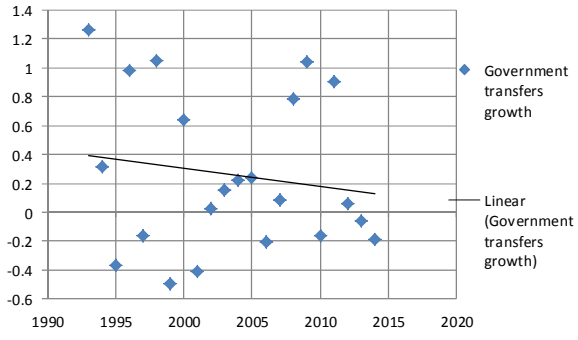


Note: Real prices taken from June 2015 baseline.

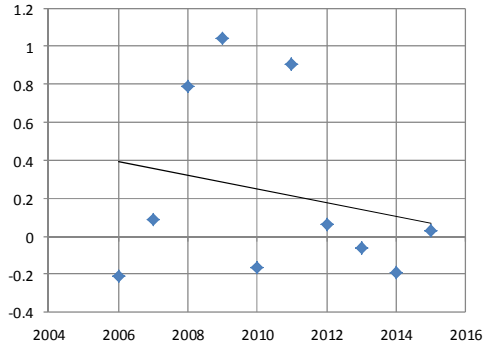
Source: CCSS data.

Figure 3.7. Growth in CCSS income from government transfers has also decelerated, particularly after 2006

Panel A. Annual growth in government transfers to the CCSS, 1991-2015



Panel B. Focus on 2006-2015



Note: Real prices taken from June 2015 baseline.

Source: CCSS data and data from *Instituto Nacional de Estadistica y Censos.*

Evasion, elusion and delayed payments of payroll contributions are a significant problem

Tax evasion and elusion are a challenge not only for the CCSS but also for the Costa Rican government in general (Hernández, 2005). According to the Ministry of Finance, the level of tax evasion in Costa Rica was estimated at 8.2% of GDP in 2013, and income tax evasion was estimated at 57% (Ministerio de Hacienda, 2015).

With regards to the CCSS, the General Controller's Office estimates that the evasion of social security contributions amounts to roughly 1.6% of GDP (Contraloría de la República, 2013). Recent estimates indicate that evasion together with social security contributions in arrears represent nearly 18% of the CCSS's total potential contributions (Contraloría de la República, 2015). As a consequence, the CCSS's income could substantially increase if evasion and delayed payments were contained. Unsurprisingly, several of the recommendations from the report by the team of specialists mentioned earlier are related to mitigating this problem, as described later.

Evasion and elusion are also evidenced by the differences between private sector salaries reported to the CCSS and the salaries reported to the National Household Surveys (Programa Estado de la Nación en Desarollo Humano Sostentible, 2015). The average wages reported to the CCSS are substantially lower than those declared in the National Household Survey (Pacheco, 2013).The observed difference might be due to under declaration of salaries by private firms to the CCSS. In addition, some private firms may simply not report their hiring practices. The companies reach verbal agreements with their employees which are paid "under the table", and consequently the contribution to the CCSS is not made.

Supervising the contributions of independent workers and voluntary affiliates is particularly problematic

Health insurance contributions to the CCSS are tripartite and represent 15% of formal sector workers' salaries for the period 2015-19. All workers earning income from an economic activity (salaried and independent workers) must contribute with the exception of the poor and the vulnerable. Those without an economic activity can affiliate on a voluntary basis. However, once an individual is enrolled in this voluntary scheme, he or she can no longer withdraw from the CCSS and contributions become mandatory. Contribution rates for independent and voluntary affiliates are determined on the basis of their reported income and a reference income established by the CCSS, as described in Chapter 1.

Independent workers and voluntary affiliates already represent almost a fourth of all contributing affiliates adding complexity to the control of contributions and making the CCSS more vulnerable to evasion and elusion. This group is more difficult to enroll and to control and is, therefore, at a higher risk of either contributing less than stipulated (elusion) or not or not making any contributions at all (evasion). It is likely that many independent workers affiliated with the CCSS under-report their income but it has been a substantial challenge for the national authorities to identify this group and to calculate the extent of evasion and elusion. This is another indication that one of the key challenges of the CCSS is its still insufficient information to manage some of its key drivers determining its financial sustainability. Another challenge for the financial sustainability of the CCSS are delays in due contributions. Currently, nearly 16% of employers and 46% of independent workers have debts with the CCSS (Presidencia de Costa Rica, 2016), a situation that contributes to the system's financial vulnerability.

The CCSS has taken several steps to fight evasion of payroll contributions and recover debt

The CCSS has adopted several management and information strategies to fight evasion and to recover debt. In 2000, the Worker Protection Act made affiliation mandatory for independent workers, to raise contributions and reduce evasion. Targeted efforts to strengthen the CCSS Inspection Service (Caja Costarricense de Segura Social, 2015) succeeded in reducing under-reporting of income and contribution evasion, by resolving nearly all pending and new cases. The CCSS's Centralised Collection System (SICERE) has been linked with the Civil Registry's database, allowing faster identification of individuals with delayed payments to the CCSS. In the last few years, the CCSS has also linked its contribution database with the Ministry of Taxation's system to cross-reference individuals' data (Caja Costarricense de Segura Social, 2015), with future scope to link to other information systems such as the National Insurance System or municipality databases (Caja Costarricense de Segura Social, 2015; Estado de la Nación, 2015). Now, when affiliates change their insurance status (entering formal employment, for example, or retiring), CCSS records update automatically. It is estimated that, by December 2015, 2.696 billion colones (USD 4.8 million) in default invoices were avoided because of these automatic updates.

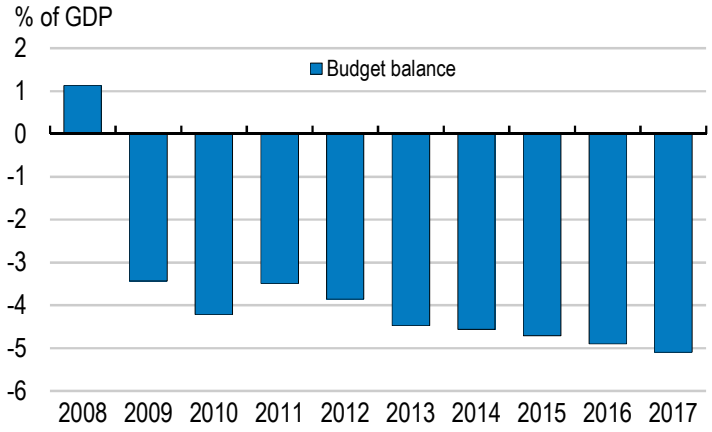
The CCSS has also taken important steps to minimise incorrect data in employers' contribution statements, by developing support systems that simplify communication and follow-up errors. The Composite Evasion Evidence Index (ICIE) has been designed to develop a single measure that summarises the behavior of an evading employer in order to make detection easier. In addition, the CCSS has successfully used its power to close businesses in case of default of payments, thereby recovering substantial amounts in delayed payments (Caja Costarricense de Segura Social, 2015). The CCSS has also improved communications with its affiliates by creating an online contribution calculator for firms, creating a Facebook page and a contact centre for the Centralised Collection System. These new tools support employers to make timely and accurate contributions, inform employers of changes and important dates of payment, and reduce the time taken to resolve enquiries.

Overall, then, the CCSS has made significant progress toward reducing tax evasion, delayed payments and debt from the private sector. Nevertheless, not all of the recommended measures were implemented, such as the recommendation that inspectors spend at least 70% of their time performing their inspections, and be monitored on this; or that the CCSS, National Institute of Insurance (INS), municipalities, and the Ministry of Taxation increasingly share information and resources to support evasion inspectors.

Going forward, the financial outlook for the CCSS is challenging

With a variety of economic challenges on the government's agenda, and with an already above average level of public spending invested in sustaining the health system, increasing government's contribution to finance the CCSS seems fairly unlikely and would probably increase the level of public debt and divert resources from other spending priorities. The narrow fiscal space of the government, illustrated in Figure 3.8, indicates the difficulties the CCSS might face to receive timely and sufficient levels of resources from the government in the future.

Figure 3.8. The outlook for Costa Rica's general government balance as a share of GDP is negative



Note: 2015-2017 indicates projection under existing policies.

Source: Compiled from OECD (2016), *OECD Economic Surveys: Costa Rica 2016: Economic Assessment*, OECD Publishing, Paris, http://dx.doi.org/10.1787/eco_surveys-cri-2016-en.

For many decades, the government has failed to fulfill its financial obligations to the CCSS. It made periodic payments but these were not sufficient to cover the debt. Since 2000, the majority of payments done to the CCSS have been through the sale or maturity of securities and the government has only provided cash payments from 2012 onwards and in low amounts. By 2015, it was clear that the payments made by the government had not been effective in reducing debt growth.

Government financial statements show that the amount of government debt to the CCSS has almost tripled from 2007 to 2015 (USD 580 million in 2007 to USD 1.619 billion in 2015) and represented 37.8% of the CCSS's assets by 2015. The two main components of the government-CCSS debt are: a) the government's non-compliance with its obligation to finance the health services for the poor and vulnerable population covered by the CCSS and, b) the government's non-compliance with its mandate to match the transfer of the responsibility for primary care from the ministry to the CCSS mandated by the health reform adopted in the mid-nineties, with adequate financing, specifically salaries. Over the years there have been several debt negotiations; however, with every government change, pre-established agreements lose strength and the level of debt continues to grow (Carrillo et al., 2011).

Table 3.2. Net growth of government debt to CCSS

In millions of US dollars

2008	2009	2010	2011	2012	2013	2014
-12.19	-18.65	-29.11	-2.12	175.64	290.29	251.87

Source: Prepared by authors with information from Valdés (2015).

In order to tackle the issue of government debt with the CCSS, the president of the CCSS and the Ministry of Finance signed a resolution in 2014 with three specific objectives: agreement on a methodology to calculate the amount of the government's debt with the CCSS (this is important as the CCSS and the government have different estimates); agreement on an updated amount of debt; and, design and agreement on financing and payment mechanisms to settle the outstanding debt.

Some progress against these objectives has been achieved. Two agreements between the Ministry of Finance and the CCSS, for example, have been signed to settle government debt, and discussions around a more permanent mechanism to finance government obligations to the CCSS (particularly those that derive from extending coverage to vulnerable groups) are also ongoing. Disputed debts related to the transfer of responsibility for delivery of primary care from the Ministry of Health to the CCSS in the 1990s are also undergoing judicial review.

In addition, in April 2016, Costa Rica obtained a loan from the World Bank for USD 420 million to support the strengthening of health insurance finance by financing prioritised projects to improve infrastructure and equipment, especially for hospital services. Disbursement of the loan is conditional upon meeting standards and indicators related to improved institutional management.

Given the paramount importance of contributions in the CCSS's financing structure, the evolution and trends related to the labour market in Costa Rica are important drivers of the CCSS's financing sources. The recent and expected behaviour of labour market variables represents a real threat to future income for the CCSS: the growth of the informal sector combined with the increase in unemployment will gradually reduce the contributing base of the CCSS. These issues must be faced both by the CCSS and, more generally, by the government to ensure the sustainability of the health insurance system in the future (Carrillo et al., 2011).

It is estimated that only two out of every five companies belong to the formal labour market. Also, over the last years, informality in Costa Rica has increased from 35% of workers in 2011 to more than 45% in 2015 (see Figure 1.5), reaching its highest point since 2010 (INEC, 2015). Assuring the affiliation and verifying the income level of informal workers represents a real challenge for most governments around the world, and the growth of this sector has a direct impact on social security income.

When thinking about mobilising additional resources it is also important to take into account that the government is committed to reducing unemployment and informality and improve its labour market indicators (Presidencia República de Costa Rica; Ministerio de Trabajo y Seguridad Social; Ministeria de Economía, 2014) and will probably be hesitant to increase contribution rates as this might further increase informality and unemployment and as contribution rates are already high and well above OECD averages (OECD, 2016).

4. Drivers of spending growth

This section describes trends in the drivers of health care spending in Costa Rica. These include demographic and epidemiological changes, workforce costs, the government's responsibility to finance health insurance and health care services for the poor, and the increase of legal actions demanding new or high cost treatments.

Demographic and epidemiological changes will exert substantial spending pressure

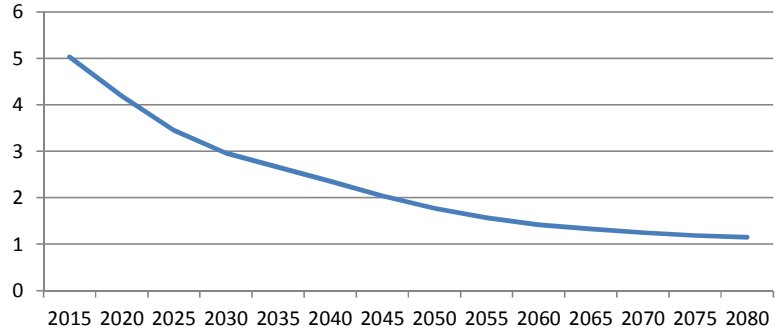
According to estimates by the Instituto Nacional de Estadísticas y Censos (INEC), the senior population (over age 60) in Costa Rica could triple over the next 40 years (INEC, 2011). In the more distant future, the growth rate of people over age 60, even more so than that of people over age 75, will increase. Costa Rica's ageing population may imply future increases in health care spending, due to more intensive use of health services and higher per capita costs related to new treatments and therapies. However, demographic transformations can also provide, during a given period of time, an increase in the relative size of labour force, known as a "demographic bonus," which could mean a temporary expansion of the volume of contributors financing the system (OPS, 2011). Still, even if an increase in the labour force

could create a transitory and momentary increase in potential contributors, ageing of the population may still create an increase in health expenditure in the long run.

There are no recent, publicly available studies on the impact of ageing on both income and expenditure of the CCSS; however, a study from 2004 models that the CCSS will run into financial problems as a result of ageing unless both income sources can be increased and expenses controlled significantly (Piza, 2016). The increase of people over 60 also implies a decreasing support ratio, which considers the balance between the group of the population most likely to be economically dependent and demand more, and more costly medical services (population over 60), to the group most likely to be economically active (population between the ages of 15 and 49). A decreasing ratio implies a reduction in contributions to the CCSS (Figure 3.9.). The support ratio of taxpayers to beneficiaries reached its peak in 2012 (ratio of 1) when the age structure most strongly favored taxpayers relative to beneficiaries and is expected to drop to 0.6 by 2085 (CELADE, 2013, Costa Rica's Ageing Future). This trend raises a red flag regarding financial sustainability, as it suggests future higher costs and reduced income from payroll contributions.

Figure 3.9. In the future, fewer working age people will support those in retirement

Projected support ratio for Costa Rica, 2015-80

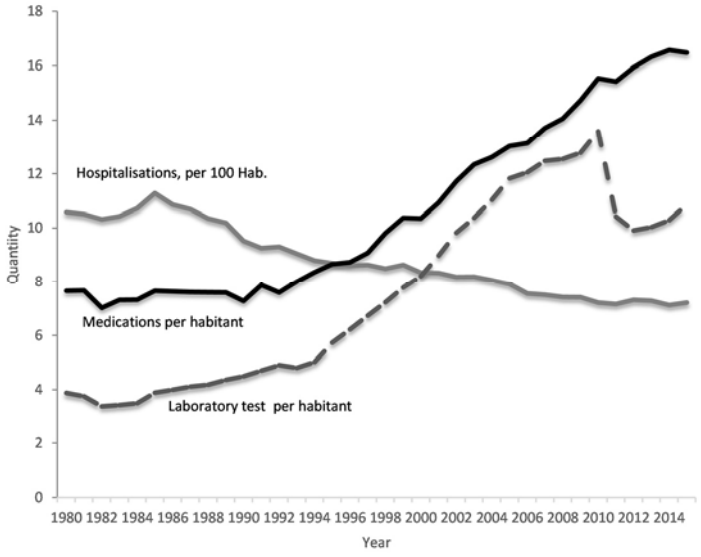


Source: Compiled from ECLAC – Population division (2015).

The use of the health services of the CCSS has also undergone significant changes with regards to the quantity, type and cost of services that are being provided. Since 1980, the rate of hospitalisation per 100 inhabitants has decreased. Furthermore, the real cost per stay has increased 2.2 times between 2003 and 2012 from 60 525 to 132 818 colones (adjusted for inflation) (Pacheco, 2013). Moreover, it is worrying that an estimated 63% of emergency visits in 2015 were not true emergencies and could have been provided otherwise and at a lower cost according to a study by the CCSS. In parallel, however, there has been an increase in the use of the use of drugs and laboratory tests (Figure 3.10). Medical consultations, dental services and other professional services and especially emergency consultations per capita have also increased (Figure 3.11), as well as the cost of a hospital admission (Figure 3.12). Consultation costs and cost of support services have also increased (CCSS, 2015; Pacheco, 2013).

Figure 3.10. Numbers of laboratory tests and medications have grown rapidly

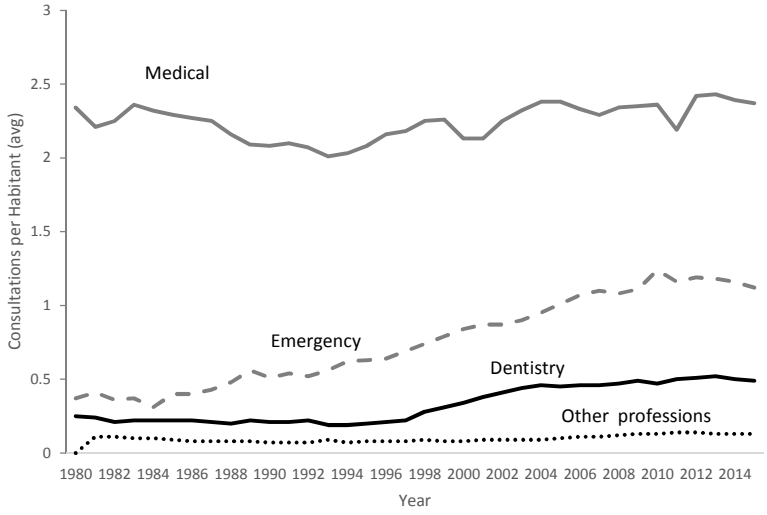
Change in the number of hospitalisations, medications, and laboratory tests associated with hospitalisations, 1980-2015



Source: Compiled from Health Statistics Area, CCSS.

Figure 3.11. Emergency consultations have increased in recent years

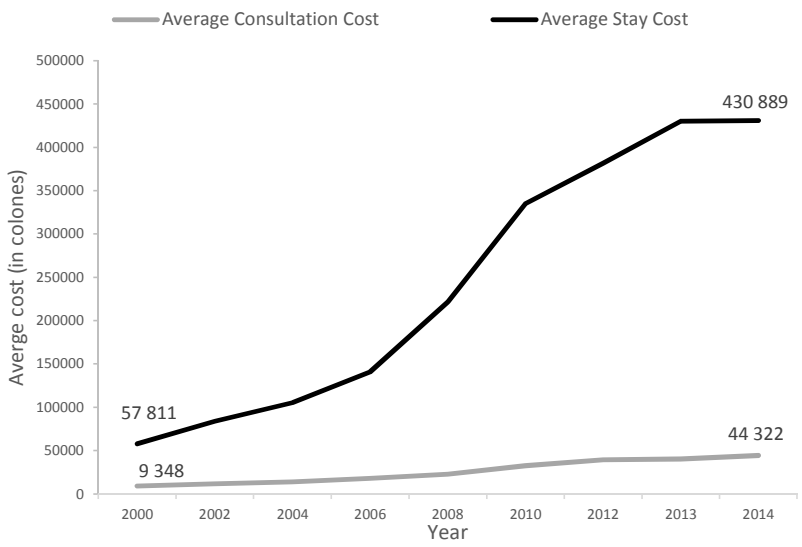
Change in the average number of consultations per capita, by subcategory, 1980-2015



Source: Compiled from Health Statistics Area, CCSS.

Figure 3.12. The cost of a hospital stay has risen dramatically

Average cost per hospital stay and consultation, 2000-14



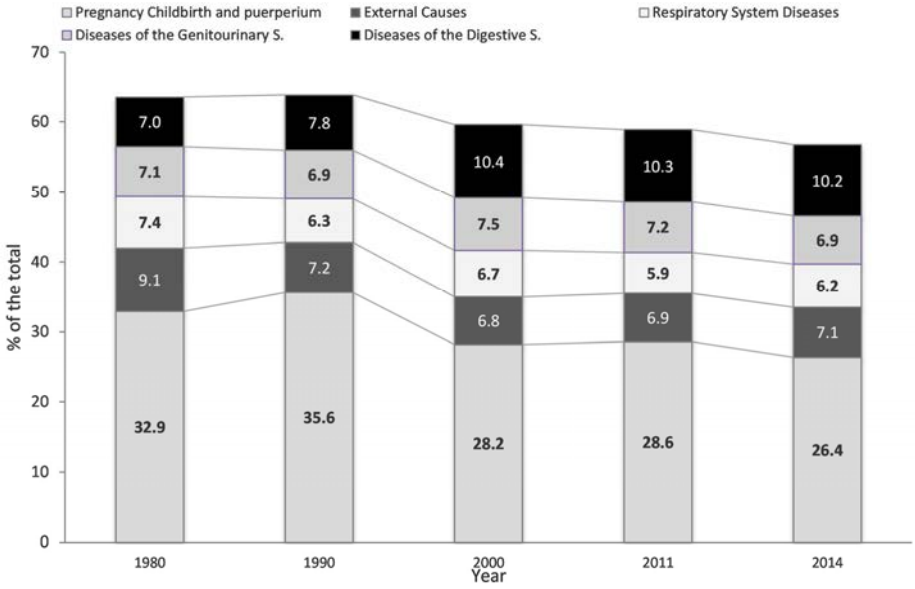
Source: Compiled from CCSS, *Boletines anuales* (web version).

The epidemiologic profile of hospitalisations has also changed and an accelerated growth has been observed for some particularly costly illnesses (Figure 3.13). The incidence of hospitalisations related to the nervous system and tumors, for example, has doubled in the last 30 years or so (Pacheco, 2013). These changes, both in terms of the composition of health problems and intensity of use of services, will undoubtedly have financial implications.

Overall, operational spending is heavily skewed toward the hospital sector. CCSS data show that since 2010, costs in this sector have risen annually by an average of 7.9%. The rate of hospital discharges per bed has risen from 45 discharges per bed in 1990 to 62 in 2015, as shown in Figure 3.14. Average length-of-stay (all causes) in Costa Rica was 6.6 days in 2015. While this is less than the OECD average of 6.9 days (excluding Japan and Korea), it should be noted that this figure has not fallen in last decade in Costa Rica, in contrast to most OECD health systems. In contrast, operational costs in the primary care sector are around 40% of those in the hospital sector and are rising more slowly, at an average of 6.7% per year (Table 3.3). Of note, both primary care areas and hospitals receive an annual global budget based on last year's outlay, which is likely to explain the inflationary trend.

Figure 3.13. Reasons for hospitalisation are evolving

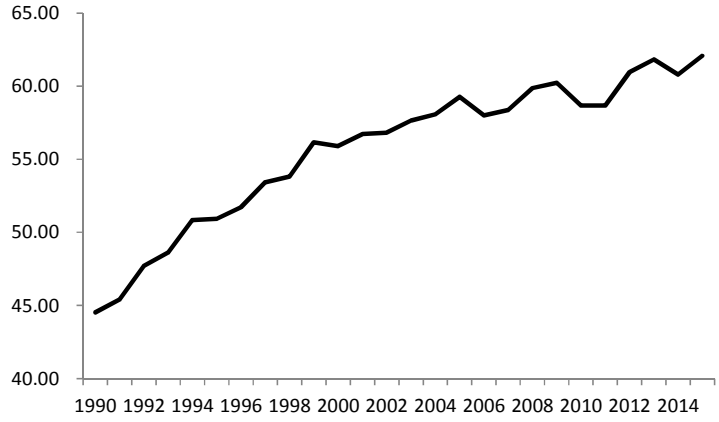
Top five causes of hospitalisation in Costa Rica, 1980-2014



Source: Compiled from Pacheco (2013), "Análisis y rediseño del modelo de financiamiento del Seguro de Salud de la Caja Costarricense de Seguro Social. Producto 2. Principales Tendencias Financieras del Seguro de Salud", Caja Costarricense de Seguro Social; and CCSS.

Figure 3.14. Discharges per bed have steadily grown

Number of discharges per hospital bed, 1990 to 2015



Source: OECD Health Statistics 2016, http://dx.doi.org/10.1787/health-data-en.

Table 3.3. Hospitals consume an accelerating share of health care spending in Costa Rica

	Spending (millions Costa Rican colones, nominal values)						
	2010	2011	2012	2013	2014	2015	**AAGR, 2010-2015**
Acute care hospitals							
Total	**596 435**	**659 720**	**710 057**	**752 589**	**806 089**	**878 382**	**8.10%**
…of which, operational spending	592 006	652 730	705 943	746 851	798 708	866 441	**7.90%**
…of which, salaries	420 578	453 677	479 338	516 333	548 532	586 605	**6.90%**
Primary care							
Total	**259 454**	**278 924**	**291 415**	**318 999**	**331 572**	**357 409**	**6.60%**
…of which, operational spending	256 557	276 365	289 873	316 645	328 660	354 001	**6.70%**
…of which, salaries	160 935	174 235	180 566	197 956	210 821	225 992	**7.10%**

Payroll expenses account for most growth in health system spending

According to the CCSS's management report 2010-2014 and other documents, the CCSS has carried out several analyses, managed to stop the growth of human resource expenses during several years and defined some principles to guide the allocation of new positions in the future. However, there is no easily accessible public information available regarding the degree to which management of human resources is built upon a clear understanding of the human resources gap and its efficiency. Such analyses would allow the allocation of new or existing positions and wages increases based on needs of the population, supply and demand, job profile and current capacity across the country.

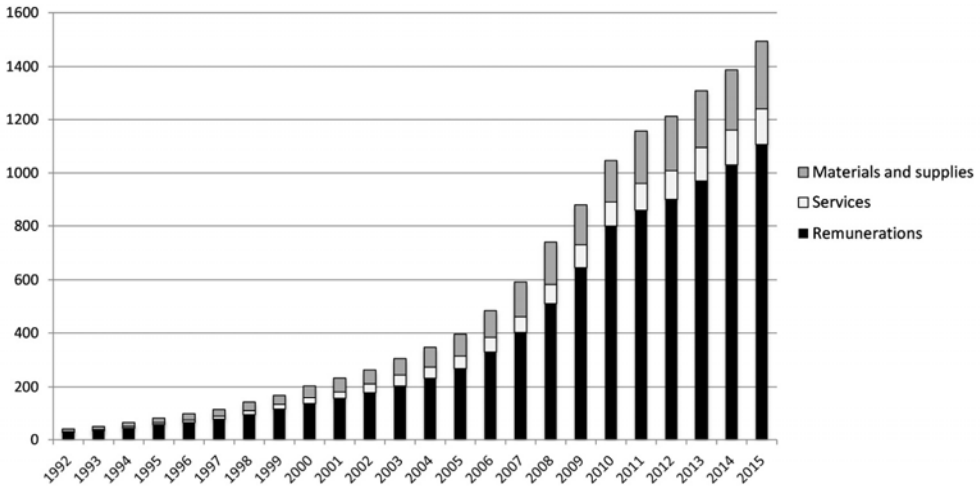
The CCSS finds it difficult to modify or suppress incentives as it must respect the acquired rights of the workers. The salary structure is rooted in laws, regulations, internal regulations, executive decrees, civil service guidelines, board of directors agreements and pacts with labour unions. More specifically, the Law of Medical Incentives and the Statute of Nursing enshrine the incentives with the greatest financial impact. Changing them would involve a difficult negotiation process between workers, labour unions, employers, the CCSS and the government.

As in most other health systems, salaries represent the main expenditure of the CCSS and they have been gradually increasing over recent decades (Figure 3.15). Between 1992 and 2015, they increased from 57% of total expenditure to 66%, although annual growth rates fluctuate somewhat from year to year (Figure 3.16).

Resources allocated to human resources have grown substantially during the last decade. This is particularly true for the five-year period 2005-10, around the 2008 financial crisis Between 2005 and 2010, the number of personnel increased by around 30% (Table 3.4 and Figure 3.17). It is difficult to understand why the CCSS has experienced a 48% increase of the number of administrative personnel in only 15 years, which currently represents about one-fifth of its total personnel. According to Pacheco (Pacheco, 2013), there are 1.1 administrative positions for each physician in the institution.

Figure 3.15. Most of the growth in CCSS health spending is accounted for by workforce remuneration

CCSS's health care expenditure, in billions, 1992-2016

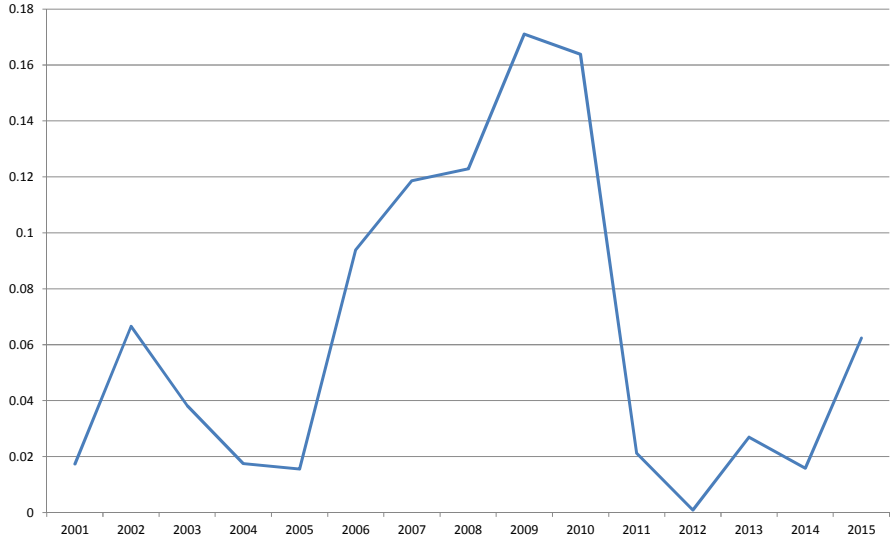


Source: Compiled from CCSS (2016), *Información presupuestaria, histórico de ingresos y egresos*, San José.

In the same period, the average salaries for all types of personnel (by categories) increased even more dramatically, with growth rates ranging from 35% to up to 112% (Table 3.4). Interestingly, administrative personnel experienced the most important wage increases followed by nurses' wages and lastly those of physicians. Comparing the increase of salaries with the increase in hiring, it becomes apparent that during the financial crisis of the CCSS, the growth in HR expenses was mainly driven by wage increases.

Figure 3.16. Growth of workforce spending fluctuates from year to year

Annual growth rate in workforce spending, 2001-15

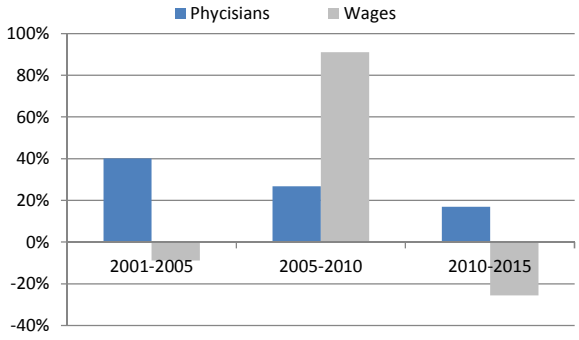


Source: Compiled from CCSS (2016), *Información presupuestaria, histórico de ingresos y egresos*, San José; and INEC, IPC Base Junio 2015.

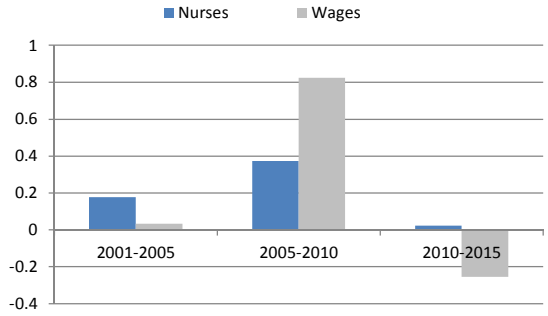
More broadly, unsustainable public sector salaries are a systemic problem in Costa Rica. Government salaries are equivalent to 13% of GDP, on a par with Norway (13.6%) and easily exceeding the OECD average of 10.6%. As noted in the *OECD Economic Survey of Costa Rica, 2016*, Costa Rica's "public-sector wage bill as a share of GDP is higher than in most OECD countries, even though its public employment share is among the lowest". Effective increases in public sector salaries have far exceed negotiated targets and inflation in recent years (Figure 3.18). Excessive wage bills pose a threat to the wider social fabric. The Survey also noted that "rising public sector salaries made the largest contribution to inequality between 2010 and 2014, particularly salaries of qualified workers in public agencies outside central government" – such as the CCSS (OECD, 2016a).

Figure 3.17. Workforce numbers grew particularly fast in the 2005-10 period, preceding the financial crisis

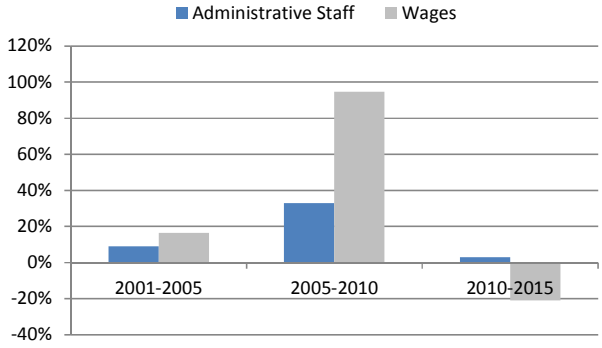
Number of physicians and wages growth rates, 2001-15



Number of nurses and wages growth rates, 2001-15



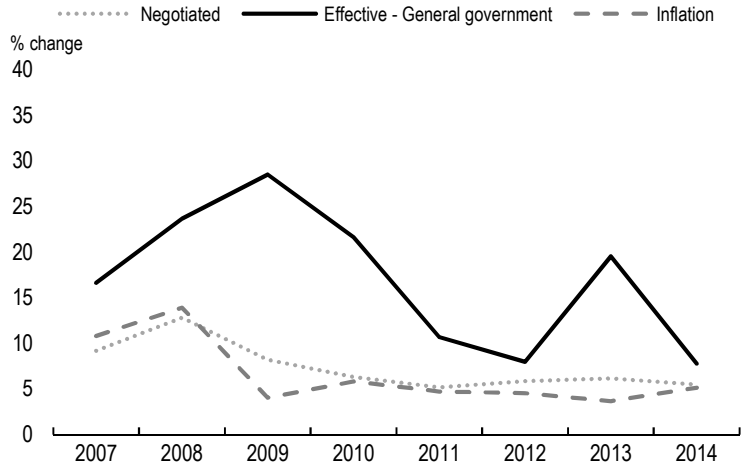
Number of administrative staff and wages growth rates, 2001-15



Source: Compiled from CCSS (2016) and INEC – Unidad de Índice de Precios (2016).

Figure 3.18. Effective increases in public sector salaries far exceed negotiated targets and inflation in Costa Rica

Negotiated and effective increases in government employee wages, 2007-13



Source: OECD (2016), *OECD Economic Survey: Costa Rica 2016: Economic Assessment*, OECD Publishing, Paris, http://dx.doi.org/10.1787/eco_surveys-cri-2016-en.

The CCSS has enacted several policies to control workforce costs

The financial crisis of the CCSS led to the implementation of a "rationalisation, containment, optimisation and improvement in the quality of expenditure" policy, aimed at controlling the drivers of expenditure triggers while improving the quality of spending. Measures adopted at that time included, among others limiting new positions to 400 per year; salary adjustments according to living costs only; better controlling overtime expenses; minimising external consulting services; and, restrictions on scholarships.

These measures met with some success. For example, between 2010 and 2013, recruitment represented only 23% of that on the previous period, and annual growth in overtime expenses fell from 17.4% in 2008-11 to 6.5% in 2012-15. Overall, growth of human resource expenditures declined after the crisis and was zero by 2012. In the last five years (2010-15), wages growth rates for all type of personnel has declined and even become negative. At the same time, the number of personnel has continued to grow but much more slowly than in the previous decade (3.4), from 2 245 new positions created in 2007 to 531 in 2015. The results of these measures on expenditure over the last decade also demonstrate that from within, the CCSS has mechanisms to improve its financial sustainability. Note however, that in 2014 and 2015 the growth of total HR expense has picked up again. This reinforces the need for a long-term strategic plan to control such expenses and evaluate if current costs are sustainable.

Table 3.4. Real wages and personnel growth rate, 2001-15

	2001-2005	2005-2010	2010-2015
A. Wages			
Administrative (1L)	19%	112%	-31%
Nursing and support services (1L)	3%	82%	-28%
Medical professionals (1L)	7%	60%	-29%
General services (1L)	13%	41%	-20%
Administrative (2L)	14%	88%	-25%
Nursing and support services (2L)	6%	77%	-26%
Medical professionals (2L)	25%	35%	-24%
General services (2L)	11%	63%	-26%
Administrative (3L)	16%	85%	-27%
Nursing and support services (3L)	1%	89%	-23%
Medical professionals (3L)	22%	49%	-25%
General services (3L)	8%	83%	-24%
B. Personnel			
Total	11%	31%	6%
Administrative	9%	33%	3%
Physicians assistants and aides	12%	31%	7%

Note: Consumer Price Index set at 100 for 2015.

Source: CCSS and INEC – Unidad de Índice de Precios (2016).

According to the CCSS board of directors, part of the recent growth of payroll expenses is associated with strategies meant to solve problems regarding long waiting lists in national hospitals (CCSS, 2016b and 2016c). Also, the increase in the number of new positions is not necessarily negative and should be analysed with caution. Some partial analyses seem to indicate that they have helped to reduce waiting times and personnel shortfall in some regions (Pacheco, 2013) and waiting times. Not enough official information is available, however, to understand whether these strategies have effectively contributed to the solution of waiting time issues and improved access.

The CCSS has accepted the uncontrolled growth in remunerations as a key challenge for the financial sustainability of the CCSS and it has continued to implement several strategies with the objective of controlling human resource expenditure and contribute to its sustainability in the long run (Valdés, 2015).

In spite of the past efforts made by the CCSS to control human resource expenses, important challenges remain. Importantly, a significant economic burden still exists concerning overtime and other extra payments. In 2015, only 40% of total human resource expenses corresponded to the payment of base salaries while about 60% were related to different types of extraordinary payments (CCSS, 2015a and 2016a). Rewards for long service, exclusive dedication, out-of-hours working and overtime were accountable for a third of the salary payments (remunerations). Overtime payments represent an especially important share of these extraordinary payments, as shown in Figure 3.19.

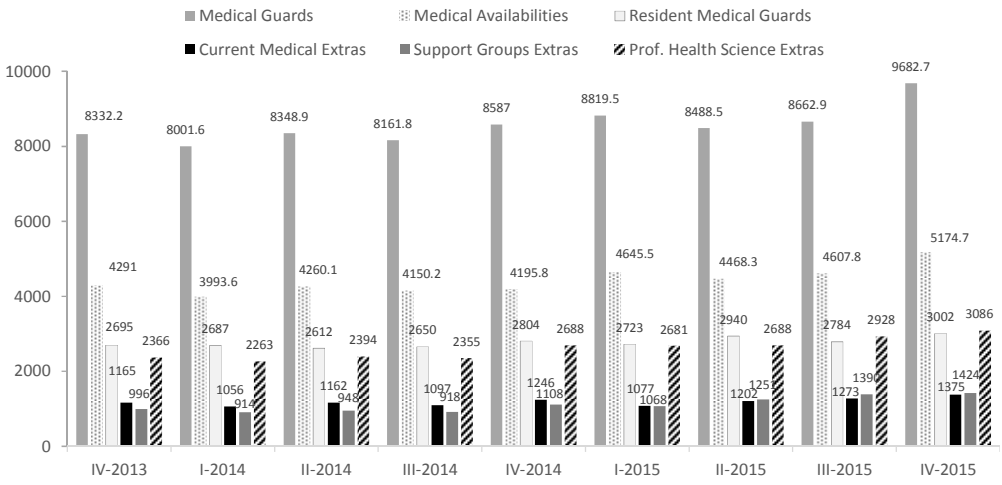
With the intention of obtaining a better understanding of these type of payments, the CCSS conducted two studies (2011 and 2015) reviewing the evolution of additional payments. Annual growth rates were 21% on average per year between 2006 and 2010 and dropped to around 6.7% in the following five-year period (2011 to 2015). Very recently,

however, additional payments for incentives for doctors increased again substantially. More specifically, in 2015, the expenses of the six salary increases linked to health professionals rose 13% more than the previous year (110 billion colones).

There is an interesting discussion regarding the formal establishment of two or three routine shifts in hospitals with 24-hour care. Some experts call for the creation of a second shift in order to mitigate the economic burden of extraordinary payments. The payment of an additional shift to cover a position of a health specialist is less costly than paying overtime to a doctor that already works in the institution (with probably higher salaries and pre-existence of incentives). Some commentators have estimated that two or three doctors on duty could be paid with the payment of out-of-hours working and overtime of one physician. Additionally, assigning new doctors to a second or third shift generates new employment opportunities, guarantees less fatigue and malpractice, better service and greater productivity, as well as greater availability of the new professional (in terms of time/schedule and location to work).

Figure 3.19. Extraordinary workforce payments are consistently high

Quarterly expenditure on extraordinary salary payments for medical and other staff, Oct. 2013-Dec. 2015



Source: Compiled from Department of Administration and Management of Personnel, CCSS.

The CCSS has developed a proposal that allows the reduction of salary incentives even though the proposal has not yet been approved and the details have not been officially disseminated; however, some secondary sources indicate that the effort would only lead to a small reduction in incentive payments. The eliminated incentives represent only 0.05% of the total expenses of the extraordinary payments. Fifteen incentives equalling 81% of the total expenditure would remain unchanged. If the proposal is approved, it would be effective only for new positions contracted and not apply to those currently employed by the CCSS.

5. Information systems underpinning financial decision making

Better analysis and use of information in decision making has been identified by the CCSS as a priority. In an attempt to provide solutions to pressing issues such as evasion of employment-linked contributions, long waiting lists, physician deficits, technical advances and changes in the socioeconomic and epidemiological profile of the country, the CCSS has invested in an ambitious programme of investment in its information infrastructure. This will eventually link administrative, clinical and financial datasets across all the health care system.

Information systems have advanced significantly in recent years

Previous evaluations of the Costa Rican health system have questioned the extent to which information is used effectively to steer the health system. For example, an assessment from the World Bank found that "despite the existence of many health information systems in the CCSS, they play a minor role in policy making. Strategic planning […] has been weekly incorporated into the daily tasks of the CSSS" (Gottret et al., 2008, p. 209). Also, an analysis of information systems for the CCSS in 2011 (Picado Chacón, 2011) exposed a highly manual information system with disarticulated networks and decentralised databases, limited standardisation, data inconsistencies, and limited use of evidence to support decisions. For example, even today and despite the importance of the issue, there is no systematic electronic information system tracking waiting times in hospitals.

In recent years, the CCSS has made substantial effort to implement new information systems and analytics as an input for decision making. The CCSS's pharmaco-economic analyses to determine coverage of new or expensive medicines are recognised for their robustness – with the decision to cover the rotavirus vaccine being one such example.

Efforts have also been made to plan expansion of services on specific needs assessments, using demographic and epidemiologic studies. The creation of new EBAIS, for example, was based on analyses of supply of primary care services, relative to demand. Other epidemiologic studies found that many emergency consultations, which have increased dramatically in recent years, were not real emergencies. In response, the CCSS adopted several measures to control the number of emergency attendances. Investment in new ambulances or specialised equipment are also based on similar analyses. In general, the CCSS's Strategic Investment Plan ensures that the construction and remodeling of infrastructure and medical equipment is planned, at least in part, on analyses of need, cost-effectiveness and budget impact.

Contracting and purchasing mechanisms have also improved. Price improvements and modernisation of purchasing methods achieved through the electronic platform *CompraRed*, for example, created approximately USD 1.108 billion in savings for 2015 (586.95 million colones). Likewise, joint negotiation of prices for several countries obtained savings of approximately USD 7.551 billion (4 billion colones) in 2015. Additional discounts of approximately USD 1.386 billion (734.51 million colones) were obtained through price negotiation in the same year.

Beyond these promising examples, however, evidence-based decision making is not yet systematic in the CCSS. This challenge was identified by the CCSS itself in its strategic plan 2015-2018. This calls for further action to ensure use of solid evidence to plan contracting, purchases and investment across the institution.

Several further innovations are planned

Currently, there are three main health information projects that are being developed and/or implemented by different departments of the CCSS and that could have a significant impact on savings, the efficiency in the allocation and use of resources, and the quality of services. These include the centralised collection system (SICERE), the Supply Management Information System (SIGES), and the Electronic Medical Record Project (EDUS).

The CCSS installed SICERE in 2001 to facilitate management procedures for billing and contribution collection (Gottret et al., 2008). Since its creation, SICERE has been improving and expanding its services. It has increased the number of payment points and facilitated electronic payments, consultation online of payment status, online enrollment and beneficiary status identification, among other new services. According to the CCSS's own assessment, there has been a positive impact of SICERE and it has contributed to a better and more timely collection of contributions and it has helped to control evasion and late payments.

SIGES was launched in 2005 and is meant to centralise and consolidate all aspects in the health input supply chain thereby improving the organisation and co-ordination of quality care and its timely delivery; increasing transparency in purchasing and prescriptions; and, promoting accountability for purchasing. SIGES contains three core modules: 1) electronic orders, 2) inventory (mainly of drugs and supplies), and 3) purchasing. Currently, the first two modules mentioned above have been fully implemented. By December 2015, the purchasing module had been implemented in 24 hospitals (Caja Costarricense de Seguro Social, 2015). The lack of standardisation of coding systems used by health establishments has been identified as a challenge for the full implementation of SIGES. In response, an initiative was launched to standardise the coding of services. The unified code system (standardisation) was achieved by the end of 2015 (facilitating the integration with other information systems).

Finally, EDUS has been gradually implemented since 2010 with the objective of allowing quick and reliable access to electronic patient health information from any health establishment in the country. It is expected that EDUS will help reduce wastage and improve health service delivery and quality. EDUS is comprised of eleven information modules which, by 2015, had been implemented to different degrees as shown in Table 3.5.

Table 3.5. Health information system from EDUS for 2017

Health information system	Population coverage	EBAIS
Integrated Agendas and Appointments System (*Sistema Integrado de Agendas y Citas*, SIAC)	100%	1041
Integrated Family Card System (*Sistema Integrado de Ficha Familiar*, SIFF)	100%	1041
Integrated Health Record System (*Sistema Integrado de Expediente en Salud*, SIES)	100%	1041
Integrated Pharmacy System (*Sistema Integrado de Farmacias*, SIFA)	100%	1041
Integrated Clinical Laboratory System (*Sistema Integrado de Laboratorios Clinicos*, SILC)	n.a.	n.a.
Integrated Epidemiological Surveillance System (*Sistema Integrado de Vigilancia Epidemiológica*)	n.a.	n.a.
Integrated System of Emergency Services (*Sistema Integrado de Servicios de Urgencias*, SIUR)	25 hospitals	n.a.
Integrated System of Hospital Services (*Sistema Integrado de Servicios de Hospitales*, SIAH)	29 hospitals	n.a.

Note: EBAIS: Equipos Básicos de Atención Integral en Salud (primary level centres).

Source: Costa Rican Social Security Institute, San José.

Crucial progress with EDUS was made in 2015: the electronic prescriptions module became operational for the EBAIS, allowing physicians to prescribe electronically and facilitating the distribution and delivery of drugs. In addition, the hospitalisation module (SIAH) has been gradually implemented, linking information on inpatient and tertiary level care to the information system. By the end of 2015, five hospitals started to use SIAH even though none of the central hospitals had yet adopted the technology.

The CCSS also has pushed for the integration between EDUS and SIGES modules (specifically, the Integrated Pharmacy System, SIFA, and Accounting Supplies System, SICS) thereby linking patient information with supply chain management information, especially of drugs. The link between EDUS and SIGES has two main functions. First, the pharmaceutical orders from the pharmacy department and its respective invoice from the logistic department

are sent electronically. Second, it checks local inventory levels (SIFA and SIGES) against accounting at the central level (SICS) to identify and resolve inconsistencies. This link allows to improve planning, quality of care and efficiency; reduce errors, improve control over medication and detect missing or excess inventory. It is also a first step toward producing systematic information on the cost of services.

In addition to the three information system projects mentioned above, the CCSS has plans to improve financial, logistical and administrative management using technology and streamlined functional operations. The plan comprises three main components: i) updating core processes, including new approaches such as Enterprise Resource Planning (ERP) system; ii) modernization of revenue collection through the Centralised Collection System (SICERE); and, iii) implementation of a multi-channel platform. These changes are intended to overcome the fragmented management of information and link the different key operations of the CCSS. This system is expected to integrate with EDUS and will allow, for example, the costing of health services and the measurement of efficiency. As of 2017, the overall design of these plans has been approved by the CCSS Board of Directors, who have also given approval to identify contractors to create and implement solutions at institutional level.

Substantial challenges around effective use of data, however, persist

Two evaluations of EDUS have shed light on the implementation process and provide valuable information to formulate recommendations (CCSS, 2015). Both reports find that the CCSS has made considerable efforts to consolidate EDUS, and will most likely complete implementation of SIFF, SIAC, and SIES by December 2016. Nevertheless, substantial scope remains for further articulation of the various digitalisation subprojects.

Slow progress, for example, has been seen in terms of planning and integration of management of the different modules. For example, in 2013 evaluators found that the overarching Management Plan (Plan de Gestión), which aimed to promote integration and coherence between the diverse institutional actions, through the alignment of the different modules of EDUS) had not been developed. Moreover, the project does not have a detailed and precise planning agenda associated to each module and their integration, despite having a broad timeline for the 2012-16 period. Furthermore, the path toward the integration of SIGES with EDUS and other information systems that could provide valuable tools toward improving efficiency is not clear; none of the available institutional sources specifies how this link will be used to measure proper utilisation of health resources, and consequently, use financial information to adjust budgets and enhance purchasing.

There is also a general lack of strategic data and analysis. There is no information, for example, on the unit cost of health services provided by the CCSS. There is only limited public information regarding workforce expenses, including extraordinary payments. There is only limited public information on the CCSS's projections of its future expenses, income, and, more generally, its financial sustainability in the future. It is not clear whether there are any robust methodologies projecting the future cash flow (income and expenditures) incorporating variables such as epidemiological, demographic and technological changes expected in the next decades. The debt of the government with the CCSS is not clearly known in part due to the lack of updated information (or example the number of poor affiliated through ACE). These are all examples of areas where further progress of the CCSS could improve its information for a better decision making.

On a more basic level, Costa Rica relies on a very limited number of nationally representative health surveys that contain the necessary information for the analysis and more detailed diagnosis on the evaluation of the entire national health system. Several instances are responsible for collecting household survey data on issues such as nutrition, maternal and child health, tobacco and alcohol consumption, sexual and reproductive health. In most cases,

they lack however information on socioeconomic variables at the household and individual level (income, expenses, consumption, utilisation of health services, perception and health status) and are not carried out systematically nor periodically.

There are still many challenges that need to be addressed to move further toward more evidence-based decisions. Budget allocations to providers, for example, are currently based on historical budgets and other political considerations and not on a methodology considering production, quality, equity and other performance based dimensions. The payment to health providers should be based on an evaluation of performance, quality of services and population needs as recommended and mentioned by several previous evaluations (Rodriguez, 2006; Pacheco, 2013; Valdés, 2015; CCSS, 2016)

Another major challenge for the Costa Rican health system is the lack of tools to systematically decide on which interventions, drugs, and health technologies to invest in given the existing economic resources. Given that the system cannot satisfy all health needs, finding evidence of the medical, economic, social, and ethical impact of existing and new health technologies becomes imperative. This evidence would inform decisions and guide policy on which health technologies to include or exclude from the existing benefits package.

Costa Rica currently has a National Committee for Health Technology Evaluation (CNETS) composed of representatives of the Ministry of Health (MoH), CCSS, CONESUP, CONARE, CONICIT and others. However, assessment is fragmented and there is no co-ordination between the institutions. Also, there is an excessive amount of process manuals, product definitions, and methodology manuals. In addition, there are drug evaluation reports that include economic analysis but these are not published. Costa Rica does not have a technical, consolidated, and legitimised HTA process. Thus, the MoH has asked support from the Inter-American Development Bank (IDB) in the creation of an HTA body, in line with current prioritisation of expenditure efforts. The creation of such a national and independent HTA body is currently in the discussion phase and Costa Rica should move forward on this path.

6. Conclusions

Current trends related to CCSS financing and expenditure all indicate that the future financial sustainability of the CCSS might soon be at stake unless expenditure is controlled, the collection of existing financial resources is improved and new sources are mobilised. On the expenditure side, the demand for increasingly costly health services tends is rising (as a result of technological pressure and epidemiologic and demographic changes) while, on the income side, the pool of those contributing with their payroll taxes is shrinking (as a consequence of changing labor market structures).

Additionally, high levels of unpaid debt from the past (especially from the government itself) have contributed to a tough financial climate for the CCSS. This limits the CCSS's ability to pay short-term obligations (salaries, purchases of drugs and basic services), which in turn, stimulates the creation of more debt in the future.

There are several steps that should be taken to improve the financial sustainability of the Costa Rican health system. These include optimizing the collection of existing revenue sources as well as revising the financing model of the CCSS, given the likely evolution of the labour market; improving control of health care costs, especially human resource expenditure; advancing the implementation of information systems to ensure use of data for more evidence-based decisions; and, consolidating and systematising the use of technically robust and independent health technology assessment. The Assessment and Recommendations chapter discusses each of these in more detail, with international examples of best practice that Costa Rica could learn from.

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Annex A

Historical development of the Costa Rican health care system

XIX Century – Health boards, charity boards and early hospitals: Since 1836, different boards, mainly from the civil society and church, were constituted in order to cope with epidemics like cholera (Rodríguez Vega, 2004; Gómez, 2007). In 1845 the government authorities promoted the constitution of a hospital for lepers and the needy – known today as the "Hospital San Juan de Dios" – which started giving services at 1856 and was managed by a Charity Board. In 1883 the Congress assigned a budget for the construction of an institution for the mental ill also managed by this board. Fifty cents per day were given by the State for each person in this institution. The State also took on charge the clothing, furniture and maintenance expenses (Prendas Lépiz, 2012).

Early XXth Century – The Hygiene and Public Health Secretary: Created in 1922, this Secretary was part of the Police Secretary and had the objective to unite for the first time different health, and hygiene programmes and actions into one entity – the School Health Department, School Summer Camps, Infant clinics, Ophthalmological clinics, norms for sexually transmitted diseases treatment, anti-malaria services, the destination of State budget for a campaign to fight the ankylostomiasis, the research and treatment programme of ankylostomiasis by the Rockefeller Health International Committee. This is considered the first preventive initiative supported by the State (Prendas Lépiz, 2012; Rodríguez Vega, 2004; Gómez, 2007).

1845 – Hospital San Juan de Dios: The first hospital created in the country and has been in service ever since. It firstly belonged to the National Charity Board, but became part of the CCSS in 1970.

1857 – National Medical Board: Currently known as the College of Physicians and Surgeons of Costa Rica, it was created to regulate the practice of medicine in the country, it still holds this function.

1923 – The Law about Public Health Protection: Recognised as the first law health, it raised that health care will be State-based and that municipal governments should help in waste collecting, street cleaning and others (Rodríguez Vega, 2004). This law considered compulsory vaccination, basic sanitation, industrial hygiene, medicine and physicians control, among others health issues (Prendas Lépiz, 2012).

1924 – National Insurance Bank: Current National Insurance Institute (INS), since its creation until August 2008, it had the monopoly of insurances sales in the country.

1926 – The Law against Ophidism: Considered as a precursory law for social security because snakebite was considered as a professional illness and stablished social security in case of dead (Prendas Lépiz, 2012).

1927 to 1949 – State Secretary in the Health Office (current Ministry of Health): This Secretary was constituted in 1927. During the first two decades the Secretary promoted regulations for quarantine diseases, basic sanitation, drugs, medicines, toxic substances, food and drinks, industrial hygiene, public health laboratories; fights against malaria, tuberculosis,

yellow fever, leper; organised a Tumor Clinic; promoted a law for drugs and a law for hospital treatment for banana workers, among other health policies (Prendas Lépiz, 2012). The authority for the operation of hospital establishments and infant protection institutions was also part of the Secretary's duties (ACH, 1997).

1941 to 1943 – The Caja Costarricense de Seguro Social (CCSS): Before the creation of the CCSS, health care in Costa Rica was provided by profit and non-for-profit private institutions. The CCSS was created in 1941 and it remodeled the system into a Bismarck type social security system based on employment. In 1943, the CCSS acquired administrative and financial autonomy.

1943 to 1949 – Health Codes: In 1943 a Health Code was formally promulgated and succeeded by a new one in 1949. Both stated public health protection was a State function and operating responsibilities into administrative departments the Ministry of Health (Gómez, 2007).

1949 – Constitution: The right to social security for employees was included in the Costa Rican constitution (República de Costa Rica, 1949). It defined as fundamental that workers get the right to protection against disease risks through the social security system. This right was expanded to the affiliated worker's families in 1956.

1950 – Ley de Asistencia Médico Social (Social Health Care Law): This law made the Ministry of Health through a specific department the institution in charge of hospitals, maternities, red cross committees, sanatoriums, among others.

1961 – The Universalisation Act: The Government of Costa Rica committed itself to achieve universal health care (UHC) within a period of ten years.

1971 – National Health Plan 1971-1980: It was the first nationwide organised plan that consolidated the work of different health institutions (Gómez, 2007).

1973 – The Ley General de Salud (General Health Law): Further defined the health of the population as a public good and stipulated as essential that the State should protect the health of the population, guaranteeing the right to health services to all inhabitants in the country. The law also created the National Institute of Alcoholism and Drug Dependence (*Instituto sobre Alcoholismo y Farmacodependencia* – IAFA), the National Secretary for the Feeding and Nutrition Policy (*Secretaría de la Política de Alimentación y Nutrición* – SEPAN) as well as the Costa Rican Health and Nutrition Research and Education Institute (*Instituto Costarricense de Investigación y Enseñanza en Nutrición y Salud* – INCIENSA).

1973 – Ley de Traspaso de Hospitales (Hospital Transfer Law): The law was promulgated in order to achieve the universalising coverage goal and the Ministry of Health transferred all financial resources, human resources and infrastructure of the hospital to the CCSS within the next ten years after the law was published and came into force (Gómez, 2007).

1973 to 1975 – Health Primary Care Consolidation: With the establishment of the Rural Health and Community Programmes in the Ministry of Health and new organisation arrangements, the primary care system was consolidated in the country, associated with other programmes and institutions –Health Centres, Rural Assistance Centres, Nutrition and Education Centres, Child Nutrition Comprehensive Care Centres, Mobile Care Units, Odontology Mobile Units and Clinics, among others (Gómez, 2007). Beginning with the remotest communities to the most populated areas, one of the prioritised strategies was the household visit with mechanisms to attach these visits to reference to different health services (Prendas Lépiz, 2012).

1984 – Health care right of the poor: It was decided that the poor population should have access to the health care system, being insured by the State.

1992 to 1993 – Ministry of Health and *Equipos Básicos de Atención Integral de Salud* (EBAIS): A reform of the Costa Rican health care system strengthened the MoH's role as steward of the system and transferred the primary health care services to the CCSS in the figure of EBAIS for primary health care.

1997 – Public-private partnerships (PPP): Introduction of PPP's to internally separate the functions and service provision within the CCSS.

2004 – Independent workers regulations: States the procedures for the affiliation of independent workers to the CCSS.

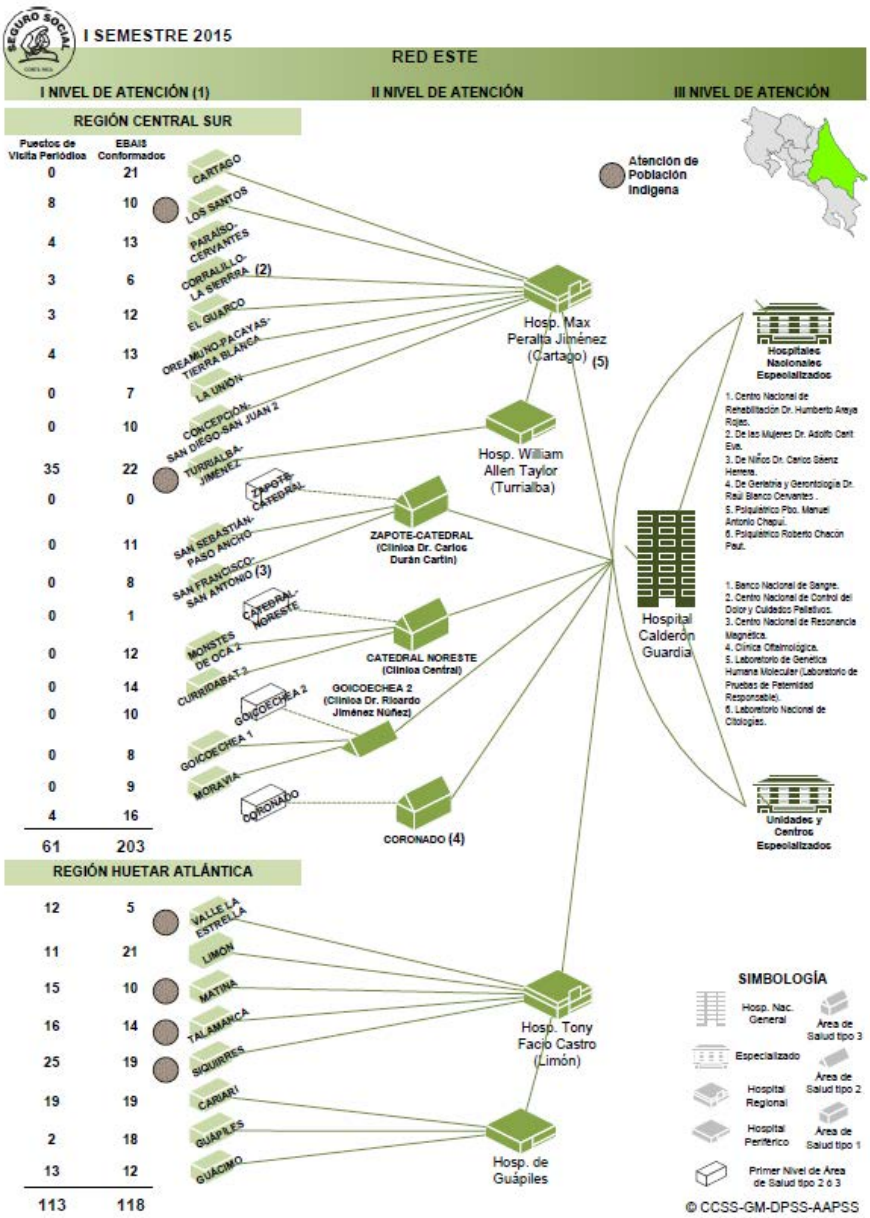
2010 – Migratory Law: Obliged migrants to contribute to the social security of the CCSS in order to regularise their immigration status and to renew their documentation once they have obtain their residency.

2011 – CCSS financial crisis in the public opinion: In 2009 and 2010 the CCSS had problems for paying some of their providers. The payroll increased in 2010 due to an extended hiring policy. In 2011 the CCSS financial problems where visible in the public opinion. As a result of the two researches launched by the CCSS – one with PAHO and the other with national specialists – management issues where raised which is said to be evident because of a decrease in income collection and the amount and type of expenses (Sauma et al., 2011).

2014 – Extension of family beneficiary coverage: CCSS extends the coverage of family insurance to same sex couples.

Annex B

Illustration of a CCSS service network



Puestos de Visita Periódica	EBAIS Conformados
0	21
8	10
4	13
3	6
3	12
4	13
0	7
0	10
35	22
0	0
0	11
0	8
0	1
0	12
0	14
0	10
0	8
0	9
4	16
61	203

12	5
11	21
15	10
16	14
25	19
19	19
2	18
13	12
113	118

Annex C

CCSS primary care performance framework

Dimension	Indicator	2018 target
Access	Hypertension screening	38% target population
	Cervical cancer screening	45% target population
	Early childhood intervention	85% target population
	Early pregnancy intervention	85% target population
	HIV screening in pregnancy	60% target population
	Early post-natal intervention	90% target population
	Elderly influenza vaccination	80% target population
	Participation in at least 8 healthy lifestyles workshops	0.25% target population
	Health promotion campaigns	2 campaigns
Continuity	Timely colposcopy	100% target population
	Timely syphilis screening in pregnancy	80% target population
	Timely syphilis treatment in pregnancy	100% target population
	Completion of immunisation schedule in first year of life	95% target population
	Completion of immunisation schedule in second year of life	95% target population
	Drop-out rate from pentavalent vaccine schedule	Less than 5%
	Anaemia screening in children under 2 years	80% target population
	Anaemia treatment in children under 2 years	100% target population
Effectiveness	Lipid control in individuals with dyslipidaemia	55% target population
	Blood pressure control in individuals with hypertension	65% target population
	Glycaemic control in individuals with diabetes	52% target population
	Blood pressure control in individuals with diabetes	40% target population
	Lipid control in individuals with diabetes	52% target population
Acceptability	Patient satisfaction scores	73%
Efficiency	Index of relative efficiency score	100
Administration	Disability assessment certification	
	Technical support certification	
	Budget certification	
	Human resources certification	
	Occupational health certification	
	Fire safety certification	

Annex D

Screenshot of a primary care performance indicator available from the EDUS information system

Source: https://edus.ccss.sa.cr/.

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COSTA RICA

These reviews examine the performance of health care systems in various countries, highlighting key challenges and opportunities for system strengthening based on international best practice. Each review provides targeted recommendations to improve health system accessibility, quality, efficiency and sustainability in the subject country.

This report puts forward policy recommendations for strengthening the performance and sustainability of the health care system in Costa Rica. There is much to praise in Costa Rica's health care system: institutional stability; a closely integrated but well-differentiated provider arm, with strong primary care; a degree of inter-sectoral co-ordination that serves as a model of good practice; detailed and effective dialogue between users and health service managers; and, innovation around professional roles and the use of ICT that other health systems could learn from. All this leads to health outcomes on a par with several OECD economies. Nevertheless, serious strains are evident: spending is rising steeply, fuelled by salaries, fees and facility payments based on last year's outlay. These spending increases are not always associated with improvement in services: waiting lists are excessively long and growing. The system is perhaps too stable: institutional rigidity and vested interests have stalled vital reforms, meaning that Costa Rica still lacks systematic application of DRGs and health technology assessment, despite attempts to bring them in.

Consult this publication on line at ***http://dx.doi.org/10.1787/9789264281653-en***.

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