

BUILDING A THRIVING PRIMARY HEALTH CARE SYSTEM: THE STORY OF COSTA RICA

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Acronyms

ATAP	Asistente Técnico en Atención Primaria
CCSS	Caja Costarricense de Seguro Social
CHP	Community Health Program
COPHC	Community-Oriented Primary Health Care
CPHC	Comprehensive Primary Health Care
DCSS	Dirección Compra de Servicios de Salud
EBAIS	Equipos Básicos de Atención Integral de Salud
EDUS	Expediente Digital Único en Salud
FFF	Family planning, Female education, and Food supply
GDP	Gross Domestic Product
GNI	Gross National Income
GOBI	Growth monitoring, ORT, Breastfeeding, and Immunization
ID	Infectious Diseases
IMF	International Monetary Fund
MC	Management Contract
MOH	Ministry of Health
NCDs	Noncommunicable Diseases
ORT	Oral Rehydration Therapy
PAHO	Pan-American Health Organization
REDES	Registros de Salud
RHP	Rural Health Program
SPHC	Selective Primary Health Care
UHC	Universal Health Coverage
UNICEF	United Nations Children’s Fund
USAID	United States Agency for International Development
USD	United States Dollar
WBG	World Bank Group
WHO	World Health Organization

Key Terms

SPANISH

Asistente Técnico en Atención Primaria

Asociación Nacional de Empleados Públicos

Caja Costarricense de Seguro Social

Cooperativo

Dirección Compra de Servicios de Salud

Equipo Básicos de Atención Integral de Salud

Estado de Bienestar

Expediente Digital Único en Salud

Ficha Familiar

Instituto Nacional de Seguro

Junta de Salud

Médicos del Pueblo

Partido Liberación Nacional

Registro de Salud

Servicio Nacional de Acueductos y Alcantarillados

Unidas Sanitarias

ENGLISH

Primary Care Technical Assistant

National Association of Public Employees

Costa Rican Social Security Agency

Cooperative

Purchasing Department

Integrated Primary Health Care Teams

Welfare State

Digital Universal Medical Record

Family File

National Insurance Agency

Community Health Board

Town Doctors

Party for National Liberation

Medical Data Clerk

National Service of Aqueducts and Sewers

Health Unit



INTRODUCTION

Introduction

Situated in Central America, Costa Rica's 4.9 million citizens¹ have access to one of the most effective primary health care systems in the world. The country's unique, team-based model of primary care service delivery successfully combines preventive and curative care to provide comprehensive primary health care to nearly all Costa Rican citizens. This case study examines the process by which Costa Rica developed its laudable primary health care system, fully describes the functioning of the system through both clinical and patient perspectives, and elucidates key lessons about primary health care delivery that can be learned from the Costa Rican experience.

Costa Rica is a middle-income country bordered on the north by Nicaragua and on the south by Panama. It gained its independence from Spain in the early 19th century and has remained a stable democracy since 1948. With no military, and a highly educated work force, the country has prospered economically and socially. Today, its economy is mainly dependent on agriculture, finance, corporate services, pharmaceuticals, and ecotourism. While Costa Rica ranks 101st in Gross National Product globally, it ranks 62nd in the Human Development Index, outperforming on social indicators compared to what would be expected given its level of economic development.^{2,3} In health, Costa Rica also performs highly, with the third highest life expectancy in the Western Hemisphere and an infant mortality rate that is half the average of the Latin America and the Caribbean region.¹

This case study traces the path Costa Rica took to achieving such a high-performing health system and unpacks the country's successful primary health care model. The case study is divided into seven main sections. The first explores Costa Rica's historical and cultural context to elucidate how the country came to have the pre-conditions that supported the establishment of a robust primary health care system. This section will trace the historical path of Costa Rica's health system development, from the establishment of their social security system, the *Caja Costarricense de Seguridad Social* (CCSS) in 1941, to the global crisis of the 1980s, and highlight how the values established in the 1940s through 1970s laid the groundwork for future reforms and development.

In the second section, the case study delves into the primary health care reform process in the 1990s, which marked a crucial turning point in the organization and delivery of primary health care in Costa Rica. The case study will detail Costa Rica's work with the World Bank Group and describe the critical choices that Costa Rica faced during this time. Following the historical framework established in the first section, this section will show how Costa Rica built upon its shared values and priorities to design a new primary health care system that would integrate public health efforts, disease prevention programs, and curative treatments.

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Table 1: Demographic Characteristics of Costa Rica

INDICATOR	DATA YEAR	
TOTAL POPULATION (MILLIONS)	4.86	2016
Financial and Development Indicators		
Gross National Income (per capita USD\$)	15,750	2016
Gross National Income Ranking Atlas Method	83	2016
Gross National Income Ranking Purchasing Power Parity Method	101	2016
Human Development Index	62	2010
Gini Coefficient	49.2	2013
Poverty Gap at National Poverty Lines (%)	8.8	2015
Rural Population (% total)	22.3	2016
Health and Education Indicators		
Access to Improved Water Source (%)	98	2015
Fertility Rate (births per woman)	1.8	2015
Contraceptive Prevalence, Modern Methods (% women aged 15-49)	76.2	2011
Population, Ages 0-14 (% of total)	22	2016
Population, Age 65+ (% of total)	9.2	2016
Infant Mortality Rate (deaths per 1,000 live births)	8.5	2015
Maternal Mortality Ratio (deaths per 100,000 live births)	23.1	2011
Life Expectancy (years)	79.6	2015
Primary School Completion Rate (%)	99	2014
Adult Literacy Rate, Population 15+ Years (%)	97	2011

Source: Adapted from The United Nations World Development Report² and the World Bank Group³

The third section provides an examination of how the strategies and plans established in the 1990s were implemented, and the challenges and achievements of this process. Over approximately one decade, Costa Rica built a team-based care delivery model with over 800 primary health care clinics, connected through a robust quality measurement system; this process of implementation holds important, tangible lessons on how to build effective primary health care systems. This section also provides an in-depth description of the factors that enabled Costa Rica to integrate comprehensive, community-oriented

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preventive and curative services. The fourth section discusses the role that measurement and monitoring played in enabling the successful implementation of the reforms, and the fifth section describes the impact of the 1990s reforms on health outcomes in Costa Rica. The sixth section describes the challenges facing Costa Rica's health system today, and the seventh highlights lessons learned from the Costa Rican experience which may be generalizable to other contexts.

This case study is one of the first English-language publications to describe in detail the successful primary health care system in Costa Rica and the process by which this system was actualized. As the world turns its attention toward the achievement of the Sustainable Development Goals and Universal Health Coverage,^{4,5} the Costa Rican experience detailed in this case study may offer valuable lessons for the global community.

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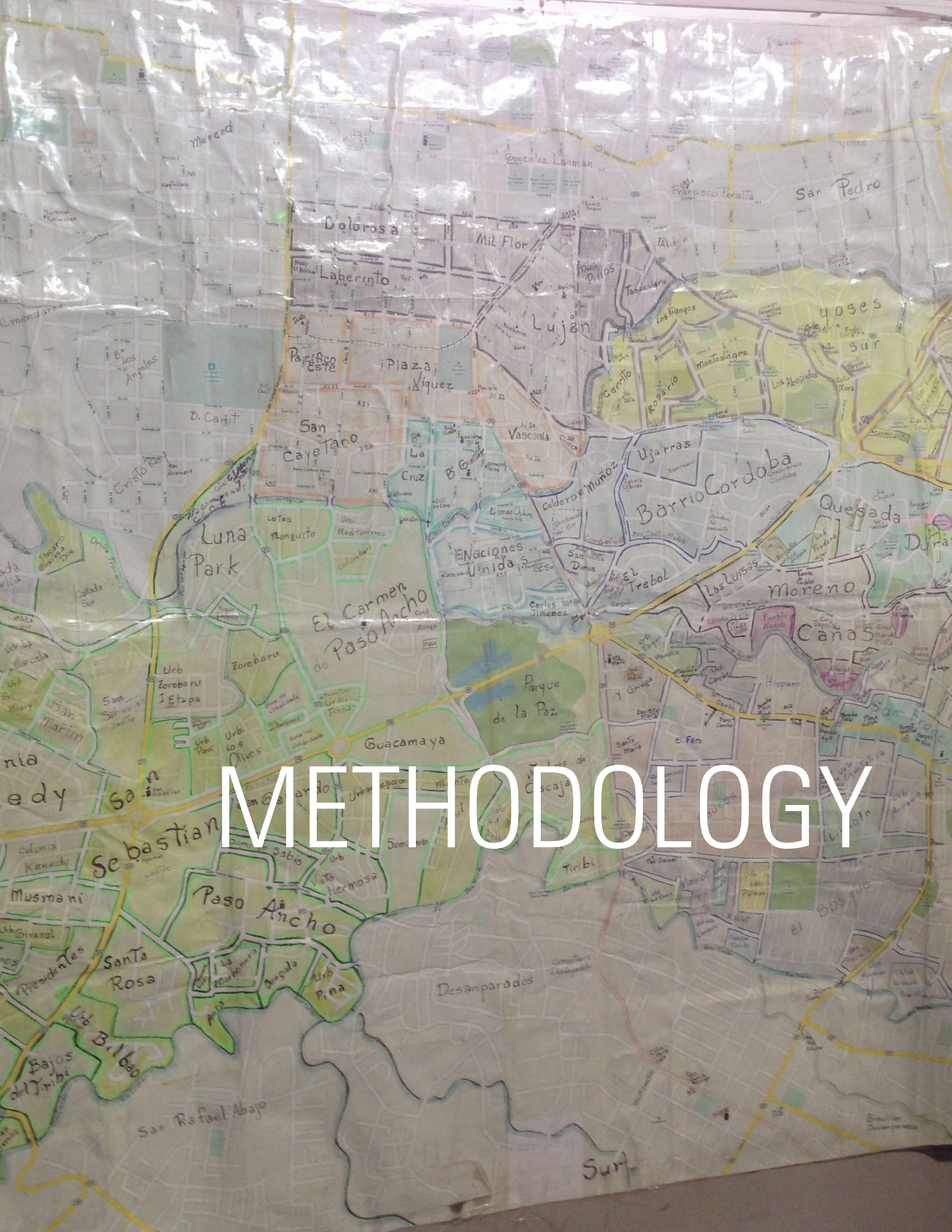
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Methodology

This mixed methods case study utilized both a structured literature review and in-country interviews with key informants. First, a MEDLINE search was conducted for all articles containing the phrase “Costa Rica” indexed before September 21, 2015. The search returned 3,970 articles. Articles were deemed relevant if they addressed Costa Rica’s health care system structure, performance, or evolution; governmental involvement in health planning and delivery; or primary health care delivery, reform, or history. Studies examining incidence of disease or specific medical treatments were not included. Social programs or clinical structural change programs were included as sources. In total, 179 articles from this search were found to be relevant. Additionally, a search of the LILACS database using the above date range and inclusion criteria was also undertaken in order to review the Spanish-language sources. 900 articles were returned and 135 articles were found to be relevant. Working with a librarian from Brown University, searches were also performed on Scielo, EBSCO, Global Health, and Google Scholar; from these searches, approximately a dozen additional studies were found to be relevant. After accounting for duplication, the full text of 280 articles in English and Spanish was analyzed. Additional sources that were referenced in these articles were identified and also included. A list of searches performed can be found in Appendix 1.

Additionally, 81 semi-structured key-informant interviews were conducted during two extended in-country visits: one in January 2016 and the other in June 2017. A full list of key-informant interviews can be found in Appendix 2. Interviewees were selected in one of two ways. For the first set of interviews, informants were selected from among authors represented in the literature review. Based on responsiveness to email contact, meetings in-country were established. From there, snowball sampling identified further interviewees using the original authors’ contacts.⁶ For the second set of interviews, one of the authors (MP) interviewed 29 practicing health care professionals at various clinics throughout the country. Of the seven health regions in Costa Rica, interviews were conducted in five. A full list of locations visited can be found in Appendix 3. Interviewees were selected as a convenience sample based on who was available to be interviewed at the time of the visit. In addition to in-person interviews, follow-up interviews with Costa Rican contacts and article authors were conducted over the internet. Interviews were transcribed and coded until thematic saturation was reached. Key conclusions were discussed amongst all co-authors and verified with key informants.

A summary of a portion of the findings presented in this case study was published in *Health Affairs* in 2017.⁷

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PRE-1960: ESTABLISHMENT OF HEALTH INSTITUTIONS

Costa Rica gained independence from Spain in 1821 and full independence from Mexico in 1838 before it was established as a democracy in 1869.⁹ Before the creation of hospitals and the introduction of physicians as the solely licensed medical providers, Costa Ricans relied on personal hygiene, indigenous healers, and herbal therapies from the diverse Costa Rican rain forests to prevent and treat disease.⁹ In the 1850s, many Costa Rican doctors went to Europe for training and later returned to Costa Rica, bringing with them Western biomedical practices.⁹ The first hospital in Costa Rica, Hospital San Juan de Dios, was established in the capital, San José, by coffee plantation owners in 1845.⁹

An 1865 law created a system of “town doctors,” or “*medicos del pueblo*,” each of whom treated the population of a given city based on a contract with a particular municipality.¹⁰ The town doctors were responsible for preventing disease outbreaks and treating indigenous populations.¹¹ The town doctor system persisted in urban areas and well-populated cities through the end of the 19th century and the beginning of the 20th century. Medical practice was restricted to biomedical practitioners in 1887, when a law canceled all previously issued indigenous healer (*curandero*) licenses.⁹ During this time, Costa Rica’s health care system became increasingly based on Western biomedicine.

Most health care outside of urban city centers was provided by banana and coffee companies.¹² For example, in the rural Atlantic province of Limón, the United Fruit Company was the sole provider of medical care for 30 years.⁹ In addition to establishing hospitals, the United Fruit Company created prevention programs, for example to eliminate malaria, to boost the productivity of its workers.⁹ Because labor was relatively scarce in Costa Rica, investing in workers’ health was an important business strategy.

In the early 1920s, the government established a number of key social institutions including the sub-secretariat of Hygiene and Public Health in 1922 (a precursor to the Ministry of Health, which would supervise the hospitals and provide some public health services) and the National Insurance Agency (*Instituto Nacional de Seguro*) in 1924.^{9,13} Their creation and early successes provided political momentum to create other social programs.

One such program was Health Units (*Unidades Sanitarias*) established in 1934 by Dr. Solón Núñez Frutos in the central, rural city of Turrialba.¹⁴ This program led to the establishment of health centers, which typically were placed in the capital city of different provinces and staffed by a general physician, a nurse, a few nursing assistants, a laboratory technician, and a pharmacist.¹⁴ These Health Units had a commitment to prevention and were modeled on the county health units that were being established in rural areas of the United

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States during the same time.⁹ In addition to their commitment to prevention, these rural health centers were anchored to a geographical area, perhaps representing early portents of geographic organization of the health care system. These Health Units were a very popular model of care and continued to grow in numbers throughout the first half of the 20th century.¹⁵

The 1930s saw further expansion of biomedical care in hospitals and the development of scattered preventive care in community-based programs operated by international philanthropic organizations. As more hospitals were constructed during this time period, the majority of care for the urban populations shifted to the hospital setting.¹⁶ The capital, San José, had three main hospitals run by religious orders.¹² In addition to hospitals, several international philanthropic organizations, such as the Rockefeller Foundation, began to invest in the Costa Rican health system, mostly in hookworm eradication programs.¹⁷

During the 1920s and 1930s, many Costa Ricans traveled to Europe to receive their education, where many prospective physicians saw the benefits of nascent social security programs.¹⁸ Around the world, social programs were being used as a barometer of the efficacy of a government. In Latin America, too, social security agencies were being established in many countries that would ultimately guide the development of their respective health systems through the modern era.¹⁸

These international trends toward the establishment of social security systems were echoed back in Costa Rica, where the population—particularly workers and labor unions—was beginning to clamor for the government to initiate comprehensive health care reform to better meet their needs.^{10,18} This domestic push was fueled by the overstretching of the Health Unit system and poor health status attributed to parasitic infections, diarrheal and respiratory illnesses, traumatic injuries, childhood malnutrition, and infant and maternal mortality.¹⁴ At the time, this was a fairly typical health profile of a Latin American country: major health concerns were centered around infectious diseases, and health care was provided in a heterogeneous fashion by public hospitals, international philanthropic organizations, and local traditional healers.¹¹

This push for the Costa Rican state to become more involved in the social well-being of its citizens led to at least a half-dozen attempts between 1907 and 1936 to establish a social security administration.¹¹ Finally, in 1941, President Calderón Guardia led the establishment of the *Caja Costarricense de Seguridad Social* (CCSS),¹¹ a social security agency initially designed to provide health care and pensions to salaried workers.^{16,19} The importance of the CCSS in the history of Costa Rica as a country and its health care system in particular cannot be overstated; it would become one of the key pillars of Costa Rica's Welfare State (*Estado de Bienestar*).¹⁸ The institution was founded on the principles of solidarity, equity, justice, universality, and equality; values that would continue to guide the Costa Rican health system for decades.¹¹

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After the 44-day Civil War of 1948, the right to health care administered by the CCSS was reincorporated into the new constitution of 1949, and the CCSS grew steadily during the 1950s. In addition to becoming an important fixture of the fledgling Costa Rican democracy, it also expanded the country's health care delivery capacity.⁸

Beyond the CCSS, the 1950s in Costa Rica brought a myriad of public health efforts, including the passage of sanitation laws, implementation of venereal disease control efforts and malaria eradication campaigns, and the establishment of public health ministries.¹¹ By 1959, there was a shift in Costa Rica's health care financing and provision system, away from dependence on international philanthropic organizations to ever-increasing state control of the country's health care functions.

1960s: DEEPENING A COMMITMENT TO UNIVERSAL HEALTH CARE ACCESS

The 1960s saw a redoubling of Costa Rica's commitment to addressing the needs of vulnerable and impoverished populations, including expansion of CCSS coverage beyond the working-class population for whom the CCSS had originally been established. In a major turning point, in 1961, Costa Rica passed a constitutional amendment calling for universalization of CCSS services, including pensions and curative health care coverage, within a decade.¹⁰ This amendment would over time expand the coverage of the CCSS to include workers' dependents and underprotected populations such as low-income, rural, and vulnerable groups.²⁰ Beyond the immediate benefits of expanded coverage, the 1961 amendment established Universal Health Coverage (UHC) as the defining feature of Costa Rican attitudes towards health care and a key component of the country's self-perception. Indeed, health system analysts Juan Rafael Vargas and Jorine Muiser argue that entitlement to health services has become "synonymous with being a Costa Rican and represents probably the single most important feature of the Costa Rican social fabric."¹³ For Costa Ricans, equitable provision of health services became a moral imperative related to the concept that a state's goodness can be measured on the basis of the health care it provides to its citizens.^{9,21} Although the goal to achieve universal access to the CCSS services by 1971 was not achieved, articulation of UHC as an explicit political and constitutional goal gave the concept longevity that propels Costa Rica's health care system even today.²² Additionally, the concept of expansion of the CCSS services, specifically, became associated with the ideal of health coverage for all.

During the 1960s, the CCSS primarily functioned as a strategic purchaser of services, and the predominant strategy for care provision was for the CCSS to purchase health care for its beneficiaries from different hospitals.¹⁸ To accelerate the process of universalizing health care service coverage, in 1961 the Faculty of Medicine was established so medical doctors could be trained in the country and Costa Rica could thereby control the supply of physicians.²³ By the end of the 1960s, 47 percent of the population had health coverage through the CCSS, up from 18 percent in 1961.¹⁵

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During the 1960s, Health Units continued to provide health care to Costa Rican citizens outside the major metropolitan cities.¹⁴ In addition to prevention programs such as vaccination, growth monitoring, and family planning, Health Units also conducted four “campaigns” against venereal disease, tuberculosis, parasites, and malaria.¹⁴ In addition to the Health Units, mobile health centers also came to play an important role during the 1960s in providing care to the rural areas of Costa Rica. The first mobile center was established in 1963, and by the end of the decade there were 12 functioning throughout the country.¹⁴ These mobile units worked as health care teams, similar in function to the Health Units.

In addition to the preventive and curative health care provided in hospitals, Health Units, and mobile health centers, Costa Rica also invested heavily in sanitation throughout the country. In 1961, Costa Rica established the *Servicio Nacional de Acueductos y Alcantarillados* (National Service of Aqueducts and Sewers).⁹ From 1961 to 1964, the agency spent USD \$12.6 million for studies and expansion of potable water and clean sewage practices throughout the country, especially in rural areas. These sanitation efforts were particularly impactful in improving the country’s health outcomes, specifically in decreasing infant mortality.²⁴

At the end of the 1960s, the universalization of access to services covered by the CCSS had become the government’s health priority. Over the course of the decade, the CCSS had become increasingly dominant not only financially but also in political and cultural terms, as it represented Costa Rica’s emerging identity as a Welfare State (*Estado de Bienestar*). While there was an organizational split between curative care provided in hospitals and preventive care provided in the Health Units during this decade, the establishment of both as government-based health care activities and the progress both sectors achieved were critical for Costa Rica’s future directions.

1970s: FOUNDATIONAL HEALTH LEGISLATION AND ESTABLISHMENT OF RURAL HEALTH MODELS

In the early 1970s, the leftist Costa Rican President José Figueres, a prominent military figure in the 1948 civil war who had overseen ratification of the 1949 constitution, committed to the expansion of social programs alongside a push to more rapid economic growth. President Figueres was committed during his terms to the eradication of extreme poverty and the universalization of health services through the CCSS.⁸ By the early 1970s, President Figueres had broad-based political support for health care reforms and saw health care as one important way to achieve his leftist anti-poverty agenda.^{9,10} He proved a key figure in establishing Costa Rica’s welfare state in which universality, solidarity, and equality became the main principles of not only health institutions but also public policies more generally.²²

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As part of his strategy, President Figueres advocated for the Hospital Transfer Act of 1973, which transferred most of the hospitals operating in the country (including those run by the Ministry of Health, those that belonged to the agriculture companies, and religious hospitals) to the control of the CCSS.²² Until this point, the CCSS was solely a strategic purchaser; after implementation of this law, the CCSS began to also run and manage its own hospitals and clinics, transforming the agency into a combined payer and delivery system.¹⁸ After the Hospital Transfer Act, the CCSS controlled 33 hospitals and 69 clinics.²⁵ By bringing hospitals under CCSS control, Costa Rica made clinical health care a public good.

Supplementing the Hospital Transfer Act, the General Health Act of 1973 redefined the responsibility of the national government in protecting the health of all Costa Ricans, giving the government explicit power to act on behalf of its citizens' welfare during health emergencies, mainly through the Ministry of Health.²² The General Health Act defined the rights and obligations of all agents who implement activities that have an impact on the health of the population. A third law adopted in that same year was the Organic Health Ministry Act, which established the "health system steward function" of the MOH and also established the MOH as a delegate of the states in health matters.¹³ These acts allowed the Costa Rican Ministry of Health to monitor the health of the population and made explicit the MOH's planning and coordination role. However, they also established that the MOH could not act against the interests of autonomous institutions in the health sector (the CCSS, for example), thus limiting the effectiveness of its stewardship function.¹⁸

Based on its newly expanded role, the MOH established two new primary health care programs in the 1970s: the Rural Health Program (RHP) and the Community Health Program (CHP). Until that point, the majority of health care resources (with the exception of the mobile clinics) were found in city and province centers with populations greater than 1,000 people.¹¹ After an analysis of geographically organized mortality data, MOH leaders realized that most of the deaths in the country were coming from small, rural areas and were largely due to infant mortality and other preventable causes.²⁶ The Rural Health Program was established in 1973 to decrease this mortality and bring primary health care services to marginalized, rural areas of the country.^{16,27} The program targeted communities with fewer than 500 people, in particular those with no access to CCSS hospitals, and it was tasked with collecting epidemiological data, providing vaccinations and simple treatments, promoting family planning, organizing communities around health promotion activities, and facilitating referral to secondary hospitals for serious conditions.¹⁰ The RHP used newly trained auxiliary nurses, called health assistants, selected from the local population and supervised by a nurse to educate the population and identify illnesses. By 1978, Costa Rica had constructed 218 rural health clinics, and by 1987 the program covered 60 percent of the rural population.^{9,10} The prevention principles extolled by the RHP, such as ensuring access to basic health services by bringing these services to communities and providing comprehensive health education, became foundational concepts for later Costa Rican health care system development.

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To organize rural health programs, the MOH divided the countryside into distinct geographic health regions. This geographic delineation enabled the tracking of health outcomes by areas over time, which became important for priority setting and population health management in the 1970s and beyond.⁹ Health workers traveled across the country on foot, by cars, horses, boats, or bikes, bringing primary health care to the populations for which they were responsible.¹⁸ These defined Health Areas also enabled community and citizen engagement via local health committees, which were responsible for the administration and maintenance of the clinics where the rural health programs operated.¹⁰ The local health committees were instituted to varying degrees of efficacy throughout the country. In some areas a democratically elected local health committee actively directed health care, but in many others, community participation was limited and local health committees were not established or met rarely.⁹

Based on the enthusiastic acceptance of the RHP, the Ministry of Health established the Community Health Program (CHP) in 1976. The CHP used the same concept of community health workers employed in the RHP, but added a home visitation component and was oriented toward impoverished urban populations.^{16,10} The CHP operated in approximately 250 Health Areas, each with a population of approximately 2,000 people, and covered 57 percent of the impoverished urban populations.¹⁰ The CHP used a rigorous implementation protocol that entailed an initial selection of a geographic area, the creation of health programming based on community input at the local level, and robust measurement to assess the performance.¹⁰ This implementation protocol formalized community engagement and continual monitoring and assessment as core practical components of primary health care delivery in Costa Rica.

Both the RHP and CHP employed a community health focus on basic preventive public health strategies such as promoting hygiene and sanitation, handwashing, community health education, prenatal care, breastfeeding, child growth and development monitoring, nutrition, oral rehydration therapy, tuberculosis treatment, infectious disease surveillance, vaccination, and deworming medications.^{9,18} Both programs achieved remarkable success. From 1974 to 1977, the RHP and CHP increased the number of children under surveillance from 900 to 125,000 and the number of pregnant women under surveillance from 350 to 10,000, and a retrospective study found an association between the duration that a population was under CHP care and an increase in life expectancy at birth.¹⁰ The effective community health workers employed by the RHP and CHP are believed to be the element that allowed the programs to have such a profound and rapid positive impact on the health of the populations they served.¹⁰ Contrary to many CHW programs that were being implemented around the world at this time, the quality of community health workers was closely monitored in Costa Rica. Local governments were trained in different quality assurance mechanisms to ensure that the workers were correctly executing medical surveillance techniques, educating the population on given health issues, and providing the population with essential materials such as supplementary feeding and

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growth charts.²⁸ Community health workers were an effective liaison between the people and the biomedically oriented health sector, facilitating the integration of health services with the community.

In 1978, the RHP and CHP were combined to create the Division of Primary Health Care within the MOH.¹⁶ The unit was responsible for providing primary health care to all impoverished families, and by the early 1980s the program covered 70 percent of “marginalized urban dwellers” and the majority of the rural population as well.¹⁰ The achievements of the RHP and CHP were significant, especially when considered in relation to the landmark international 1978 Alma-Ata Conference and Declaration which called for comprehensive access to broad and equitable health services.²⁹ Costa Rica was an exemplar country within the Alma-Ata conference and was already upholding those principles and delivering primary health care services quite similarly to the Declaration’s ultimate recommendations. Indeed, San José was considered as one of the front-running cities to host the event, but political considerations between the USSR, United States, China, and WHO led to the selection of Alma-Ata instead.³⁰

Under the presidency of Rodrigo Carazo Odio (1978-1982), the Division of Primary Health Care flourished.⁹ While President Carazo’s party was conservative and promoted free market reforms, the administration used primary health care strengthening to bolster national party support in rural areas.³¹ Additionally, international development agencies supported the primary health care program, as there was growing support and excitement around primary health care after the Alma-Ata Declaration.⁹ The United States Agency for International Development (USAID), for example, changed its focus to low-cost health care delivery programs and promoted Costa Rica as an effective primary health care standard.⁹ The Pan-American Health Organization (PAHO), too, committed to extending health care services to underserved populations through the expansion of primary health care and community participation in the 1970s.³²

The 1970s was thus a crucial, formative decade for Costa Rican primary health care. In addition to increased financing, the three complementary health laws of 1973 brought the provision of curative, hospital-based health care under the responsibility of the social security agency and gave the government, and consequentially the MOH, the duty to steer the health policy process. Through the RHP, CHP, and, eventually, the Division of Primary Health Care, primary health care became woven into the core fabric of Costa Rica’s health care system. At the close of the 1970s, Costa Rica had a strong primary health care system largely focused on health promotion, sanitation, child health, and infectious disease eradication, and this system was already resulting in improved health status. From 1970 to 1980, Costa Rica’s parasite infection rate decreased significantly and the infant mortality rate dropped from 61 deaths per 1,000 live births to 18 deaths per 1,000 live births.¹ A 1985 analysis by demographer Luis Rosero Bixby showed that 41 percent of this decrease was due to primary health care efforts; in other words, primary

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care had decreased infant mortality by 17 deaths per 1,000 live births.²⁴ By capitalizing on its national political agenda and extant commitment to health care, Costa Rica was able to build an extensive primary health care system based on the values of financial solidarity, public provision, commitment to both preventive and curative care, equality, and universality.

1980s: RELATIVE STAGNATION OF PRIMARY HEALTH CARE

In the 1980s, financial turmoil struck Costa Rica and jeopardized the strong primary health care system. This significant financial crisis resulted from a decline in coffee prices, rising fuel costs, and an increase in the country's trade deficit.³³ Costa Rica's economic downturn mirrored the recession in the United States and many other countries around the world.³⁴ From 1980 to 1982, Costa Rica's economy shrank by 10 percent, inflation increased to 90 percent, and the proportion of citizens in poverty soared from 20 percent to 54 percent.³⁵ By 1982, Costa Rica had USD \$3 billion public sector debt.³³

To deal with this growing public debt, Costa Rica turned to international financial organizations. At the time, these organizations were focused on fiscal austerity, and the International Monetary Fund (IMF) convinced Costa Rica to limit spending on social programs—including health—to pay off its debts.⁹ U.S. President Ronald Reagan's promotion of free market reforms had a profound impact on the politics of international development agencies, leading most to begin recommending the privatization of health services and movement away from government-controlled delivery of health care. Because of Costa Rica's increased financial reliance on these international organizations, the country became beholden, at least in part, to them and the directions they wanted to take.

Concurrent with the recommendations of the international financial organizations, during the 1980s Selective Primary Health Care (SPHC) increased in popularity among the global development community.¹⁸ SPHC, first described in the *New England Journal of Medicine* in 1979, was a response to the vision of comprehensive primary health care (CPHC) presented at the Alma-Ata Conference.³⁶ In general, SPHC dismissed comprehensiveness as too costly and ultimately unattainable for low-income countries, and suggested that concentrated resources be focused on low-cost technical interventions for those diseases most responsible for morbidity and mortality.¹⁶ SPHC often focused on three or four programs: for example, growth monitoring, oral rehydration therapy, breastfeeding, and immunization. Other curative and preventive services were largely ignored, regardless of community priorities. International organizations such as the United Nations Children's Fund (UNICEF) and the World Health Organization (WHO) touted SPHC as the most cost-effective, feasible form of primary health care for the developing world. However, SPHC was both conceptually and practically in direct opposition to the vision and model of service delivery that Costa Rica's Division of Primary Health Care had built during the previous decade.

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PRIMARY HEALTH CARE MODELS

Over the past 70 years, many types of primary health care have been defined. Three of the most prominent models of primary health care include comprehensive (CPHC), community-oriented (COPHC), and selective (SPHC).³⁹

Before the 1970s, much of the care provided in low- and middle-income countries was dependent on international development agencies, and there were many disease-specific programs against illnesses like malaria, smallpox, and tuberculosis.⁴⁰ These disease-specific programs used top-down approaches with high levels of medical technology and, often, newly developed pharmaceuticals.⁴⁰

However, by the 1970s, as many countries began to nationalize health care and establish public health care services, the scope of health services broadened. CPHC emerged as a holistic model of primary health care that extended across all diseases, emphasized prevention, and included social determinants of health.³⁹ Rooted in a commitment to social equality and the view that health is a fundamental human right, CPHC espouses a bottom-up approach that situates health within patients' lives and social contexts.⁴⁰ Universal accessibility and equitable distribution of health resources are fundamental principles of CPHC.⁴⁰

The strategy of CPHC is to strengthen overall health care systems in a sustainable manner through multi-sectorial action that emphasizes

community participation, disease prevention, and health promotion.^{40,41} Different from other primary health care strategies, CPHC includes development of sanitation facilities, clean water, and available food supply.³⁹ There are eight key elements of CPHC: 1) health education and literacy; 2) food supply and nutrition; 3) safe water and sanitation; 4) family planning, maternal and child health; 5) vaccination; 6) prevention and control of infectious disease; 7) curative health treatments for disease and injury; and 8) provision of medication.⁴⁰

Closely related to CPHC, COPHC emerged out of South Africa in the 1940s, based on seminal work by Sidney and Emily Kark.⁴² COPHC is based on the integration of public health and basic medical services to provide comprehensive care to a community. As the name suggests, it places the needs of the community first and incorporates community members in the allocation of health resources and execution of health programs. While COPHC and CPHC are closely related, they are distinct. A CPHC program could cover the same public health and primary care functions as COPHC, but lack community involvement; conversely, some disease-specific (and thus not comprehensive) COPHC programs were created.

At the time of the Alma-Ata Declaration in 1978, there had also been experiments with CPHC in India, Nicaragua, Bangladesh, the Philippines, China, and Mozambique.^{39,40} COPHC was oper-

ating in South Africa and Israel.⁴² The Alma-Ata Declaration incorporated elements from both CPHC and COPHC, calling for comprehensive, community-based care that integrated preventive measures and curative treatments. However, COPHC and CPHC were later deemed unfeasible, unattainable, and too costly for most developing countries; and international development organizations sought alternate strategies.³⁹

In 1979, physicians at the international meeting on Health and Population in Developing Countries in Lake Como, Italy presented SPHC as an alternate theory to CPHC.³⁶ SPHC was presented as an “interim strategy” to help countries establish primary health care services.^{39,40} By selectively emphasizing a few diseases, proponents hoped to reduce the scope of health care provided and deliver quick “wins” to donors.³⁹ Some of the diseases deemed not feasible for developing countries to cover were tuberculosis, pneumonia, and helminthic infections.³⁹ In the 1980s, due to the global recession, the cost of CPHC seemed overwhelming and SPHC appeared increasingly attractive.⁴³ International organizations quickly adapted the SPHC model. In 1982, USAID told all field offices to implement SPHC; the WBG and UNICEF also endorsed SPHC in 1982.³⁹

SPHC embraced resource maximization and cost-effectiveness.^{40,44} When compared to the equity language of CPHC, the stark contrast

between the two approaches becomes clear. With an SPHC approach, there are different ways to select target diseases, but all rely on a calculation of cost-effectiveness. One method described in the literature uses four factors to guide selection of target diseases: 1) prevalence, 2) morbidity, 3) mortality, and 4) feasibility of control.⁴⁰ “Feasibility of control” is measured as a function of treatment efficacy and cost per treatment.⁴⁰ Another method determines priority of disease treatment by adding up scores of the importance of the disease (mortality, incidence, and disability) and the likelihood of success (governmental commitment, technical factors, and public response).³⁹

There were two main waves of focus for SPHC programs. The first wave focused on GOBI treatments. GOBI stands for Growth monitoring, Oral rehydration therapy (ORT), Breastfeeding, and Immunization.⁴⁰ The second wave added FFF to SPHC programs; FFF includes Family planning, Female education, and Food supplementation.⁴⁰ Over time, studies began to show that the SPHC model was not as cost-effective as anticipated and did not meet population demand, and the model began to lose favor.³⁹

CPHC has made a comeback in the 2000s, with the 2008 WHO’s World Health Report affirming its importance as a global health strategy.⁴³ Costa Rica also reaffirmed its commitment to CPHC in the 1990s and 2000s as its main primary health care strategy.

Table 2: A Comparison of Comprehensive PHC, Community-Oriented PHC, and Selective PHC

	COMPREHENSIVE PRIMARY HEALTH CARE	COMMUNITY-ORIENTED PRIMARY HEALTH CARE	SELECTIVE PRIMARY HEALTH CARE
View of Health	Positive well-being	Positive well-being of communities	Absence of disease
Locus of control	Communities and individuals	Communities	Health care providers
Major focus	Health through equity and strengthening of the overall health care system	Health through community empowerment and integrated health systems	Health through medical treatments
Health care providers	Multidisciplinary team includes physicians, nurses, community health workers, and other clinicians	Community members, community health workers, public health officials, and clinicians	Physicians and other clinicians
Strategies for health	Social support, prevention, and curative treatments	Combination of public health and primary health care services	GOBI, FFF
Financial considerations	Equitable distribution of resources	Equitable distribution of resources	Cost-effectiveness

Source: Adapted from Mullan and Epstein⁴² and Rogers and Veale⁴⁴

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As international organizations increasingly embraced SPHC, Costa Rica's conservative President Luis Alberto also embraced a neo-liberal perspective on health care and dramatically decreased the budget allotted to primary care in the early 1980s.^{16,37} The comprehensive primary health care programs that had been the status quo in the 1970s fell out of political favor and suffered from "deliberate neglect."^{9,38} Meanwhile, MOH primary care programs lost funding and decreased the intensity of their service provision efforts (Muiser 2013). During this period, "vertical", or disease-specific, programs within the MOH gained favor and were somewhat sheltered from funding cuts. However, over time, the SPHC model with many vertical programs, plus administrative costs for each, was shown to be as costly as CPHC, and the selective disease-specific programs were slowly abandoned in Costa Rica.^{37,39}

During the 1980s, the economic crisis led to a decline in the funding for the MOH, which caused the ministry to reduce service provision in some geographic areas. The CCSS, however, was better insulated from funding cuts arising from the financial crisis since a large portion of its revenue came from employer and employee insurance payments. Therefore, in many areas where the MOH was reducing services, the CCSS began to step in. Although the CCSS had traditionally focused on curative care services, the absence of MOH-provided primary care services led the CCSS to begin providing preventive care as well.^{45,18} While this arrangement may have helped ensure access to care, it also further complicated the delineation of responsibilities between the MOH and CCSS and led to the duplicative provision of care in some areas. This worsened the existing supply of resources and contributed to pharmaceutical and nursing shortages in the country.⁴⁵ Shortages and overall budget decreases led to reduced quality primary health care throughout Costa Rica,⁴⁵ which led to the public perception that primary care services lacked basic resources and were a poor place to receive health care.⁴⁵ Consequently, the demand for primary care services decreased and the demand for secondary and tertiary care increased significantly; from 1985 to 1990, primary care visits decreased by 17 percent.⁴⁵ Waiting times for secondary and tertiary care became a serious problem, with many patients waiting 12-18 months for specialty care services such as cardiology, ophthalmology, dermatology, and gynecology.^{46,47} The decrease of primary care utilization and increased reliance on secondary and tertiary care also led to increasing costs, putting further financial strain on the system.^{47,48} Adding to this resource constraint, the population was simultaneously undergoing an epidemiological transition. Costa Ricans who once would have died at a younger age were living longer and developing noncommunicable diseases—such as hypertension, obesity, diabetes, and dementia—which further increased the populations' care needs.⁴⁹

At the close of the 1980s, Costa Rica's primary health care system was in great peril. Patient dissatisfaction with the quality of primary care and with long waiting times for secondary and tertiary care, and the financial strain of duplication and increasing demand for services all weighed heavily on the health care system.⁴⁶ Failed experiments with

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SPHC perhaps cemented Costa Rica's commitment to comprehensiveness and left the country skeptical about the utility of recommendations from international organizations. There was uncertainty around the future of primary health care and a concern that the MOH programs of the 1970s would be abandoned. While the values of comprehensiveness and overall well-being established in the 1970s did not disappear, budgetary turmoil overshadowed all other policy concerns; loud calls for privatization and the scaling back of the health care system came from within the country as well as from the international donor community. Meanwhile, many Costa Rican health professionals argued that Costa Rica, in the face of the demographic and epidemiologic transitions, could not afford to do without more comprehensive primary health care. The result was a primary health care system desperately in need of reform to improve service delivery and better meet the needs of the population, but in a fiscally sustainable and feasible manner.

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Primary Health Care Structural Reforms

Public dissatisfaction with the Costa Rican health care system came to a head in 1991 during an outbreak of measles, when employers were forced to pay for private medical care because the public system could not handle the volume created by the epidemic.⁵⁰ With business owners threatening to withhold their mandatory CCSS contributions, the need for health system reform was clear and urgent. In addition, there were problems with sanitation and the water supply because of the personnel cuts to those state-run organizations mandated by the international financing agencies.⁴⁹ The 1980s experiment with shrinking the size of the government, specifically the health care sector, did not match many Costa Ricans' expectations for service delivery.⁴⁹

DEVELOPMENT OF A NATIONAL PRIMARY HEALTH CARE STRATEGY

In March of 1990, President Rafael Calderón Fournier of the Social Christian Unity Party established a Commission for the Reform of the Costa Rican State, not only for the health sector but for the entire Costa Rican government.¹¹ As part of this commission, officials from the CCSS and the MOH met together to develop a plan for health care reform.

The health care reform had two main goals: 1) to extend coverage and 2) to provide more comprehensive care to Costa Ricans.⁴⁹ A team of health care providers including Dr. Fernando Marín, Dr. Herman Weinstock, Luis B. Saenz, Dr. Xinia Carvajal, Norma Ayala, and Dr. Alvaro Salas, among others, worked together to develop the primary care model that would guide the reform.^{11,49} Out of their analysis and collective experience with the Rural Health Program of the 1970s and other primary care models throughout the country, a new primary health care service delivery model emerged.

This new model, *Equipos Básicos de Atención Integral de Salud* (EBAIS), or Integrated Primary Health Care Teams, aimed to create primary health care teams that cared holistically for a specific, geographically ordered group of citizens (empaneled patients). The EBAIS concept was designed to be a multidisciplinary team model able to deliver comprehensive preventive, acute, and chronic disease management to Costa Ricans throughout the course of their lives.^{12,50} The EBAIS clinics would each be run by an EBAIS team consisting of one physician, one nurse, one technical assistant (ATAP), one medical clerk (REDES), and one certified pharmacist; together they would care for a geographically empaneled population of approximately 4,000-5,000 patients. Each EBAIS clinic would have its own pharmacy run by a certified pharmacist. The composition of EBAIS teams is notable for the way it promotes integration between clinical care—provided by physicians and pharmacists—and preventive care—provided by technical assistants. Nurses would bridge the gap between prevention and clinical care by providing both disease management assistance and health education.

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In addition to the basic care provision model, other administrative reforms were also proposed. To consolidate the provision of primary health care, the reformers proposed that the primary health care department be housed entirely in the CCSS, taking away the MOH's health care delivery function. Other components of the recommended reform supported increased decentralization and administrative independence, especially for hospitals.⁴⁶

NEGOTIATIONS WITH THE WORLD BANK GROUP

Once this reform proposal was finalized, Costa Rica entered into negotiations with the World Bank Group (WBG) to finance it. At the time of the negotiations, there was a resurgence of international support for primary health care.¹³ Costa Rican politicians were open to assistance from the WBG and entrusted the negotiation process to the MOH and CCSS. Unlike other reforms, the Costa Rican executive branch largely stayed out of the negotiations, allowing high-ranked health policy officials from the MOH and CCSS to drive the process with less influence from other parts of the government.^{13,50} The focus of the work was on building a robust and fiscally sustainable primary health care system.

The WBG came to the negotiations with an explicit commitment to reducing costs, privatizing health care services, and establishing a purchaser-provider split.^{16,50} A purchaser-provider split occurs when different organizations pay for and deliver health care, an arrangement at odds with the then-current CCSS model of paying for and delivering most of the health care in the country. Costa Rica, on the other hand, came to the negotiating table with the goal of financing their vision of the EBAIS model.

The differences in view between the WBG and the Costa Ricans made the negotiation process protracted and complex. First, the WBG proposed privatization and decentralization of the entire Costa Rican health care system. This proposal was rejected by Costa Rica, as it implied a reform of the Constitution and was not aligned to the model the country had conceptualized over the preceding two years.^{18,49} The Costa Ricans in turn proposed their new EBAIS model, based on the integration of primary health care within the CCSS.⁴⁸

When the WBG delegation read the Costa Ricans' proposal, they embraced much of it; they were in agreement with reinvigorating community health, increasing the number of home visits, and strengthening vaccination and nutrition, among other aspects.⁴⁹ The WBG also liked the consolidation of health care delivery from both the MOH and the CCSS to solely the CCSS. In addition to its efficiency, the WBG supported this because they preferred moving away from direct provision of services by governmental institutions and, while the CCSS is a public institution, it is autonomous and not under direct governmental ministry control.

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However, the WBG believed that the addition of a physician to the primary care team was not necessary and would be too expensive for Costa Rica.⁴⁹ The Costa Rican reform team insisted that doctors were key to the model; without them, it would not be possible to extend access to curative health care or to eliminate the long waiting lists to see a physician, two priorities of the reform.⁴⁹ Based on this point of contention, Costa Rica almost walked away from the negotiations. When the WBG challenged the reform team by calling the president directly, the president sided with the reform team, reiterating Costa Rica's commitment to including physicians in each care team.⁴⁹ With this show of commitment to the model from the highest political levels, the WBG agreed to the EBAIS program, on several conditions.⁵⁰ Those conditions included a purchaser-provider split within the CCSS, a moderate payment modernization scheme, and in-country WBG supervision of the reform's implementation.^{45,51}

Ultimately, the WBG loaned Costa Rica USD \$22 million to be repaid over 17 years.⁴⁵ In 2015 purchasing power, USD \$22 million is equivalent to USD \$37 million.⁵² With the support of the WBG and PAHO, Costa Rica was able to raise a total of USD \$123 million from various international development organizations to support its primary health care reforms.⁵³ The Inter-American Development Bank provided USD \$42 million, and the Spanish and Swedish governments also provided loans. The IADB and the WBG coordinated their loans to create an overarching Costa Rican reform loan.⁴⁵ PAHO advised Costa Rica throughout the process and coordinated the Costa Rican contribution that would complement the loans they received.¹¹

The WBG loan had three main components. First, CCSS institutional reform and development would strengthen the CCSS organization as a whole and transfer responsibility for primary health care from the MOH to the CCSS. MOH would hold responsibility as health sector steward, except for some specific programs in child nutrition and disease vector control that the MOH provides to this day.¹⁸ Second, the reform would support the new EBAIS primary health care model, which would facilitate the integration of preventive and curative treatments for specific, geographically organized groups of citizens, or empaneled patients. Third, the reform provided funds for the Costa Ricans to initiate alternate and more sustainable payment systems. The payment modernization program included a plan to increase the number of Costa Ricans enrolled in CCSS health insurance, an improved budgeting process, reduced duplication in the provision of health care services, and improved pharmaceutical distribution processes.⁴⁵

Though complicated, the WBG negotiations ultimately allowed Costa Rica to implement and pay for a reform which created a primary health care model tailored to the country's values of health as a human right and the importance of promoting overall well-being and comprehensive care.

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CONGRESSIONAL APPROVAL OF THE REFORM

When the Costa Rican reform team came to an agreement with the WBG on the terms of the loan, the reform was far from finalized, as all international loans must be approved by the Costa Rican congress. In the words of Alvaro Salas, a key member of the reform team, “the technical discussion was over, but the political discussion was just beginning.”⁴⁹

At that time, the Costa Rican congress had two major parties. The reform was developed under the political leadership of President Calderon and his party, the Social Christian Unity Party, and thus had their congressional support. The other major party was the *Partido Liberación Nacional* (PLN), or Party for National Liberation, which was a democratic socialist party. The support of the PLN was garnered largely by Alvaro Salas, who worked closely with PLN presidential candidate José Figueres to convince him to support the reform, even though it was developed under a different party’s administration.⁵⁰ Together, and over the course of a year, Figueres and Salas were able to secure the support of the members of the PLN party.⁵⁰

Throughout this year of discussion with Figueres and the PLN, however, there were many other internal stakeholders who had major concerns with the reform. First, the unions were worried that the CCSS would be privatized or disbanded under the reform. Once the reform team was able to reassure them that the CCSS would stay an autonomous public organization, these concerns were eventually quelled.⁵⁰

Second, the transfer of employees from the MOH (a national ministry) to the CCSS (an autonomous institute) created a slew of labor issues. The *Asociación Nacional de Empleados Públicos* (National Association of Public Employees) was concerned because they would lose constituents, as they did not represent workers in the CCSS.⁵⁰ MOH employees demanded that the CCSS buy them out of their public positions and then rehire them to the CCSS, in line with regulations at the time that any public employee whose position was terminated had to be bought out of their position with a generous pension.⁴⁹ The reformers argued they were not truly terminating the position, simply transferring the personnel to another organization. Adding to this issue was the fact that many MOH employees did not want to become a part of the CCSS; the two institutions had different cultures. This issue erupted into protests by the MOH employees.⁴⁹ One factor that ultimately helped motivate MOH employees to move to the CCSS was that the pay scale of autonomous organizations was significantly higher (yielding an average 30 percent increase in salary)⁴⁹ than public institutions. Over time, the MOH primary health care employees agreed to transfer to the CCSS without being bought out of their public positions, but this issue took months to negotiate with the MOH’s union.⁴⁹

Other governmental ministries also struggled to accept the reform. The Treasury Department was opposed because it did not want to commit the necessary local contribution to the international loans.⁴⁹ The Ministry of Internal Planning and the president of the

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central bank were also against the reform due to financial sustainability concerns.⁴⁹ Ultimately, the support of President Calderon convinced these stakeholders to support the project.

After almost a year of gathering political support for the reform, in 1994 congress passed the loan unanimously.⁵⁰

THE EBAIS MODEL

After years of analysis, preparation, negotiation, and planning, the EBAIS model was finalized as the next step for Costa Rican primary health care. This model drew on the antecedents of geographically organized, preventive care that the Rural Health Program established and aimed to bring health to all Costa Ricans through comprehensive, team-based primary health care.

Organization

To organize the creation of the EBAIS clinics, the CCSS established health networks throughout the country. The main level of organization is the Health Area, of which there are 104 that belong to seven Health Regions.¹³ Each Health Area ideally has between five and fifteen EBAIS teams, and 30,000-110,000 citizens, depending on population density.^{12,54} The Health Area is the major unit of primary care; two or three Health Areas generally refer to one secondary clinic. A secondary clinic provides some specialty care, such as pediatrics, gynecology, orthopedics, and sometimes general surgery. Tertiary care, such as oncology, advanced surgery, ophthalmology, neurology, and other specialties, is provided mainly in the capital, San José.⁵⁴

The regional referral networks provide standardized routes for patients to move through the three levels of the health care system, from the EBAIS clinics to secondary and tertiary care. Two specific policies define how EBAIS clinics operate within their network. The first is gatekeeping, a system in which permission from a primary care physician is necessary for referral to specialty care. Emergency situations are the only circumstances in which a patient can “skip” a referral and move directly to secondary or tertiary care.¹² The second is dual referrals, where patients are referred back down the network from tertiary to secondary or from secondary to primary care. Dual referrals help keep the demand on tertiary and secondary care as low as possible, as they refer patients back down to primary care once the patient can be further managed at that care level. In practice, this dual referral takes the physical form of a stapled piece of paper that the patient brings back to the EBAIS clinic for the physician to open and read.¹²

Health Areas are responsible for disease prevention, community health education, home care, treatments and medications, and care management through their EBAIS teams. Prevention of disease is a key aim of the EBAIS model that gained political traction from

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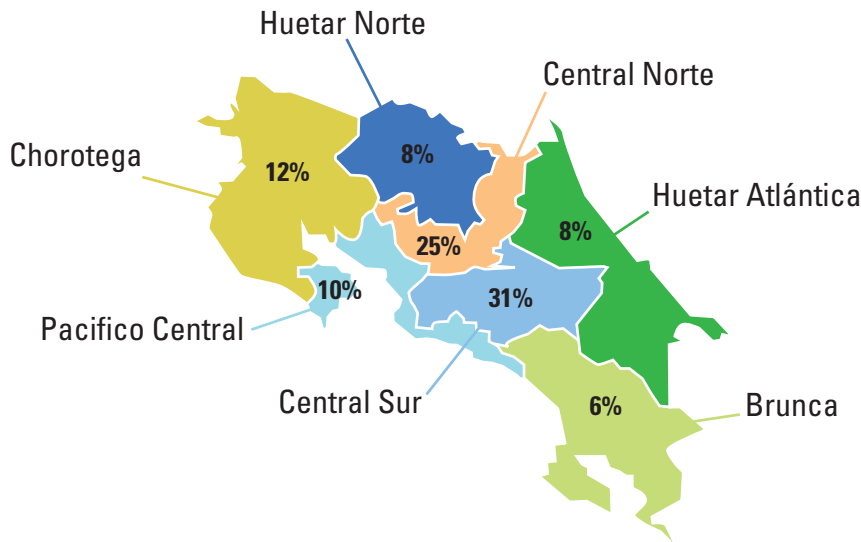


Figure 1: Geographical distribution of Costa Rica’s seven Health Regions.

the MOH’s historical public health focus and the country’s long-term pursuit of health equity.²⁰ Each insured Costa Rican is entitled to one well-visit per year, and patients with a chronic condition should have an appointment at the EBAIS clinic four times per year.^{12,55} During these preventive visits, physicians look for diseases typical of the patient’s age group; for example, newborns are screened for infections and diarrheal diseases, adolescents are screened for sexually transmitted diseases and taught pregnancy prevention techniques, middle-aged patients are screened for obesity and diabetes, and the elderly are screened for dementia and depression.⁵⁵ The above list is not exhaustive but is presented as an example of the changes in targeted disease screenings throughout a patient’s lifetime. By building prevention into the explicit responsibilities of each Health Area, Costa Rica aims to reduce the need for secondary and tertiary care services and improve the health of its population.

Team Roles and Responsibilities

The EBAIS team is comprised of a physician, a nurse, a technical assistant (ATAP), a medical clerk (REDES), and one or more pharmacists.

NURSE AND PHYSICIAN

The nurse and doctor work together to provide clinical care, including both preventive screenings, promotive counseling, and disease treatments. To see an EBAIS physician, patients must make an appointment beforehand, either through an online or phone system or in-person at the clinic. Physicians are expected to see approximately five patients per hour.¹² Chronically ill patients, pregnant women, and children

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make prioritized, regular appointments every three or six months, depending on their needs.⁵⁵ Physicians direct their patients' care through health forms specific to the patient's different life stages; there are different forms for different health issues, such as pregnancy or diabetic control.⁵⁴ These forms not only document the ideal care each type of patient should receive, they also prompt physicians in important aspects of care that a rushed doctor could potentially forget. For example, the diabetic form has a place to record calculated BMI not only to track weight gain but also to prompt the physician to measure BMI.

Physicians have a great deal of autonomy to run the EBIAS clinic in the way that best fits their local situation. If needed, physicians can make home visits to patients who are unable to reach the EBAIS clinic.¹² Additionally, the particular method used to set up clinical appointments is at the discretion of the physician; appointments can be appearance in a "first-come, first-served" model or by a health condition-informed triage system. Although the Health Area ultimately oversees clinic operations, so long as the clinic's operations meet basic standards, physicians can generally run the EBAIS clinics as they see fit.

ASISTENTE TÉCNICO EN ATENCIÓN PRIMARIA

The *Asistente Técnico en Atención Primaria* (ATAP), or technical assistant, acts as the EBAIS clinic's liaison with the community, providing disease prevention and health promotion education and activities through group visits and home visits. Most akin to community health workers elsewhere, the ATAPs create lasting connections to the community and serve many of the functions formerly conducted by the MOH's primary health care division. Their existence has roots far back in Costa Rica's history; the Health Units of the 1930s had nursing assistants who fostered deep connections with communities outside the walls of the Health Unit. The RHP of the 1970s also relied heavily on community involvement to execute their preventive and education functions. The EBAIS model built on this rich history to create the ATAP as an integral member of the EBAIS team. Compared to community health workers in other settings, ATAPs are relatively highly-trained, with a full year of mandatory training beyond high school.

ATAPs conduct group education practices and health promotion activities, which can take place in a variety of community locations such as schools, churches, community/municipal buildings, and even workplaces. Group visits are planned based on the annual strategy of the Health Area and the particular areas where that Health Area needs extra education or health promotion activities.¹² By using existing social organizations to deliver their interventions and education programs, ATAPs can effectively weave health promotion into existing social contexts.

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ATAPs also aim to make home visits to all residents assigned to the EBAIS team. The purpose of home visits is multifold: to create a census of the households, to maintain robust epidemiological surveillance, to establish contact with everyone in the empaneled population, and to bring health education into the community.⁵⁶ During these home visits, ATAPs take the anthropomorphic measurements of each family member, take vital signs, review the safety and sanitation of the home, conduct health education if necessary, identify familial behavioral and environmental risk factors, vaccinate, and refer to EBAIS clinics or hospitals if necessary.^{12,20} ATAPs are authorized to deliver vaccines but are not able to perform medical procedures such as drawing blood or prescribing medication.¹² Each ATAP brings a variety of medical supplies to a home visit including a thermometer, blood pressure cuff, stethoscope, scale, and vaccines.¹² By bringing health care out of the clinic and into the home, ATAPs not only increase access but also establish trust between the community and the clinic, and start to link health and non-health sectors.

During home visits, the ATAP fills out the *Ficha Familiar*, or Family File. These files are paper-based and collect information on family structure, the socioeconomic condition of the family, availability of heat and food, and epidemiological risk factors.^{20,55} Each visit has a new form, which adds to the family file; these forms are distinct for the first visit in a lifetime, the first visit that year, and subsequent visits.¹² The ATAPs also risk stratify the population, computing a risk score for the household. This risk score determines the frequency of visits by the ATAPs; households with a higher risk score are visited more frequently than once per year. Risk factors include the number of children less than one year of age and the number of pregnant women in the home, measures of social deprivation, and other factors.⁵⁵

ATAPs work from 7 a.m. to 4 p.m. each day and are required to spend at least five of those nine hours in the field, conducting their group and home visits. Their schedules are set by the head nurse and based on past ATAP activities, the annual Health Area goals, and the geographical and social realities of their area—for example, in rural areas ATAPs may need to travel farther to reach each patient so the number of people they can see per day decreases.¹² The average amount of time for a home visit is approximately 30 minutes, but for the first ATAP visit in a patient's patient's lifetime, the visit may take up to 40 minutes.¹²

MEDICAL DATA CLERK

Another critical member of the EBAIS team is the medical data clerk, or REDES. These staff members are responsible for data collection in each EBAIS clinic. REDES assist in patient intake and verification of identity and insurance cards, and provide this information to their Health Area administration, who, in turn, sends the information to the CCSS headquarters. REDES also collate the epidemiologic data collected by the EBAIS team and send it in a standardized format to the regional and national level.

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REDES create registries of different diseases and conditions so the Health Area can keep track of the quality of care it provides to its patients.⁵⁶ REDES collect, collate, and shepherd a vast amount of information to different department of the CCSS and even to outside institutions such as the MOH.

PHARMACIST

Many EBAIS clinics have a pharmacy attached to the clinic. Pharmacists do not provide direct patient care but rather dispense medication and counsel on instructions for use. Pharmacists have one to three assistants depending on the number of EBAIS clinics the pharmacy serves. Medicines may only be dispensed by pharmacists; EBAIS physicians access medications without a pharmacist only in emergency situations.⁵⁴ Pharmacists are part of the EBAIS model, but do not specifically work with other members of the team in an official capacity; their main responsibility is to dispense medications prescribed by a physician.

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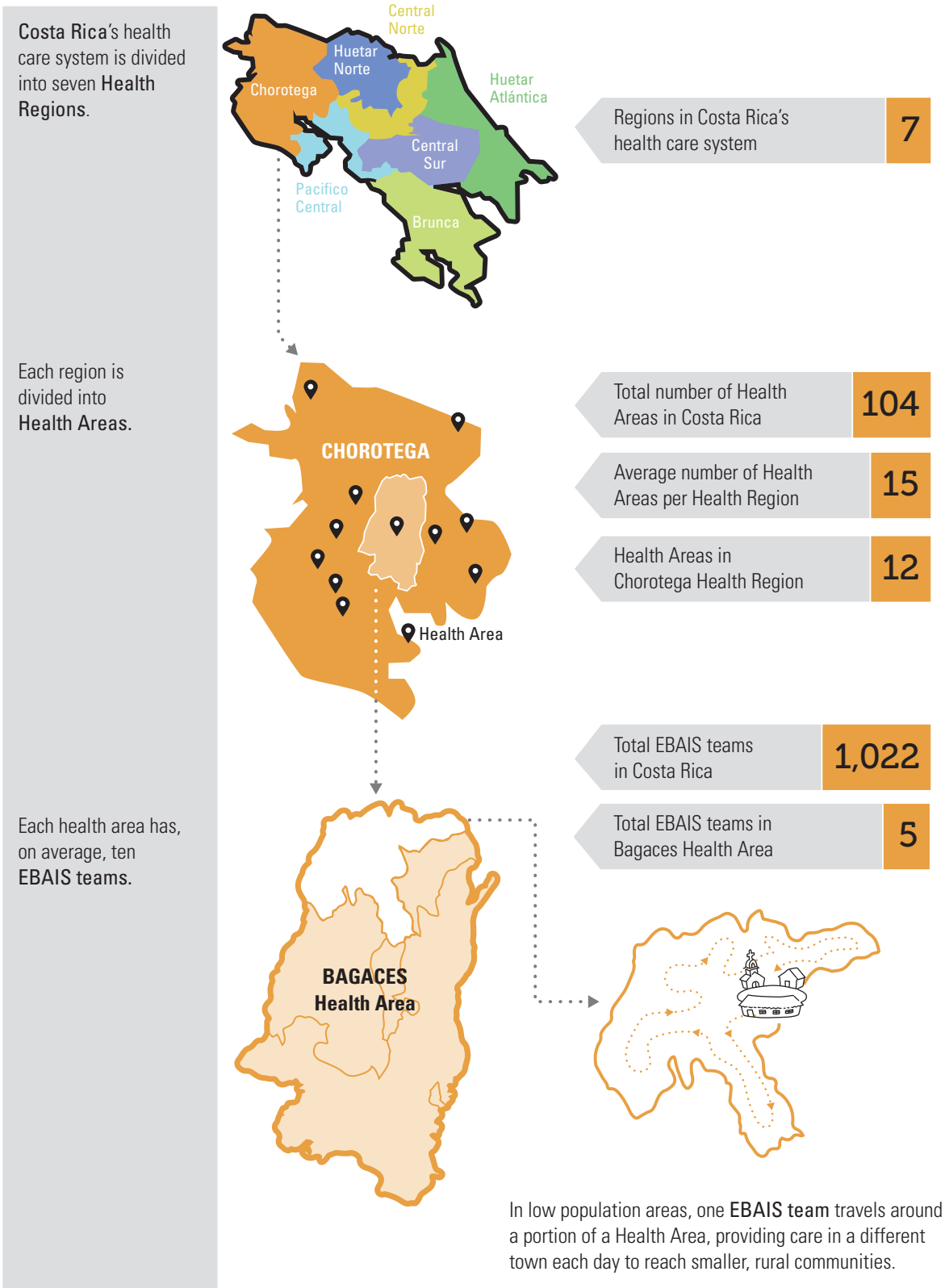


Figure 2 : Costa Rica's primary health care system

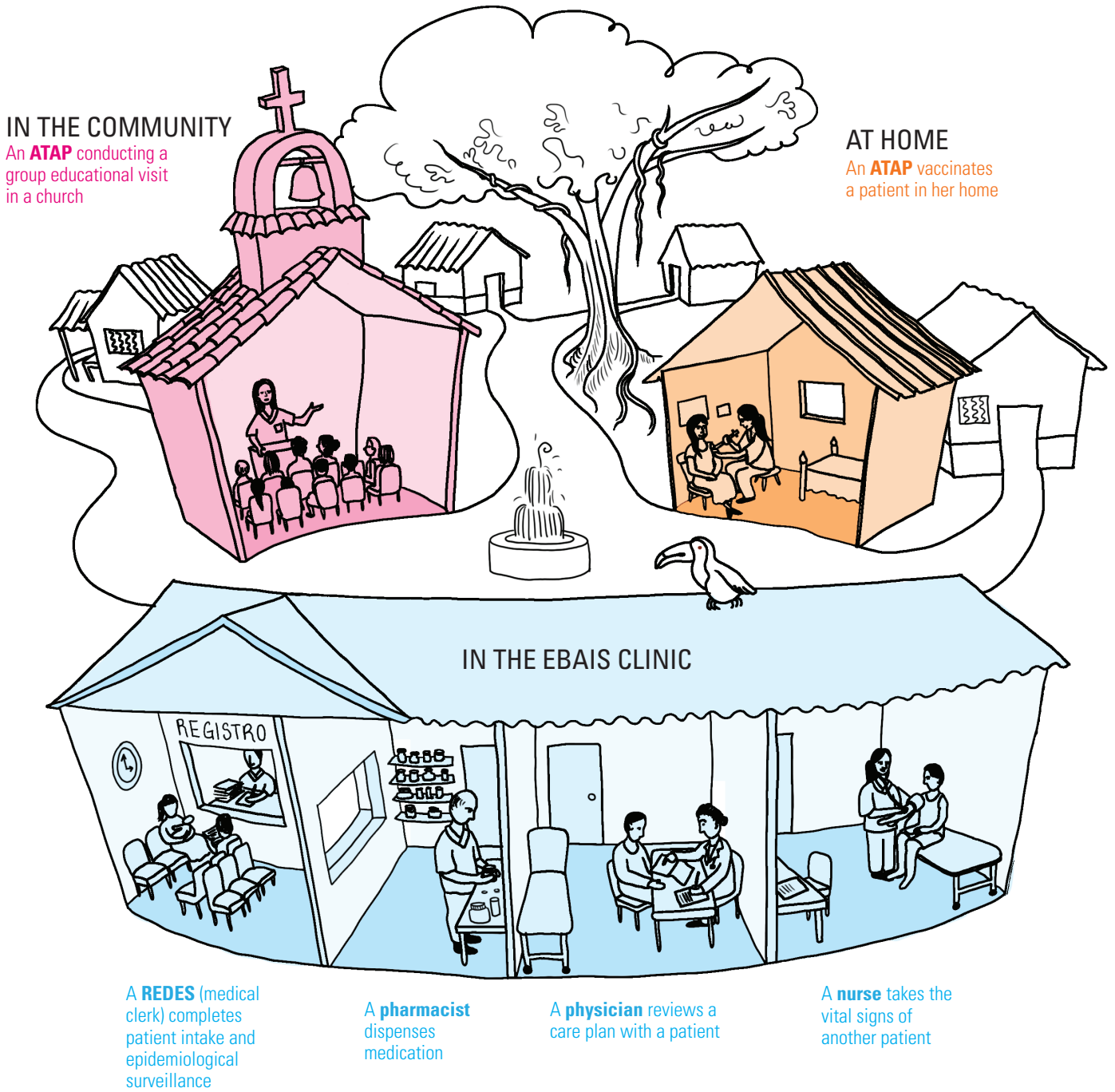


Figure 3: Illustration of common roles of EBAIS team members.

Source: Illustrated by Sophie Gibson based on authors' data collection.



IMPLEMENTATION OF THE REFORMS

Implementation of the Reforms

Once the EBAIS model was finalized, funding was obtained, and political support garnered, implementation became the next challenge. The reform required cooperation from various parts of the Costa Rican health sector and, beyond this, represented a significant shift in mentality for many in the CCSS. It would be a huge undertaking not only to maintain the political support the reform had amassed, but also to create a culture shift around primary health care in the country. Additionally, Costa Rica would need to create many new primary health care teams and construct new clinics across the country. Finally, the country needed to develop a mechanism by which to evaluate its new system.

The newly elected President José Figueres used his presidential power to appoint members of the reform team to important positions within the CCSS and MOH.⁵⁰ Based on his involvement in the genesis of the reform and his work to pass the reform into law, Alvaro Salas was named the President of the CCSS. Within the MOH, Hérmán Weinstock was named the Minister of Health and Fernando Marín the Vice Minister of Health.⁵⁰ Luis B. Saenz was named the Director of the CCSS-World Bank implementation unit and Norma Ayala the Coordinator of the newly created EBAIS program.⁵⁰ This team was very driven to transform the model they had developed into a reality, despite the difficult path ahead.

TRANSFER OF PRIMARY HEALTH CARE FROM MOH TO CCSS

Before the reform, responsibility for service delivery was split between the CCSS and the MOH, with the CCSS in charge of providing hospital care and the MOH in charge of public health services and primary health care.¹² After the reform, responsibility for providing primary health care was transferred from the MOH to the CCSS.⁵⁷⁻⁵⁹ The rationale behind this change was that making the CCSS solely responsible for all care provision would facilitate the integration of primary, secondary, and tertiary care, and thus of preventive and curative services. As a part of this transfer, clinicians and facilities previously under the MOH's primary health care programs would all be transferred to the CCSS. The MOH would assume the function of steward of the overall health system. In this role, the MOH would direct the system, lobby for new legislation where necessary, and set basic quality standards.¹² Additionally, the CCSS would reorganize itself, starting in 1998, to internally separate its health care purchasing and health care provision functions by making one of its departments responsible for contracting and purchasing services from CCSS health care providers and another of its departments for hiring physicians, maintaining hospitals and clinics, and providing supplies.³⁷ Thus, the CCSS would have three departments: an integrated health care department, which would deal with health care provision; a financial management department, which would purchase health care services; and a pensions department.⁴⁵

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Overall, the proposed reorganization of responsibilities between the CCSS and MOH would be a critical step in the creation of a robust primary health care system, as it made one single institution (the CCSS) responsible for the new EBAIS scheme for primary health care as well as all specialty care. Not only would these organizational changes enable more efficient management of health care services and save resources, the changes also would align with Costa Rica's overarching goals for its health care system: to consolidate public primary health care and ensure that primary health care incorporated both preventive and curative services. At the primary care level, the reform aimed to integrate preventive and curative mentalities by bringing personnel from the MOH, who had a long history of focusing on prevention, together with the personnel from the CCSS who had traditionally taken a biomedical, curative approach.

The transfer of personnel from the MOH to the CCSS started in 1995. In addition to the 1,700 staff that were brought over from the MOH's primary health care departments, 625 new staff were added to the CCSS.⁴⁵ Staff that stayed at the MOH underwent significant retraining and education on the new functions of the MOH.⁴⁵ The result of the transfer of primary health care to the CCSS was that the CCSS institution continued to grow in resources, including financial and human resources as well as political capital.¹⁸ The MOH, meanwhile, lost a significant portion of its resources. Some health analysts have suggested that, with no new law to enhance the MOH's proposed stewardship role, the agency started to lose its reputation and political capital and its role became unclear in the post-reform period.¹⁸

Given this tension, while the transfer process was peaceful, it was not necessarily amicable. One reason was that over time, different views on what primary health care should aim to accomplish had developed within each agency.¹⁸ Historically, the CCSS was much more focused on biomedical curative treatments, while the MOH prioritized community participation, health promotion, and preventive services. The MOH staff transferred to the CCSS felt that their values were not sufficiently represented in the new EBAIS teams. For its part, the CCSS felt that focusing on prevention and not on specific diseases was diluting resources. This ideological difference, among other issues, had contributed to acrimony between the two institutions over time.^{18,60} However, while this has substantively affected the quality of the interactions between the two institutions at the central level, it may have been less problematic locally, where personal relationships had generally been fostered more constructively.¹² Furthermore, the addition of newly graduated physicians from the medical school who did not have a history in the divide between the MOH and the CCSS, and only knew the EBAIS model in the CCSS, tended to lessen the acrimony.⁵⁶

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CREATION OF EBAIS TEAMS AND CLINICS

The CCSS quickly began to implement the EBAIS model after the reform was adopted, both by creating EBAIS teams and identifying/constructing physical EBAIS clinics. The first EBAIS team was established in 1995, even before the WBG funding had arrived in CCSS accounts.^{61,62} Between 1995 and 2002, 818 teams were established⁴⁸ and by 2000, there were over 400 EBAIS clinics.⁵⁰ In 2002—just seven years after initiating implementation of the EBAIS model—88 percent of the population was covered by an EBAIS team.⁴⁸

The new EBAIS clinics were created in a very specific way. The first clinics were placed in areas with the most health care needs: areas with little preexisting access to care and areas of great poverty.⁴⁹ The CCSS did not force any areas to adopt the model; they had more than enough areas with a great need for more health care professionals and a desire to pilot the new model to fill the first rounds of EBAIS implementation. As new general physicians graduated from medical school and as new ATAPs finished their training, they were assigned, along with nurses and other EBAIS personnel, to an area with high need. The first EBAIS clinics were established in existing buildings owned by the CCSS.⁴⁹

One of the most difficult steps in creating new EBAIS clinics was the delineation of the Health Areas, and this was one of the first things that the loan funds were used for.⁴⁹ The CCSS contracted with the Geographic Department of the University of Costa Rica to map and draw boundaries for Health Areas.⁴⁹ While the Health Area boundaries are similar to municipal province delineations, they are not identical, as Health Area boundaries were designed to maximize access to primary and secondary care services. The process of delineating boundaries was arduous because there were no computerized geographic information systems at the time and no satellite pictures of the entire country. The process relied on pieced-together, drawn maps of the country.⁴⁹

The physical location of EBAIS teams varies from Health Area to Health Area. If the Health Area already had a health clinic within its geographical territory, EBAIS teams were usually established within that existing building.^{16,63} Therefore, it is common to see one building with five or six EBAIS teams inside it, especially in the capital, San José. In rural areas, however, most Health Areas lacked any type of health care building, so over the past 20 years, CCSS has constructed many new buildings to house EBAIS teams.¹² The CCSS has a limited yearly allotment for new construction of clinics and this budget has been used to construct new EBAIS clinics over time.⁴⁹ Additionally, on occasion individual communities might come together and build a clinic building, and then allow the CCSS to use the building to house the EBAIS team. In this way, communities were involved in creating the new EBAIS clinics, and the CCSS was not required to construct as many new buildings itself, speeding the program's implementation.^{49,54}

In the 21st century, new EBAIS clinics were still being built but at a slower pace than in the 1990s.⁵⁰ At the beginning of the EBAIS model, the aim was to create one EBAIS

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CREATION OF TARCOLES EBAIS

Tarcoles is a small town situated on the Pacific Coast of Costa Rica, whose economy relies mainly on fishing and tourism. In the 1980s, the MOH established primary health care clinics in villages with over 5,000 people but at the time, Tarcoles had no more than 2,000 people. Instead of a clinic, the MOH agreed to have a health team visit the village twice a week in an old building formerly used as a school. After the 1990s transfer of primary health care service delivery from the MOH to CCSS, the CCSS continued to send primary health care personnel to visit the village twice a week. In 2002, a group of citizens formed a *Junta de Salud*, or Health Board, with the objective of constructing a building in which the CCSS could establish a permanent EBAIS clinic. Over the course of nine years, the citizen group collected money, purchased the land across the street from the former MOH building, and constructed a new clinic. In 2010, the building was completed and Tarcoles petitioned the CCSS to establish an EBAIS clinic there. For the next five years, the CCSS sent an EBAIS team to the clinic from the larger city in the center of the Health Area. In June of 2015, the CCSS established a permanent EBAIS clinic in Tarcoles in the new building built by the community.

ESTABLISHMENT OF EBAIS TEAMS

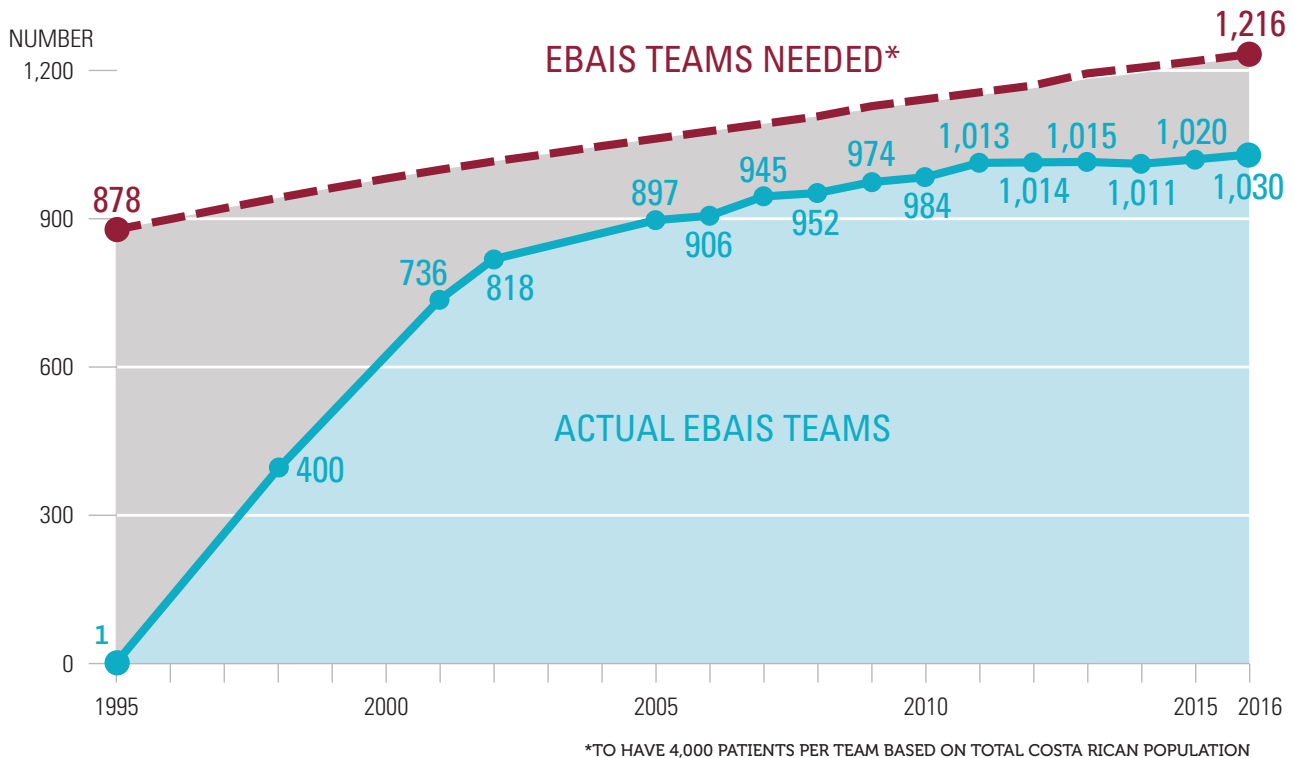


Figure 4: The bulk of the establishment of EBAIS teams occurred between 1996 and 2002. This graphic was compiled with information from Clark 2002, Soors Paepe and Unger 2014, Área Análisis y Proyección de Servicios de Salud 2015. The red dashed line indicates the CCSS goal of 1 EBAIS team per 4,000 citizens. The blue line represents the number of EBAIS teams established.

team per 1,000 households (equivalent to one EBAIS/4,000 citizens).¹³ In 2008, Costa Rica had one EBAIS/5,000 citizens and today it has achieved one EBAIS/4,660 citizens, with 1,030 EBAIS clinics in total.³⁷⁶⁴ The ultimate goal is for each EBAIS team to have its own building but, especially in the metropolitan areas, this progression is still under way. As time passes, EBAIS teams will continue to move into their own buildings and out of concentrated clinics.

EDUCATION IN THE EBAIS MODEL

Education was crucial to the success of the EBAIS model. All existing health personnel went through education and training in the new EBAIS model, including courses that described what the new comprehensive principles were, what the key changes in their jobs would be, and why the system was undertaking this reform. All primary care doctors in the country were required to take 11-month courses that met weekly to learn how to provide comprehensive primary health care, instead of the traditional biomedical model in which they had been trained.⁵⁶ The courses had various modules such as social participation in health care, integrated/holistic health care, information systems in primary health care, conducting an analysis of the health situation of a Health Area, epidemiological surveillance in health care, and other topics. The training was very different from what general medical doctors were taught in school before the reform. The primary care doctors needed to learn skills such as what the appropriate steps are to increase vaccination coverage, or how to write an epidemiological report. The courses were conducted by region; there was a course for the trainers, and then those trainers went back to their region and taught groups of around 50 students for a year.⁵⁶ Each year a new cohort of general physicians took the course. The course was completed on a volunteer basis, so those most interested in the training went first, until all the doctors in the area had taken it. Nursing directors and directors of pharmacies were also invited to join the course so they could disseminate the knowledge to their subordinate nurses and pharmacists.⁵⁶ Medical students were also given this course during medical school so that, upon graduation, they would be educated in the EBAIS model. In less than a decade, all of the practicing general physicians in the CCSS had been retrained as EBAIS physicians.⁵⁶

While there was resistance to the course, because it was done on a volunteer basis at first, the old doctors who did not want to train into the new model could retire or find work in the private sector.⁵⁶ However, if the doctors wanted to continue to work for the CCSS they had to complete the course, so most physicians eventually accepted the retraining. Additionally, completion of the course increased a physician's chances of being promoted within the Health Area, so many physicians wanted to take the course for that reason.⁵⁶ This course assisted CCSS in engraining the new, comprehensive, integrated attitude of the EBAIS model in practicing physicians.¹²

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HEALTH COOPERATIVES

During the financial strain of the 1980s, Costa Rica experimented with alternate health financing models. In 1988, Costa Rica added market-like mechanisms to its health care system when it established its first *cooperativo*, or cooperative, called COOPESALUD.⁴⁷ A cooperative is an autonomous legal entity contracted by the CCSS to provide primary care to a given Health Area. As part of their legal mandate, cooperatives must distribute their earnings evenly to all employees. The organizations are subject to significant regulation and oversight by the CCSS, prohibiting their definition as purely “private” organizations.⁴⁷ Cooperatives were designed to receive payment from the CCSS through a capitation scheme.⁶⁵ The establishment of cooperatives represented an international trend in health care system organization toward increased privatization of health care systems and away from governmental control of health care provision.⁶⁵

The CCSS contracts with a cooperative to provide primary care services to a Health Area using an EBAIS model. The major difference is that cooperatives are paid by capitation, or a given amount of money per person in the Health Area. Any treatment costs that the cooperative incurs come out of this prepaid sum.²⁶ Because of philosophical concerns about devaluing human life, capitation payments are not allowed to be risk adjusted, no matter the geographic location of the Health Area. Consequently, there is a financial incentive for the cooperative to keep health costs down and the members of its Health Area healthy. Perhaps because of this financial incentive, cooperatives rely heavily on their ATAPs and are known for having many community-based education and health promotion programs. Most cooperatives have complete EBAIS teams, so they have the full complement of human resources to focus on prevention.

COOPESALUD, the first private cooperative, was awarded the opportunity to run a CCSS clinic in San José and manage it with relatively limited government supervision.⁶⁶ During the late 1980s and early 1990s, the director of COOPESALUD, Fernando Marín, developed a comprehensive model for providing primary health care to the people assigned to his cooperative area.⁵⁰ This model served as his inspiration as he collaborated on development of the EBAIS model, on which the 1994 reform would be based. The cooperative model has continued to the present day, with five cooperatives (COOPESAIN, COOPESALUD, COOPESANA, COOPESIBA, and ASEMECO) currently operating in nine Health Areas in Costa Rica.¹⁸ As more cooperatives were awarded contracts, evidence accumulated that they were able to deliver primary health care effectively: of the eight top-performing Health Areas in 2016, six were cooperatives.⁶⁷ The other two cooperatives were ranked 16th and 28th out of 104 health areas in 2016. Cooperatives have also been shown to be cost-effective providers of primary health care to Health Areas, and some studies have found cooperatives can cost less than traditional CCSS-owned Health Areas.⁴⁷ This may be partly because physicians’ salaries are tied to how much money the cooperatives save. Through cooperatives, Costa Rica received the benefit of modest financial savings through a form of “regulated privatization” with the cooperatives being strictly regulated by the CCSS, while maintaining fidelity to the EBAIS team model. Through careful monitoring of cooperatives, CCSS is thus able to ensure the quality performance of cooperatives and alignment with the overall Costa Rican health strategy and policies.

Despite these training courses, physicians who had been educated in the biomedical model initially struggled with the preventive perspective established by EBAIS. There was also a period of transition for the Costa Rican population, as individuals learned to understand the new model of service delivery and the type of care they could expect at each level of the system. For example, well-visits are a central concept to the success of the EBAIS model, but this was not a common practice among Costa Ricans before the reform. Patient trust also had to be rebuilt after the poor performance of the system in the 1980s. The preventive perspective that the EBAIS model is built on is not always an intuitive function of health care, and both physicians and patients are still in the process of adjusting their expectations regarding primary compared to hospital care.¹⁸

DEVELOPMENT OF MANAGEMENT CONTRACTS

After assuming responsibility for the provision of primary health care, the CCSS needed a way to enforce the EBAIS model and measure clinics' performance. The solution stemmed from the international trend of linking reimbursements for health care services to payments based on health care quality, commonly known as pay-for-performance schemes. There was significant pressure on Costa Rica to adopt some sort of pay-for-performance scheme, including from the conservative President Figueres, the CCSS administration, and the investigations of alternate payments systems commissioned by the 1994 WBG loan.⁶⁸

Responsibility for assessing the performance of EBAIS clinics was given to the new *Dirección de Compra de Servicios de Salud* (DCSS), the Department of Purchasing Health Care Services, which was formed as a part of the purchaser-provider split within CCSS. To measure health care quality, the DCSS proposed that each Health Area would be assessed based on its empaneled population's health as measured by a given set of indicators. These indicators were to be decided at a yearly negotiation between the Health Area and the DCSS.⁴⁸ The form of the financial incentive was debated, and the model that Costa Rica settled on—Management Contracts (MC)—was shaped greatly by the role of the medical labor unions in the country, which lobbied against tying individual physicians' salaries to the health care quality of the clinic.⁶⁵ Ultimately, the CCSS decided to financially reward the entire Health Area if the health indicators were met. The Health Area could then use the money only for building new infrastructure, purchasing new medical equipment, or education and training for health personnel.¹² Under this model, Management Contracts would not be tied to any financial penalties because those penalties would affect the entire Health Area and conceivably compromise patient care.²⁶

Through the MC, data would be collected on dozens of measures annually, including indicators of quality, efficiency, and user satisfaction.²⁰ The targets each Health Area would need to meet varied according to the area's baseline quality and the socio-demographics

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of its population, among other factors.⁵⁴ The specific measures selected by the DCSS and the Health Area would span the life cycle of citizens and enforce a comprehensive care approach.⁶⁵

For the first two years of MC implementation (1997 and 1998), a system of data collection was established through the medical clerks, or REDES, who collected data on their team's patients and sent this information to the CCSS headquarters.⁵⁴ Additional information was to be gathered from physician records and random patient record audits administered by the DCSS. It was believed that this internationally supported model of quality enforcement would assist Costa Rica in the implementation of the new EBAIS model of primary health care. The first two years focused on establishing registries in the Health Areas of the different diseases and outcomes that the Management Contracts aimed to measure. Also started was the process of analyzing the health situation of each particular Health Area and creating specific plans to improve identified issues.

In 1999, the first financial rewards were disbursed to Health Areas as follows: a 2 percent bonus was awarded "in a proportional manner to the results of the management contract," a 2 percent bonus was awarded if the Health Area designed and completed a program to improve the quality of primary health care for its patients, and a 1 percent bonus was awarded if the Health Area designed and executed a project directed at health promotion and prevention of illness.⁶⁹ The measures for 1999 were more specific and quantitative than those in 1997 or 1998. For example, the 1997 vaccination goal was that all children have all required vaccinations, while the 1999 goal was that the number of children 15-24 months old with a measles vaccination divided by the total births from the year before be above a negotiated target for that particular Health Area.^{69,70} Management Contracts were the main mechanism through which the CCSS managed and ensured high quality in the EBIAS clinics over the next decade.

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HEALTH SYSTEM FINANCING

Costa Rica's health care system is largely public and run by the CCSS. It is paid for by a mix of contributions from citizens, employers, and the federal government. The CCSS is financed through a 15 percent payroll tax, of which 5.5 percent is paid by the employee, 9.25 percent by the employer, and 0.25 percent by the state.²⁰ All CCSS funds are merged into a single pool, which is managed by the central financial administration of the CCSS.²⁰

Structural problems with the way Costa Rica funded the CCSS started as early as the 1980s, during the global economic recession.²² The solvency of the CCSS improved in the 1990s with the influx of international loans totaling USD \$123 million.⁵³

Throughout Costa Rica's reforms, the cost of their health care system has remained comparatively low; as Figures 5 and 6 show, both the percent of GDP spent on health care and the total USD per capita have remained below the world average for the past 25 years. However, Costa Rica has invested a higher percent of its

GDP and more USD per capita than the average for Latin American countries. In 2014, Costa Rica invested USD \$970 per person per year, 9.3 percent of the country's GDP.¹ Over the past 20 years, Costa Rica has spent an equivalent percent of its GDP on health care as Chile (approximately 9 percent), another high-performing health care system.⁷¹ In contrast, the United States spends 18 percent of its GDP on health care, but has lower life expectancies than Costa Rica.^{16,71}

Health insurance in Costa Rica is provided by the CCSS, and the cost of coverage varies based on income. For regularly employed workers, their employer contributes to their premium and the worker pays a percentage of their income. Those in a high-income bracket pay a higher cost for public insurance. For Costa Ricans who are employed but without a regular paycheck, or employed but paid through cash, the CCSS has a specific process of verifying their income and calculating how much per month the individual should pay.⁵⁴ For indigent Costa Ricans unable to contribute monthly to their

health insurance, the CCSS has a process to apply for noncontributory health insurance,⁵⁵ in which the costs of services received are covered by the state.¹⁸ Additionally, care for pregnant women—including antenatal care and hospital deliveries—and children under 18 years of age is always free in Costa Rica, no matter the patient's insurance status or nationality.¹² The aim is for all Costa Ricans to have public insurance, regardless of their socioeconomic status.

Costa Ricans may opt out of the insurance scheme, but few choose to do so. Private health insurance is relatively uncommon, but international health insurance organizations provide some coverage in addition to the CCSS insurance.⁶⁵ In general, private health costs (including a small amount of private health insurance and out-of-pocket costs for individuals seeing private physicians) represent a relatively small but growing portion of the total health care costs, going up to approximately 25 percent of total health expenditures in 2013.¹

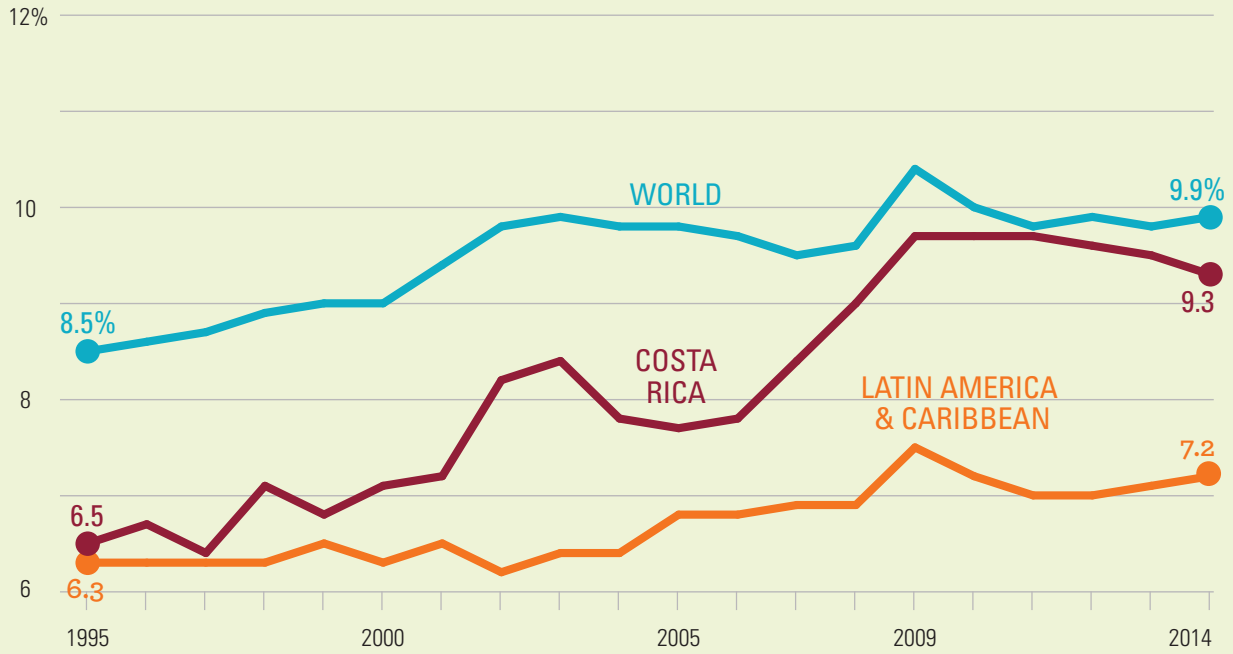
Unfortunately, in the early 2000s, the CCSS again faced solvency issues, due to the central government owing the CCSS over USD \$300 million and full-time workers avoiding paying

their mandatory contributions.⁷² Because of this lack of resources, the CCSS implemented cost-cutting measures in the early 2000s, which led to a decrease in the number of available appointments and longer waiting lines.⁷³

The global economic crisis in 2009 spelled further financial problems; in one month the premiums paid by employers to the CCSS decreased by \$18 million.⁷³ From 2007 to 2012, the CCSS accumulated USD \$138 million in debt,⁷³ and the CCSS was projected to be bankrupt by 2015 if no further actions were taken.⁷⁴ A 2011 plan to save the CCSS, based on a critical report about the management of the CCSS by the Pan-American Health Organization, was austere but effective.⁷⁵ Emergency cost-cutting measures were taken to prevent bankruptcy, and the CCSS cut workers' paid sick time.⁷³ Though these actions angered organized labor in the country, the CCSS was able to achieve relative financial stability that continues today.⁷⁶

HEALTH EXPENDITURE

AS A PERCENTAGE OF GDP



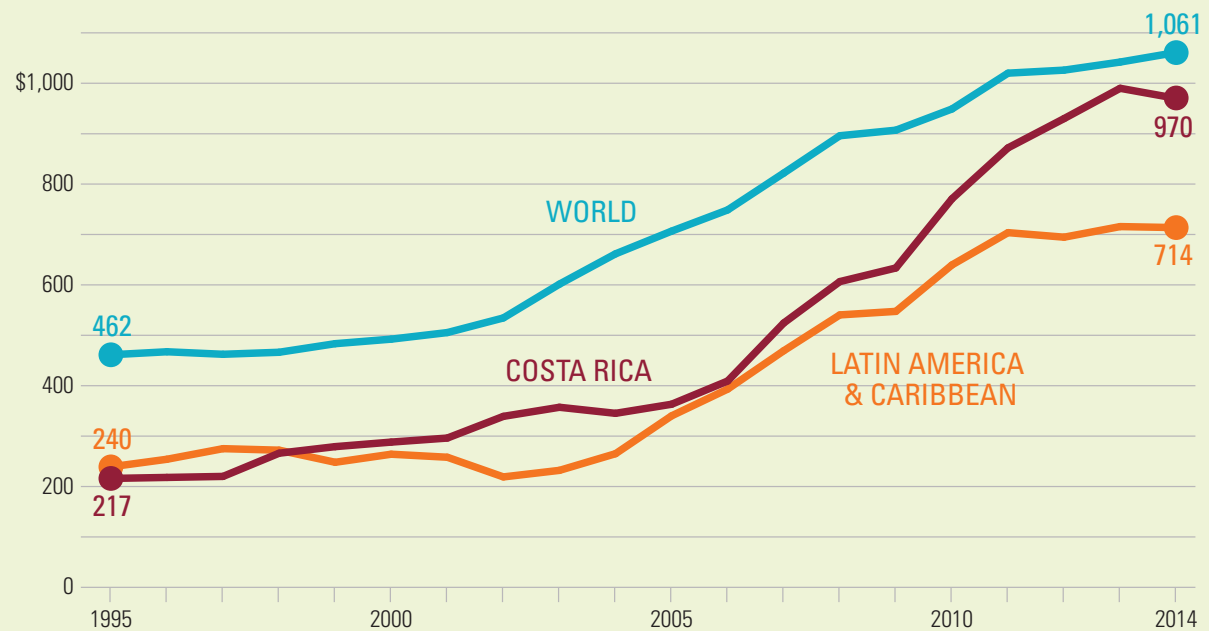
ADAPTED FROM: WORLD BANK GROUP, 2015. "HEALTH EXPENDITURE, TOTAL (% OF GDP)." WORLD BANK GROUP. <http://data.worldbank.org/indicator/SH.XPD.TOTL.ZS>

Figure 5: Percent of GDP spent on health care by Costa Rica as compared to the Latin American average and the global average

Source: World Bank Group Data¹

HEALTH EXPENDITURE

PER CAPITA IN CURRENT U.S. DOLLARS



ADAPTED FROM: WORLD BANK GROUP, 2015. "HEALTH EXPENDITURE PER CAPITA (CURRENT US\$)." WORLD BANK GROUP. <http://data.worldbank.org/indicator/SH.XPD.PCAP>

Figure 6: USD spent per person on health care in Costa Rica as compared to the Latin American average and the global average

Source: World Bank Group Data¹

A photograph of an office cubicle. A person in an orange shirt is sitting at a desk, viewed from behind, working on a computer. The cubicle walls are covered with various posters and notices. One prominent poster is about HIV/AIDS, with the text '¿Qué es el VIH / SIDA?', 'El SIDA ¿cómo se transmite?', 'VIH/SIDA', '¿Virus de transmisión?', and '¿Cómo prevenir?'. Another poster says 'VENTANA 5P'. On the desk, there are stacks of papers, a printer, and a small potted plant in a glass bowl. The office has a drop ceiling with fluorescent lights and windows in the background. A banner on the wall to the right reads 'Si limpia, vuelca, agujerea, recicla y tapa EL DENGUE NO TE ATACA'.

MEASUREMENT AND MONITORING

Measurement and Monitoring

The implementation of Costa Rica's reforms was enabled, in part, by the strong measurement and monitoring systems the country employed. These systems took two main forms: Management Contracts and Electronic Health Records.

EVOLVING MANAGEMENT CONTRACTS

Management Contracts (MC) were implemented during the 1994 reforms as a form of results-based financing and provided a mechanism for measurement and evaluation of the primary health care system. Performance against annually set targets determined the bonuses Health Areas received. However, physicians originally did not respond well to the MC; they felt the care procedures laid out by the CCSS infringed upon their professional judgment and the amount of time it took to fill out the forms during consultations was prohibitively long.^{51,55} Some evidence shows physicians may even have been falsifying records to hit the MC targets.⁴⁸

A sharp focus on the indicators incentivized through MC caused other important primary care functions to be de-emphasized.¹⁶ For example, while child growth monitoring was heavily emphasized in the MC and was carried out by providers, obesity prevention was not as heavily emphasized in the MC and was not conducted as frequently. Additionally, due to the considerable time it took for physicians to complete the comprehensive assessment and preventive care the MC required, patients often sought the quicker care of the emergency room instead of the EBAIS.¹⁶

The MC system of attaching fiscal remuneration for achievement of health care goals was also considered antithetical to Costa Rican physicians' view of their duty as health care professionals, as well as quite costly for the CCSS to maintain. Furthermore, the CCSS determined it was ineffective to have financial incentives go to Health Areas, both because financial incentives were invisible to individual providers and because the intended use of funds was often not transparent.

Partially because of this incongruence between Costa Rican values and the values of pay-for-performance, and partially because the incentives were not sufficiently stimulating, the CCSS decided to eliminate the financial incentive component of the MC in 2008. However, even after the removal of financial incentives from the MC scheme, the CCSS continued to evaluate Health Areas against a given set of indicators and assign a grade (typically a score out of 100) based on performance. During the transition period, the DCSS also substantially revised the targets measured by the MC. Previously, targets were largely process based; at the time that financial incentives were removed, the CCSS also introduced targets related to quality of care. For example, in 1999 they measured the total number of patients with hypertension who were seen, whereas in 2010 they measured

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INFORMATION SYSTEMS IN COSTA RICA'S PHC SYSTEM

Evaluation by the Purchasing Department 1995-2020

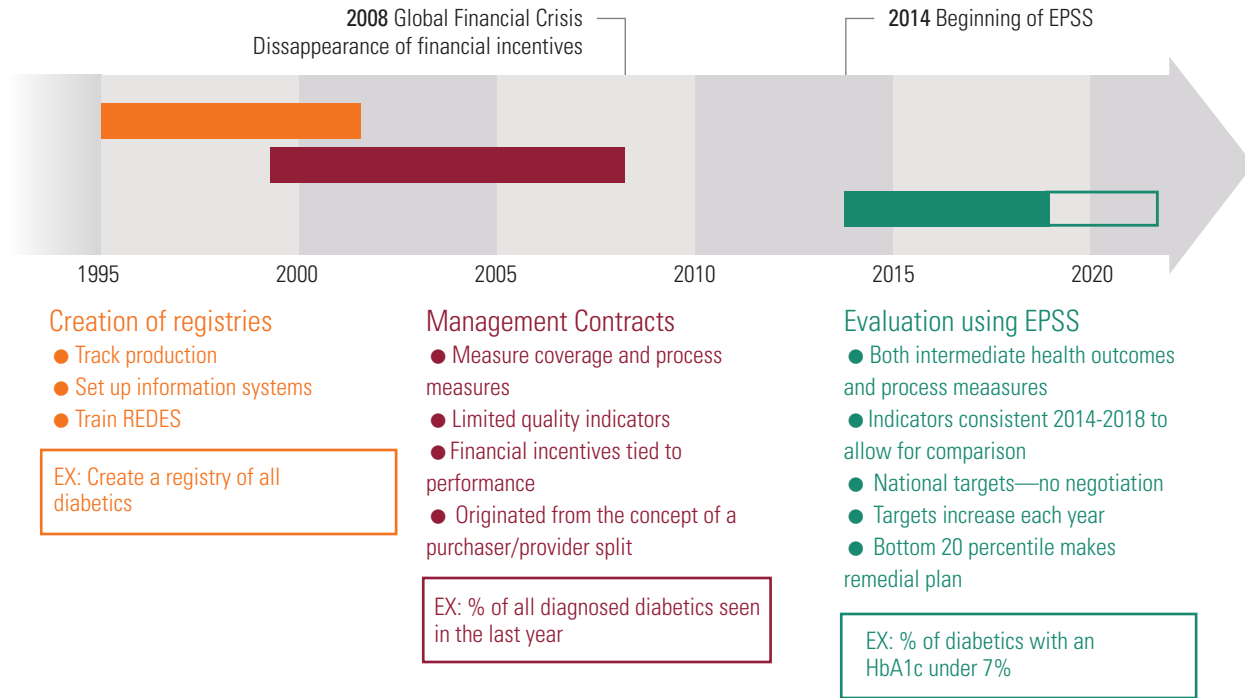


Figure 7: Health information systems from 1995-2020 in Costa Rica's primary health care system.

Source: Author's analysis.

the percent of hypertensive patients who reduced their arterial pressure to optimal levels per national guidelines.⁷⁷ Additionally, the process measures that were retained were refined to be more specific and measurable. For example, in 1997, the indicator for prenatal care was that "all women should receive prenatal care."⁷⁸ By 2010 this indicator had been refined to the percent of pregnant women who had a prenatal visit before 20 weeks gestation—a more specific target that sought to increase early initiation of prenatal care.⁷⁷

Despite the removal of financial incentives, Health Areas were still (and remain so today) highly motivated to achieve the DCSS's targets for several reasons. First, MC scores are used to rank Health Areas, and the rankings were made public. Furthermore, there is a general view that MC targets are the best way to measure the quality of care provided at a given Health Area, and performance on these indicators is a point of pride among Health Area directors. Second, MC evaluations are also used to evaluate the performance of individual Health Area directors; the CCSS believes that with good management from a director, the Health Area should perform well on the MC.⁵⁶

Even without financial incentives, MC remained an important performance management tool of the CCSS. Targets were negotiated yearly between each Health Area and the DCSS, ensuring that goals were meaningful and appropriate to the local context. Performance against these targets was measured yearly through a formal evaluation conducted by the DCSS. If a Health Area missed its target, CCSS would work with the Health Area leadership to create and execute a plan to achieve the missed targets and then follow up to ensure that the plan was executed.^{54,55} If targets were not met and the Health Area failed to work to achieve improvement, disciplinary action might be taken against the Health Area.¹² The DCSS evaluation served to notify Health Areas of their performance and call attention to population health indicators that were underperforming.²⁶ The changed indicators and the removal of the financial incentives seem better aligned with clinicians' view of their work and the ethos of Costa Rican health care.

In 2014, the DCSS established the *Evaluación de la Prestación de Servicios de Salud* (EPSS), a standardized way of evaluating Health Areas. Before the EPSS was introduced, the MC targets changed each year and were specific to Health Areas, making it difficult to compare the relative performance of Health Areas from year to year.⁷⁹ It was also difficult for Health Areas to keep up with the changing targets and optimize their performance. Additionally, the concept of negotiating a target for each indicator with all 104 Health Areas was both extremely labor intensive and antithetical to the equality in health care provision the CCSS promises.⁷⁹

The new EPSS established a national set of targets and indicators for a full five-year period from 2014-2018.⁶⁷ The EPSS includes five dimensions: access (ex: percentage of pregnant women seen for a postnatal visit within eight days of delivery); continuity (ex: percentage of children under 6 years old who had a blood test for anemia); effectiveness (quality measures, ex: percentage of diabetic patients who have achieved an HbA1c under 7%); efficiency (as measured by the Relative Efficiency Index, which compares the total budget to the total production of a Health Area); and user satisfaction (as measured by an independent department to maintain objectiveness in this sensitive analysis). Every year, the EPSS targets increase by small, predetermined increments to promote continuous improvement. As part of the new EPSS-based evaluation process, the bottom 20 percent of the Health Areas must make an official remediation plan with the DCSS and follow that plan the next year to improve their performance against established targets.⁷⁹ There are still no official punitive consequences if the Health Area fails to achieve improvement.

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ELECTRONIC HEALTH RECORDS

In Costa Rica, there has been a gradual implementation of an electronic medical record called Expediente Digital Único en Salud (EDUS), or the Universal Digital Health Record. The EDUS has the potential to expedite the evaluation by the DCSS and to increase the efficiency of the measurement and feedback loops Costa Rica has spent the last twenty years building. For example, the EDUS can quickly look at different types of patients by diagnosis, health status, living conditions, or overall risk score, expediting risk stratification and population health management.

The CCSS developed the EDUS instead of purchasing an existing medical record system for two reasons: first, so it could tailor the medical record to its preventive, community-centered primary health care system, and second, so it would not be beholden to an outside contractor to make changes to the system and have to pay a high annual licensing fee.⁸⁰ For example, the Ficha Familiar that the community health workers fill out during their home visits is incorporated into the EDUS, so it reflects the holistic integrated approach to primary care that the EBAIS model champions. The EDUS was first implemented at the primary health care level, with the first pilot in 2015, and the last Health Area converted to the EDUS by December 31, 2016.⁸¹

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Impact

Today, primary health care is the foundation of the Costa Rican health care system. Providing both curative and preventive treatment for their empaneled populations, EBAIS teams deliver approximately half of all outpatient visits in Costa Rica and care for 80 percent of Costa Ricans' health needs.^{16,20} Costa Rica's primary health care reforms have led to increased access to primary health care services, increased equity, infectious disease control, and decreased mortality.

Before the 1990s reform, only 25 percent of the Costa Rican population had access to primary health care; by 2006, this proportion had reached 93 percent.⁸² Moreover, a study found that in areas in which EBAIS teams had been implemented, the proportion of underserved patients decreased by 13 percent more than in areas that did not yet have EBAIS teams.⁶¹ In 2014, 72 percent of all medical consultations happened at the primary health care level, and in that year, ATAPS conducted over 1.8 million additional home visits.⁸³

In addition to improved access, the 1990s reforms have increased equity within the system. By placing the first EBAIS clinics in the most rural and medically disadvantaged areas, equality in geographic access to services across the country and the distribution of health professionals was improved.^{63,84} Costa Rica also financially invested in reducing health inequalities: the poorest 20 percent of the country receives 30 percent of the total health expenditures.²⁰ The results of this emphasis on equity can be seen in the distribution of gain in life-years; between 1980 and 2000, the potential years of life lost decreased by 48 percent in the poorest 20 percent of the population compared to 39 percent in the richest 20 percent.¹⁶

Costa Rica has also been especially successful at infectious disease control. As a result of high immunization rates (91 percent), improved sanitation, and improved access to comprehensive primary health care, deaths in Costa Rica due to communicable diseases dropped from 65 to 4.2 per 100,000 people between 1990 and 2010.^{16,20} The tuberculosis prevalence rate is far below other Latin American countries at 11 cases per 100,000 citizens per year, as compared to, for example, 69 cases in Colombia and 44 cases in Mexico.^{16,85}

Ultimately, because of the above successes and others, the primary health care reforms led to significant declines in mortality. A 2004 study of the EBAIS model used a regression model to show that the reform led to an 8 percent reduction in infant mortality and a 2 percent reduction in adult mortality in its first nine years.⁶¹ For every five additional years the EBAIS model was in place in a given area, child mortality declined by 13 percent and adult mortality dropped by 4 percent, compared to areas in which the EBAIS model had

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LIFE EXPECTANCY IN COSTA RICA

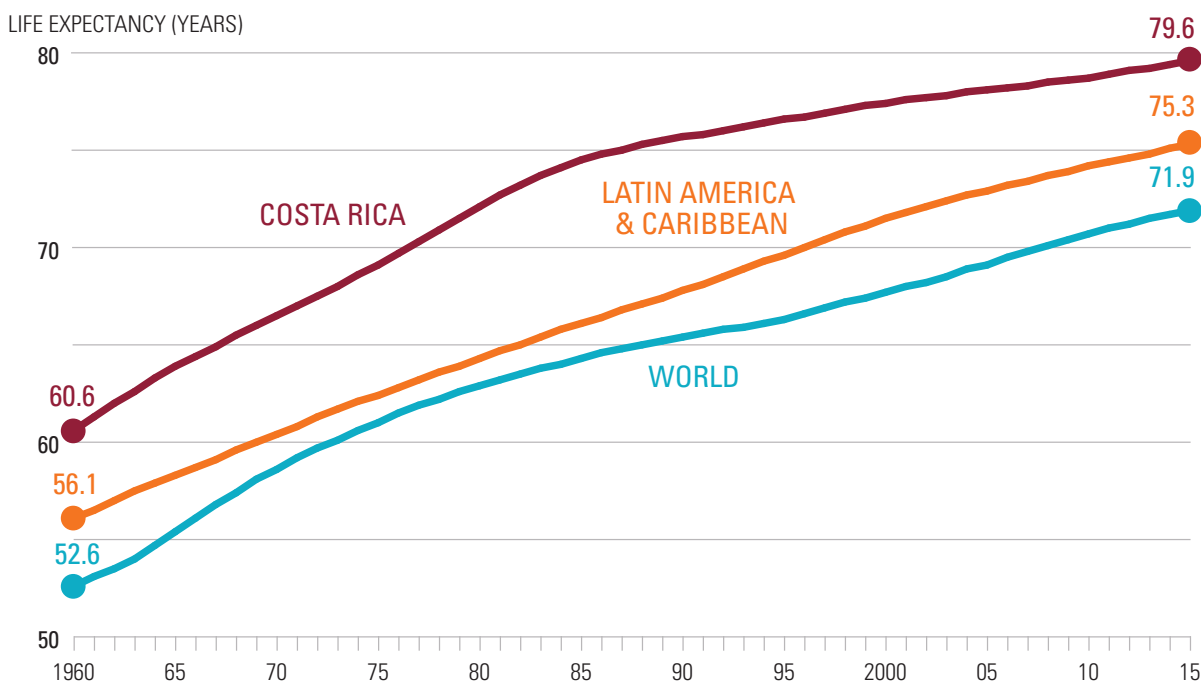


Figure 8: Costa Rican life expectancy has steadily increased since the 1970s. Adapted from the World Bank Group, 2016

not yet been implemented.⁶¹ With declining mortality, life expectancies have risen substantially, from 74.6 in 1990 to 77.6 in 2013 for men and from 78.7 in 1990 to 82.1 in 2013 for women (Figure 8).⁶⁶ Costa Rican life expectancies are now third highest in the Western Hemisphere, behind only Canada and Chile.⁶⁷

It would be easy to dismiss Costa Rica’s improved health outcomes as a byproduct of the country’s economic improvement. While it is true Costa Rica’s economy has made strides over the last 50 years, with GDP tripling and economic growth (4.5 percent) outpacing the Latin America regional average (3.8 percent), Costa Rica’s health outcomes have improved at an even faster rate, surpassing economic development.⁶⁸ For example, Chile required three times the economic growth rate to achieve similar decreases in infant mortality.¹⁶ In fact, studies have shown that 75 percent of Costa Rica’s impressive infant mortality reduction between 1971 and 2000 can be attributed to improvements in its health services, not its economic growth.¹⁶

Finally, despite concerns about the cost of the EBAIS model—particularly the cost of including a physician in all EBAIS teams—Costa Rica’s health reforms have been proven cost-effective. For example, the return on the WBG investment has been estimated at approximately 70 percent; that is, for every USD \$1 spent, Costa Rica received USD \$1.70 back in improved health outcomes, worker productivity, and health care quality.⁵³

IMPACT

In summary, health reform in Costa Rica was conducted in deliberate and targeted pursuit of the country's vision of achieving equal health care for all. Reforms were implemented in an iterative fashion—supported by strong measurement and monitoring—which allowed for ongoing adaptation and continuous improvement and refinement. The result of the reforms is a robust primary health care system, rooted in public provision of care, that supports comprehensive, continuous, coordinated, and equitable care for the entire population.

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ROUTINE OBSTETRIC CARE

Antenatal and postnatal care is conducted at the EBAIS clinic for pregnant women. This example will trace the care of a fictional young woman, Jimena, through her pregnancy at the Tarcoles EBAIS clinic in Jacó, Costa Rica, to illustrate how the EBAIS model works.⁵⁴ At approximately eight weeks gestation, Jimena takes a home pregnancy test, which is positive. She presents to the Tarcoles EBAIS clinic and finds that even though she does not contribute to public health insurance, she can receive free care throughout her pregnancy through the CCSS program for pregnant women. The physician sends her to the Health Area's main clinic, Jacó Clinic, which houses three EBAIS teams, a laboratory, and emergency services, for her blood work and to register the pregnancy; the bus ride is approximately 45 minutes. Her test results are sent to the Tarcoles EBAIS, and Jimena is scheduled to return to Tarcoles EBAIS the next week to meet with the physician.

At Jimena's second antenatal visit (11 weeks), the physician has her blood work results and can confirm Jimena is pregnant. The physician

begins her pregnancy care; he gives her a small booklet where he will record information about her pregnancy and, eventually, information about her child. The physician is pleased they are starting care for the pregnancy before 13 weeks, as this is a CCSS target. Jimena's previous pregnancy ended in a miscarriage, so she is classified as a high-risk pregnancy. The physician writes a referral for a visit with an obstetrician in the secondary care hospital two hours away. Jimena contacts the hospital, but the waiting line is approximately three months long, so she may not have a chance to go. The physician now orders more standard tests such as blood type, a syphilis test, an HIV test, a urine analysis, a toxicology screen, and hepatitis screening. Jimena also receives a referral to meet with an orthodontist who will provide her with a free dental evaluation and a free application of fluoride if she goes to the appointment. The appointment is an hour away, so Jimena decides not to go.

Jimena doesn't show up for her scheduled third antenatal visit (17 weeks) so the physician com-

municates this to the ATAP, who visits Jimena at home. Jimena says she was discouraged by the long waiting line at the secondary care clinic and is worried for her child. The ATAP convinces Jimena that the best thing she can do is continue regular visits to the Tarcoles EBAIS clinic and that Jimena can come to the clinic at any time during the day if she is worried about the child. Unfortunately, the Tarcoles EBAIS does not have an ultrasound machine, as these can only be found at the second level of care. Jimena looks into getting an ultrasound at a private clinic in the city, but they cost approximately USD \$70, which is too expensive.

When Jimena returns to the clinic for her fourth visit (23 weeks), she complains of morning sickness and having to urinate frequently. The physician sends Jimena for glucose testing at Jacó Clinic, as he suspects she may have gestational diabetes. Jimena does not have gestational diabetes and she returns to the Tarcoles EBAIS every four weeks for the remainder of her pregnancy, receiving seven antenatal visits in total. The waiting line for the obstetrician at the secondary hospital has grown and Jimena is unable to get an appointment for an ultrasound.

As she discussed with her physician, when Jimena begins labor she calls the Red Cross ambulance and it takes her to Jacó Clinic as planned, because they have an emergency service to receive Jimena. Once Jimena is examined at Jacó Clinic and her contractions are

found to be rapid, she is sent to the secondary hospital by Red Cross ambulance (approximately two hours away). At the secondary hospital, Jimena is evaluated in the emergency room, but isn't ready to deliver. She goes to the maternity floor to wait. Jimena has a normal vaginal delivery and is discharged from the hospital after 20 hours, because the hospital needs the bed for another woman in labor.

Four days after delivery, Jimena returns to the Tarcoles EBAIS clinic for her first postnatal visit for her and the baby. The physician asks Jimena if she has any problems and for her pregnancy booklet and the referral note from the hospital. In her booklet, the hospital has noted all the information about her baby's birth. The information contained in her referral note is similar but more technical for the physician. Because she says she feels fine, the physician does not give her a pelvic exam. Jimena's son is four days old, and the physician examines him for signs of infection, takes his temperature, and counsels Jimena on the importance of breastfeeding. The physician also covers family planning techniques including condoms or an injectable hormone safe for breastfeeding women. Jimena declines the injectable contraceptive. Jimena is worried about her ability to pay for formula and asks for a referral to see a pediatrician; only pediatricians are allowed to prescribe formula for infants. Jimena leaves the EBAIS clinic with her booklet and a referral for a pediatrician.



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HETEROGENEITY IN IMPLEMENTATION

Despite the speed and overall success of implementation of the 1994 reforms, the process has not been uniform and gaps remain in coverage of EBAIS clinics and EBAIS teams. As can be seen in Figure 4, for example, despite the impressive speed at which EBAIS teams were implemented, Costa Rica has still not achieved its target of a maximum of 4,000 patients per EBAIS team. In 2016, there were still over 490 teams with more than 4,000 patients empaneled to them and 81 teams with more than 7,000 patients.⁸⁹ A 2017 study found an additional 295 clinics were needed to complete the implementation of the reform.⁹⁰

In addition to the shortage of EBAIS teams, 75 current EBAIS teams do not have the full complement of team members (doctor, nurse, ATAP, and REDES). These teams are most often in large metropolitan clinics in the capital, San José.⁹⁰ For example, one Health Area with 45,000 people is served by eight doctors, three nurses, and five ATAPs. In these types of clinics, where only some of the aspects of the EBAIS model are present, human resource shortages prevent EBAIS staff from functioning together as teams to provide comprehensive primary health care as intended. Patients are given appointments with any physician at the clinic, not a specifically assigned physician, and ATAPs work mainly with the community at large, rather than with a specific population empaneled to a particular doctor and nurse. Many forces may account for this situation.

First, Costa Rica purposefully initiated the reform by implementing EBAIS clinics in areas with limited health access and areas that were rural in order to improve equity. Because San José had good access to primary health care services before the reform, it was therefore intentionally the last area of the country in which reforms were implemented. The CCSS is now particularly focusing on increasing access in the capital. However, political urgency for the primary health care reform has decreased over the last twenty years as attention within the CCSS turned to other initiatives, such as improving hospital infrastructure and decreasing waiting times for specialty care. This situation has potentially made it more difficult to sustain interest and commitment to expanding EBAIS coverage to urban areas. Additionally, urban areas also tend to have an increased presence of private clinics, which may serve to reduce political or popular demand for more EBAIS coverage.

Secondly, in San José, land is quite developed and there is limited physical space to construct EBAIS clinics. Thus, most urban EBAIS teams were located in preconstructed clinic facilities, often with multiple other EBAIS teams. This collocation made it easier for EBAIS teams to share REDES, nurses, and/or ATAPs when human resources were scarce, but has also likely contributed to the current situation of incomplete EBAIS teams.¹²

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The CCSS continues to pursue the construction of EBAIS clinics so that each EBAIS team can have its own building in the geographic area it serves. To increase access in the meantime, some EBAIS clinics are extending their hours of operation to nighttime and weekend hours.⁹¹ The CCSS has slowly begun to open new EBAIS clinics in urban areas particularly inundated with demand.⁹² Additionally, online appointment systems are continually being improved so people do not need to travel to the EBAIS clinic to make an appointment.⁵⁵ In rural areas that do not yet have an EBAIS clinic, EBAIS teams from nearby areas make weekly visits to bring preventive services and attend to patients.⁵⁴ For medications or labs, the residents of these communities still need to travel to the central clinic in the Health Area.

Although access to primary health care services is not perfect, it does seem to be adequate. According to the CCSS, 94 percent of patients are empaneled to an EBAIS clinic.¹³ A 2009 study also found low levels of geographic variability in access.⁹³ Additionally, a 2010 study found no association between outpatient visits and insurance status, suggesting there was no decrease in access for the small percentage of the Costa Rican population that is uninsured.⁹⁴

In general, the weaknesses in the primary health care system are in the capital where the EBAIS model has not been fully implemented. In rural areas where the teams are fully formed and panel sizes are close to or under the institutional goal of 4,000 patients, the model is working very well, delivering primary care that provides first contact access and is comprehensive, coordinated, and continuous.⁹⁵ Additionally, the EBAIS model is working well in the privately operated cooperatives in the capital. Cooperatives show it is possible to deliver high-quality care to urban residents if the EBAIS teams are complete and panel size decreases, as is the case in cooperatives.

REFERRALS AND INTERACTION WITH SPECIALTY CARE

Within health systems, primary health care does not and cannot function in a vacuum—it must be connected to and supported by strong systems of secondary and tertiary care. However, in Costa Rica, despite the achievements of primary health care and the EBAIS model, specialty care is still difficult to access. Waiting lines are the public's chief complaint with the Costa Rican health care system; most specialties have waiting lines of approximately one year, but the waits can stretch up to two years, even for time-sensitive operations and procedures.^{54,96} This is a serious challenge Costa Rica must overcome to achieve optimal functioning of its health care system.^{26,97} Lack of access threatens the health of the population and puts pressure on the primary health care system, preventing it from functioning to its fullest potential. Additionally, long waiting times may push patients into the private sector where they can get appointments more quickly, leading patients to bypass the primary health care system altogether. Finally, the use of the emergency room as an alternative source of care has steadily increased since the 1990s.

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This is likely a symptom of poor access to specialty care, as patients turn to emergency departments to receive specialty attention more quickly.^{16,48}

One possible explanation of the heterogeneity of implementation of primary health care reform and the concurrent long waiting times in secondary care is that, especially in the urban areas, resources have been diverted away from primary health care to augment secondary and tertiary care. This is understandable, as the public is frustrated with the long waiting times for specialty care and the CCSS wants to respond to the public's concerns. However, by not fully implementing the primary health care model in urban centers, access to primary health care is compromised such that patients are not resolving their health issues at the primary health care level and instead are using it to get to secondary and tertiary care, perhaps increasing demand for secondary and tertiary care services. If the CCSS were able to fully implement the primary health care model in the capital, it might be possible to resolve more issues at the primary health care level, decreasing demand for secondary and tertiary care services.

PRIVATE PRIMARY HEALTH CARE

The issue of private primary health care has been contentious in Costa Rica since the 1994 reforms. Despite this, the private market is largely unregulated and while Costa Rica has never had a policy to promote privatization, neither the CCSS nor the MOH has been able to take action or to set regulations to limit the development of private clinics.¹⁸ Since 2000, there has been an increase both in the number of private clinics that provide primary health care and the percentage of primary health care visits that occur in private clinics.¹⁸ A growing proportion of the population uses private primary health care over the course of a year, and increasingly private secondary care services as well.¹⁸ Private primary care is generally paid for out-of-pocket by Costa Ricans, but some citizens purchase additional private health insurance in addition to their CCSS insurance to cover their out-of-pocket costs in the private sector. Particularly in San José, patients who can afford private health care choose it for their primary and sometimes secondary care needs.¹⁸ A study from 2008 confirmed that patients who attend the EBAIS clinics tend to be of lower socioeconomic status and have lower education levels than the overall population.⁹⁸

While it is possible that the growth in private care usage in Costa Rica is improving access and patient satisfaction, there are concerns about this trend. First, the increase in private provision of primary care services may undermine the Costa Rican health care system. In a 2006 article regarding the privatization of health care across Latin America, Unger et al. argue against privatization of health care in systems that are mostly public because it may prevent integration and undermine participation in the public system.⁹⁹ Because citizens can opt out of contributing to the CCSS health insurance fund, privatization could have a direct impact on the provision of public health care, though there is no evidence to suggest this is occurring.¹⁰⁰

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There are also concerns about the integration and continuity of care that patients receive in the private sector. If patients receive care through private providers, these providers may not have the same responsibility or ability to care for patients over time as would providers in the public sector.¹⁸ Empanelment, a key system of EBAIS clinics, is not a part of private clinics, and the benefits that come with empanelment are thus not conferred on care received from private practitioners. It has been suggested that as the health steward, the MOH is responsible for further regulating and controlling the growth of private health care, given that access to health care remains a public good. However, the 1990s reforms did not provide the MOH with the legal instruments to carry out this function.¹⁸

It remains controversial whether privatization represents a threat to primary health care provision in the country (and thus a challenge for Costa Rica) or whether it is a natural part of a health system that alleviates some demand on the public sector.⁶⁸ It has even been argued that it is helpful that most private primary health care services are concentrated in San José, where EBAIS clinics are least developed and most inundated with demand.^{12,68} Increasing usage of private care may in fact be a symptom of the incomplete implementation of the reform in urban areas; because urban clinics are crowded and may not be able to provide the comprehensive care the EBAIS model envisions with limited personnel, Costa Ricans may decide to seek primary health care outside the CCSS institution. With continued pursuit of the complete EBAIS model in every Health Area, the demand for private primary health care could decrease.

Others, however, see privatization as a direct threat to Costa Rica's longstanding commitment to government-directed and -provided care; for some, any perceived encroachment or devaluation of the public system is troubling. To mitigate some concerns, the CCSS has, over the past 20 years, increased scrutiny of providers to ensure they do not conduct their private clinics during hours they are supposed to be working in public clinics; as long as providers are available in the hospital during their scheduled hours, many in the CCSS do not see an issue with the private health care clinics they run on the side.¹²

INCREASING BURDEN OF NONCOMMUNICABLE DISEASES

As the EBAIS reform was implemented, Costa Rica was undergoing an epidemiologic transition, with noncommunicable diseases making up an increasing portion of the burden of disease.^{101,102} For example, in 2015, the mortality rate from infectious diseases was only 32 deaths per 100,000 citizens, while noncommunicable diseases caused 409 deaths per 100,000 citizens.⁹⁷ This mirrors worldwide trends—globally in 2010, 54 percent of disability-adjusted life years lost were due to NCDs compared to only 47 percent in 1990.¹⁰³ The prevalence of obesity is approximately 55 percent in Costa Rica,¹⁰⁴ and the diabetes prevalence is 8.6 percent and predicted to rise even further over the next 10 years.^{105,106} In 2013, diabetes was the tenth highest cause of disability-adjusted life years, and the contribution of diabetes to disability-adjusted life years has increased almost 40

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percent since 1990.⁸⁶ Chronic kidney disease, most commonly caused by diabetes or hypertension, has increased from the 17th leading cause of years of life lost in 1990 to the fourth in 2013, a 151 percent increase.⁸⁶

The burden of NCDs is expected to continue to grow in Costa Rica as the population ages; since 1990, the proportion of the population above 65 years has nearly doubled.¹ While the CCSS acknowledges the challenge posed by NCDs to the health care system,⁹⁷ there is little public knowledge of how to prevent, identify, and treat NCDs. Furthermore, long wait times for specialty care may compound the problem, particularly because most cancer screenings such as mammograms, colonoscopies, and other imaging takes place at the secondary care level, and access to these critical preventive services may be impeded by current wait times.^{107,65}

Despite these challenges, there is reason to believe Costa Rica will be able to adapt to the increased NCD burden. For example, the country has already launched several programs to increase knowledge of risk factors and symptoms and the ability to self-manage chronic diseases. One example is a five-day education program to teach EBAIS teams about diagnosis and treatment of diabetes, which showed moderate improvements in provider knowledge.¹⁰⁸ Additionally, Costa Rica's strong primary health care system has several features that may enable the country to manage this transition moving forward.

Continuity: Continuity is a key feature of the EBAIS clinics. Because patients see the same provider for many years, this provider comes to know their patients' goals and motivating factors. This continuity should enable prevention of NCDs through counseling, early detection, and effective treatment, as patients receive frequent reminders regarding proper self-care.

Team-based care: The team-based organization of the EBAIS teams has significant potential to effectively manage patients with NCDs. Team-based care has been promoted as an effective approach to manage chronically ill patients because teams can create a more patient-centered, coordinated, and effective care experience than individual clinicians operating independently.¹⁰⁹ However, to fully maximize the potential of EBAIS clinics to care for patients with NCDs, team-based functions, such as communication, should be emphasized and increased.

Focus on prevention: Costa Rica's primary health care system was originally designed around the threat of infectious diseases (ID) and it does a laudable job of surveillance, containment, and treatment of ID. Mortality from ID is consequently very low.^{16,20,110} However, the same emphasis on prevention of NCDs is only slowly coming into the day-to-day provision of care at EBAIS clinics. For example, EBAIS clinics currently record patients' body mass index but do not have a standardized protocol to follow if the body mass index is elevated, indicating overweight or obesity.⁵⁴ Similarly, while EBAIS teams

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test glucose, they do not have a protocol if a patient has “prediabetes,” a state in which the patient can prevent progression to full-blown diabetes if they improve their diet and exercise habits.^{26,54} However, Costa Rica’s history and cultural focus on prevention may enable an easier transition toward applying these principles to NCDs.

Community orientation: The EBAIS clinics also have the potential to conduct extensive community-based education programs. These programs have proven both effective and cost-effective and have the potential to increase the population’s knowledge of NCD risk factors, identification, and management.¹¹¹ ATAPs in particular have the potential to provide robust community education programs to help control and manage NCDs.

Health data management structure: As the evaluation and measurement of EBAIS clinics has evolved, the system can help Costa Ricans to manage noncommunicable diseases. For example, many measures in the EPSS center around achieving good health outcomes related to noncommunicable diseases. These measures, and the data collection system that underlies them, will be powerful tools for the EBAIS model as it confronts the emerging profile of NCD.

The presence of these features may help explain why deaths due to noncommunicable disease actually fell from 15 percent to 12 percent between 2000 and 2012.¹¹² In summary, while NCDs have emerged as a major threat to the health of Costa Ricans since the EBAIS model was first conceptualized, there is an opportunity for Costa Rica to capitalize on its foundation of strong primary health care to effectively manage the threat.

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ANEXO	NUMERO	EXHIBICIONES
1	1	1

DE EXPEDIENTE	EN FOLIO DE	EXHIBICIONES
ANEXO	NUMERO	EXHIBICIONES
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SALA DE DOCUMENTOS DEL ARCHIVO	
NUMERO	EXHIBICIONES
1	1

SALA DE DOCUMENTOS DEL ARCHIVO

Lessons Learned

Over the last several decades, Costa Rica has achieved significant successes in primary health care. The pathway that the country took to achieve this success may offer valuable lessons to other countries around the world that are currently in the process of reforming their primary health care systems. In particular, there were four key strategies that Costa Rica used to develop the EBAIS model which may be generalizable to other contexts, including: bureaucratic integration, multidisciplinary teams, empanelment, and measurement and feedback loops.

Bureaucratic integration: Costa Rica’s decision to integrate the primary health care functions of the MOH and the CCSS was a critical first step in creating a comprehensive primary health care system. This integration enabled all population health to be managed by one agency (CCSS) with one set of goals and one budget. Additionally, the merger ensured that proponents of public health and preventative services (formerly of the MOH) and proponents of biomedically-oriented curative care (from the CCSS) all had a voice in primary health care service delivery, and that both preventive and curative services were equally represented in the new EBAIS model.

Multidisciplinary teams: Integration at the bureaucratic level was supplemented by integration at the service delivery level through the establishment of multidisciplinary EBAIS teams. The EBAIS teams are typically comprised of a physician, a nurse, an ATAP (a community health worker), a pharmacist, and a medical data clerk. Because of their broad composition, these teams are capable of providing comprehensive and coordinated preventive, promotive, and curative care services to the populations they serve.

Empanelment: Costa Rica’s decision to geographically empanel the population to specific EBAIS teams has supported robust, proactive population health management that has been essential to the success of the EBAIS model. For example, ATAPs are able to target specific communities for outreach and monitoring, and the surveillance of task of REDES is enabled through the definition of a population-level denominator. Physicians and nurses also benefit from this delineation as they can risk stratify their population, and pay particular attention to those patients most in need of care. Additionally, empanelment supports the formation of stable relationships between the individuals and their care team, thereby facilitating continuity of care over the life course.

Measurement and Feedback Loops: Together, geographic empanelment and multidisciplinary teams provide a foundational organizational structure for measurement and data use for decision-making and improvement. The structure of EBAIS teams—in which ATAPs collect population level data that is collated and combined with facility-level data by REDES—enables every Health Area to monitor the health of its population and performance of its EBAIS teams, and report on these indicators to the CCSS. Additionally, the CCSS then ensures that data that is collected and aggregated at the national level is interpreted and fed back to Health Areas to support quality improvement efforts. This measurement system supports Costa Rica’s proactive model of care delivery by enabling the identification of at-risk populations in need of further resources and support.

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A tropical waterfall cascading over a rocky cliff into a pool of turquoise water, framed by lush green foliage. The scene is captured with a long exposure, giving the water a soft, ethereal appearance. The foreground is dominated by large, dark rocks in the pool, and the background shows the rugged, moss-covered cliff face. The overall atmosphere is serene and natural.

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This case study traces the path Costa Rica took in developing and implementing a robust primary health care system that can deliver high-quality, continuous, comprehensive, and coordinated care to the vast majority of its population. The study details how historical achievements—including the establishment of a legal responsibility for the government to ensure the health of its citizens and the strong foundations of preventive care established during the Rural Health Program in the 1970s—laid the groundwork for the establishment of the EBAIS model in the 1990s.

The 1990s reforms centered around four critical actions:

1. Bureaucratic integration of the CCSS and MOH to consolidate the provision of preventive and curative care into primary health care at the systems level;
2. The formation of multidisciplinary EBAIS teams who could translate bureaucratic integration into coordinated, comprehensive care delivery;
3. Empanelment of Costa Ricans to these care teams to support population health management and continuity of care;
4. The establishment of robust measurement and feedback loops and a strong data management infrastructure, which in turn supports the actualization and continuous improvement of the EBAIS model.

These four critical actions were supported by sustained political commitment and continued investment in primary health care. In the 1960s, Costa Rica established the achievement of Universal Health Coverage as a national priority and stakeholders were able to maintain a focus on this end goal through global financial crises and changing political winds. Additionally, Costa Rica adopted an adaptive mindset—facilitated by strong population health management and measurement systems—that allowed the system to learn from the process of implementation and nimbly adapt as needed.

Costa Rica's health care system overall, and its primary health care system specifically, faces both old and emerging challenges moving forward. These include an aging population and the concomitant rise in the burden of NCDs, challenges linking with secondary and tertiary care that are exacerbated by long wait times at the specialty care level, and incomplete implementation of the EBAIS model, particularly in urban areas. However, the groundwork established in Costa Rica through its long-term commitment to equitable UHC and the strong primary health care system developed through the reforms of the 1990s have prepared the system well to meet these challenges.

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The Sustainable Development Goals, adopted by the United Nations in September 2015, established the achievement of Universal Health Coverage as the top priority in global health for the next 15 years. Many countries are renewing their focus on primary health care as an important strategy for achieving this target. In this global context, the Costa Rican experience of successful reform, implementation, and sustainment of a robust primary health care system that has contributed to the achievement of UHC is an important source of learning for the global community.

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Appendix 1: Literature Search Strategy

MEDLINE

Search completed on 9/21/15, returned 3,970 articles. Authors reviewed all 3,970 at abstract level and found 179 for full text review.

"Costa Rica"[tiab] OR "Costa Rican"[tiab] OR "costarricense" [tiab]

LILACS

Search completed on 9/21/15. Search strategy was to use terms around Costa Rica health care and add additional filters to narrow the search; returned approximately 900 results. Authors reviewed all 900 abstracts to select 135 articles for full text review.

tw:(costa rica) AND (instance:"regional") AND (db:("LILACS") AND mj:("Social Security" OR "Public Health" OR "Costa Rica" OR "Health Services" OR "Comprehensive Health Care" OR "Management" OR "Health Manpower" OR "Workers" OR "Health Policy" OR "Health Care Reform" OR "Delivery of Health Care" OR "Organization and Administration" OR "Primary Health Care" OR "National Health Programs" OR "Decentralization" OR "Local Health Systems" OR "Health Facilities" OR "Health Systems" OR "Personnel Management" OR "Quality of Health Care" OR "Staff Development"))

OTHER

Scielo database and EBSCO Host were both queried for "Costa Rica Primary Health Care," "Costa Rica Atención Primaria," and "Costa Rica Atención Integral." Global Health database was queried for the terms "Costa Rican Health Care," "Sistema de Salud Costarricense," "Sistema de Salud Costa Rica," "Salud publica costa rica," "Atención primaria costa rica," "EBAIS," and "Primary health care Costa Rica." Google Scholar was also searched using the terms "Costa Rica Primary Health Care," "Costa Rica Atención Primaria," and "Costa Rica Atención Integral." Together these other searches returned fewer than 10 articles for full text review.

INTRODUCTION

METHODOLOGY

PRIMARY HEALTH CARE
BEFORE THE 1990s

PRIMARY HEALTH CARE
STRUCTURAL REFORMS

IMPLEMENTATION
OF THE REFORMS

MEASUREMENT
AND MONITORING

IMPACT

CHALLENGES

LESSONS LEARNED

CONCLUSIONS

ACKNOWLEDGEMENTS

REFERENCES

APPENDICES

Appendix 2: List of Interviewees

NAME	POSITION
Alejandra María Rosales Rosas	Assistant to the Director of the Region Central Norte, CCSS
Alexander Barrantes Arroyo	Purchasing Department, CCSS
Alvaro Salas	Ex-director of the CCSS; served 1994-1998
Ana Francini Alfaro	Coordinador of Afiliacion and Identification at Clínica Dr. Solon Nunez
Anonymous Informant	Implementation Team for the Universal Digital Health Record
Anonymous, REDES	REDES, Health Area Acosta
Carlos Alberto Solano Salas	Medical Director at Clínica Clorito Picado
Carlos Enrique Salas Sandí	Development of Health Networks, CCSS
Carlos Monge	Physician, EBAIS Tarcoles
Carolina Chaves Araya	Assistant to the Medical Director in Health Area Alejuela Central
Celia Sanchun Macin	REDES, Health Region Central Norte, Licda. Registros y Estadísticas en Salud
Claudio Arce	Budget Department, CCSS
Cristina Vásquez Evangelisti	Director of the Clínica Dr. Carlos Durán Cartín
Dreissy Li Cruz	Physician, EBAIS Villa Ligia, Brunca
Eddy Salas Chávez	Medical Director of COOPESAIN at Clínica Lic. Rodrigo Fournier Guevara
James Cercone	President, Sanigest Internacional
Javier Céspedes Vargas	Development of Health Networks, CCSS
Jean-Pierre Unger	Senior Lecturer, Department of Public Health, Prince Leopold Institute of Tropical Medicine
Jorge Mora Acuña	Administrador Clínica Dr. Solón Núñez Frutos, Health Area Hatillo
Jorine Muiser	Associate Researcher, University of Costa Rica
José Ángel Castro Granados	Administrator in the Region Central Norte, CCSS
José Arturo Rojas Alvarado	EBAIS physician at Clínica Dr. Carlos Duran
José Esteban Villegas Ramirez	REDES at Clínica Carlos Duran
José María Molina Granados	Purchasing Department, CCSS
Juan Manuel Hernandez Herrera	Radiologist, Sabana Norte

NAME	POSITION
Juan Rafael Vargas	Professor, Universidad de Costa Rica
Karolina Sandi Rojas	Head Nurse, Health Area Jacó
Laura Paes Sanchez	Director of Ambulatory Care in the Health Area Santo Domingo
Luis Beirute	President of Administration and the Medical Director of COOPESANA
Luis Carlos Vega	Director of Brunca Health Region
Luis Rosero Bixby	Researcher at Centro Centroamericano de Población University of Costa Rica
Marco Antonio Salazar Rivera	Director of the Health Area Santo Domingo
María de la Paz Andrade	Director of General Physicians at Clínica Carlos Duran
Maria del Rocio Saenz	Ex-director of CCSS; served 2014-2017
Maria Elena Garay Orias	Director of REDES at Clínica Carlos Duran
Maribel Jiménez Roldán	Epidemiologist at Clínica Coronada
Martinez Jimenez Rodolfo David	Liaison to the Management of the Networks, Development of Health Networks, CCSS
Melvin Morera Salas	Ex-employee of the Purchasing Department, CCSS
Miriam Leon Solis	Statistician, Purchasing Department, CCSS
Neyshimi Vega Medrano	Purchasing Department, CCSS
Oscar Villegas	Project of the Fortification of Health Care Provision, CCSS
Pablo Esquivar	Purchasing Department, CCSS
Paul Araya	Purchasing Department, CCSS
Rodrigo Morales	Physician, EBAIS Vuelta Jorca
Roger Fernandez Duran	Physician, EBAIS Montecillos 1
Roger Lopez Espinoza	Statistics Department, CCSS
Roxana Castillo McGregor	Physician and Local Representative of Quality Improvement, Health Area Matina
Sergio Gomez R.	Budget Department, CCSS
Siany Lopez	Medical Director of the Acosta Health Area, Lic. en Medicina y Cirugía
Sugeylin Giovanna Castillo Salas	Medical Director of the Health Area Hojanca, Specialist in Administration of Health Care Services
William Durán Gamboa	Medical Administration of Health Area Acosta, Lic. en Contaduría Pública y Maestría en Administración de Servicios de Salud
William Gutierrez	Physician, EBAIS Matina

Appendix 3: Locations of Health Care Worker Interviews

LOCATION	HEALTH REGION	YEAR
Alejuela	Central Norte	2017
Santo Domingo	Central Norte	2017
Heredia	Central Norte	2017
Acosta	Central Sur	2017
San José	Central Sur	2017, 2016
Jacó	Pacifico Central	2016
San Isidro de El General	Brunca	2017
Matina	Limon	2017

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