Costa Rica's Health Care Reform: Impact and Success of the EBAIS Model

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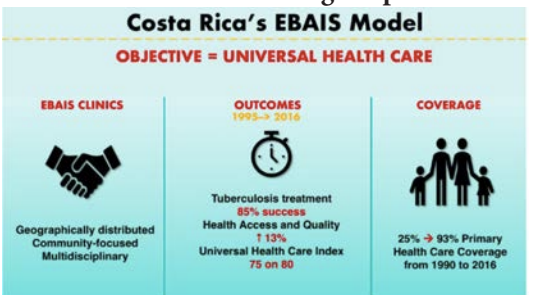
Abstract

In 1995, Costa Rica reformed its Primary Health Care System and implemented the EBAIS model to provide health care for all its citizens. This model created multidisciplinary teams to provide holistic and integrated preventative, curative and public health services to established health areas. With a focus on primary health care, accountability, monitoring and community involvement, the Equipos Básicos de Atención Integral de Salud (EBAIS) model received strong political support and was backed by both private and public funding. In 2017, over 93% of the population had access to primary health care and Costa Rica ranked 62 out of 195 for the Healthcare Access and Quality (HAQ) index. Due to an increasing prevalence and burden of non-communicable diseases worldwide, re-commitment of this plan is imperative. The United Nations Sustainable Development Goal (SDG) 3.8 aims to achieve universal healthcare (UHC) coverage through the provision of essential health care services for all (1). As countries look towards reforming their health care systems, Costa Rica serves as an example of an innovative and successful model for delivery of primary health care. In this case study, we will examine the impact of Costa Rica's reformed Primary Health Care System on access to health care from 1995 onwards.

Visual abstract: EBAIS model objectives, outcomes and health care coverage impacts



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Background

Prior to 1941, Costa Rica's citizens obtained health care through town or workplace doctors or by paying out-of-pocket (2). In 1941, Costa Rica established the Caja Costarricense de Seguro Social (CCSS) to provide health care insurance to workers (3, 4). In the 1960s and 70s, the Ministry of Health expanded insurance to include primary health care for workers' dependents and vulnerable groups (2, 5). In 1973, primary health care became a core component of Costa Rica's health care system, focusing on "health promotion, sanitation, child health, and infectious disease eradication" (6). In the same year, Costa Rica began the Programa de Salud Rural, or Rural Health Program to extend primary care to rural populations (7). These early systems were already improving health status and later served as building blocks for the 1995 reform. In the 1980s, Costa Rica experienced an economic crisis, which led to decreased funding to the Ministry of Health (MOH). Financial hardships, along with a government that supported neoliberal policies, led to a transition to the Selective Primary Health Care (SPHC) model—a cost-effective and resource-maximizing primary health care model (6, 7).

In 1991, dissatisfaction in Costa Rica's health care system was at an all-time high. A measles outbreak overwhelmed the public sector, resulting in a failure to meet the needs of the population, including long wait times and pressure upon employers to finance their employees' private clinic visits (2). Growing demand from

users and communities to occupy active roles in their health care facilities, along with political support, reinforced the need for change (7). President Rafael Calderón Fournier of the Social Christian Unity Party called for health care reform, with the goal to increase coverage and comprehensiveness of health care for Costa Ricans (6). A team of officials from the CCSS and MOH, along with health care providers, developed the new primary care model, the Equipos Básicos de Atención Integral de Salud (EBAIS) model, with the goal of equal health care for all of Costa Rica's citizens. Following the reform, delivery of primary health care was transferred from the MOH to CCSS, which granted them control over the incorporation of preventive, curative and public health services. Meanwhile, the MOH would supervise the overall health system (6). The first EBAIS team was established in February 1995 and was the product of long negotiations between Costa Rica and the World Bank (2).

Implementing the EBAIS Model

The EBAIS Model Explained

Prior to reform, the Costa Rican health care system was inefficient and costly, creating long waiting lists for its recipients (4, 8). Moreover, several clinics were unable to provide holistic care to their patients, choosing to instead focus on curative approaches. The EBAIS model was created as a reformative intervention for Costa Rican health care and established the following four goals: (1) the improvement of primary care, (2) the ability to hold hospitals & clinics accountable, (3) the active participation and involvement of the community in their health care, and (4) the gain of administrative independence by the hospitals & clinics (8). This was done by focusing on four key strategies to develop their EBAIS model: bureaucratic integration, multidisciplinary teams, empanelment/measurement and feedback loops (6). In the new model of primary care, EBAIS, or Integrated Primary Health Care Teams, emerged with the goals of providing unified and holistic care throughout the course of a patient's life.

With firmly established goals, political commitment and financing, the CCSS formed EBAIS teams by building or converting existing health clinics all over the country (9). By February 1995, the first EBAIS team had been set up. Existing staff were trained in the new holistic approach and many were transferred from the MOH to the CCSS. Services provided by the EBAIS are integrated and intended to cover one's lifespan, including treatment of diseases, rehabilitation, vaccination, detection and monitoring of risk groups occurring at every age (6, 10).

To best provide comprehensive coverage throughout the country, the CCSS delineated seven health regions into a total of 104 health areas. In early implementation, the EBAIS clinics were established in geographic areas with the highest prevalence of health inequities, followed by broadening to more urban and metropolitan regions (11). Each health area has between 5-15 EBAIS teams which is equivalent to one EBAIS team, or five workers per every 1000 households, or around 4000 patients (12). Each EBAIS clinic is run by an EBAIS team and

falls under the service network of primary care. For complex medical needs, people are referred to secondary or tertiary care in public hospitals and specialized clinics mainly found in San José. Costa Rica's decision to geographically empanel the population to specific EBAIS teams was hoped to support robust, proactive population health management (3).

Each insured Costa Rican is entitled to one yearly wellness visit, or four if the patient has a chronic condition. The goal of each team is to be composed of a physician, a nurse, a technical assistant (ATAPs), a medical data clerk and a pharmacist (6). Nurses and doctors work in clinics and provide preventive care, counseling and treatment. Physicians offer directed care by following health forms with prompts based on health concerns associated with the client's age. Pharmacists facilitate the delivery of medication and work out of a pharmacy attached to the clinic. ATAPs or technical assistants work as community health workers. Their roles are diverse and include home visits, acting as a social worker, providing education on disease prevention and facilitating community-wide health promotion. Finally, medical data clerks are responsible for the recording of all epidemiological data and reporting on quality of care (6).

Funding

Following the finalization of reforms, Costa Rica turned to the World Bank Group (WBG) for financing. Negotiations were complex as both the WBG and CCSS had different ideologies related to health care provision. The WBG sought to reduce costs, privatize, and implement a purchase-provider split in which the CCSS would not be the only organization providing health insurance (7). The CCSS pushed to implement the EBAIS model, where the implementation and financing of Costa Rican health could be integrated under one public institution. Ultimately, the WBG supported the EBAIS model, defined by federal autonomy and preventive care, through the provision of a USD $22 million to be repaid over a 17-year period (6). The WBG loan had three main intentions, (1) to consolidate health under the CCSS, (2) to fund the foundation of the EBAIS model, and (3) to increase Costa Rican enrollment into the CCSS insurance program, thus modernizing payment, while also increasing the efficiency of health, pharmaceutical services and distribution (13). This has culminated in a 70% return on WBG investment (14). In total, Costa Rica raised USD $123 million, including USD $47 million from the Inter-American Development Bank, and funding from other international providers such as the governments of Sweden and Spain. These loans were complemented by Costa Rican contributions coordinated by the Pan American Health Organization (15). Through these contributions, the CCSS was able to provide a comprehensive multifaceted system of health care for all.

CCSS purchases services that cover all health needs of the population, including EBAIS teams, medications and lab tests (16). When a patient requires a medication or service not usually offered, they must submit a claim to the CCSS. Patients who are unemployed are only asked to pay for services once they find employment and

those uninsured are charged the cost of services at lower than market prices (16). Most importantly, no one is denied first time for emergency care. The CCSS does not seek to make profits and upholds equity in financing and financial protection.

CCSS health insurance is financed by three key parties: employees, employers, and the government. Contributions are financed by 15% payroll tax towards which employers, employees, and the government contribute 9.25%, 5.5%, and 0.25% respectively. CCSS funds are then pooled and managed by the central financial administration unit of the CCSS, distributing funds to administrative and health care units (5). A current concern is that CCSS dependence on payroll taxation for revenue could eventually lead to financial scarcity as the informal labor market increases in size, thus limiting the amount of people providing direct financial contributions (17). Furthermore, an analysis of public expenditure illustrates how economic status is inversely related to health care utilization, and how the saturation of public services is pushing those of a higher financial status to utilize private care. The poorest 20% of the population who receive only 4.7% of the national income are the recipients of nearly 30% of all health expenditures, while the wealthiest 20% of the population who receive 48% of the national income receive 11.1% of CCSS resources (5). In addition, household surveys show that 30% of the population utilize private health services at least once a year. This depicts an increasing willingness, by those financially predisposed, to opt in to private services for basic procedures and utilize the CCSS for major operations, thus bypassing the extended wait times found in the public system while avoiding catastrophic out-of-pocket expenditure (18).

Impact Evaluation

One of the primary goals of the 1990s health care reform was to extend coverage of health care for Costa Ricans (6). The EBAIS model aimed to provide one EBAIS clinic for every 4,000 citizens, especially targeting rural and low-income groups. Before 1990, only 25% of Costa Ricans had access to primary health care (19). From 1995 to 2001, the number of EBAIS teams increased from 0 to 736 clinics, covering 80% of the population (2) (Figure 1). While still 295 less clinics than needed for full coverage in 2017, over 93% of the population has access to primary health care (6, 19).

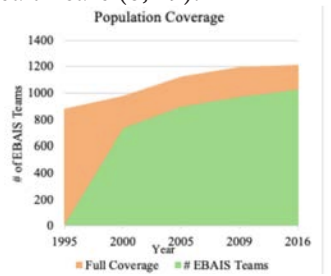

Figure 1. Estimated and actual coverage of Costa Rica's population through the EBAIS system from 1995 to 2016. Data provided by Pesec 2017 (6). Full coverage calculated based on population of Costa Rica divided by 4,000.

From 1990 to 2016, the Healthcare Access and Quality (HAQ) Index increased from 62.1 to 73.7 in Costa Rica, an absolute change of 13% (20) (Figure 2). Compared to 195 countries, Costa Rica ranked sixty-second according to

this index, with Iceland as number one with an HAQ Index of 97, and the Central Africa Republic as last with a score of 19 (20). Out of Latin American countries, Costa Rica ranked fourth out of 21, preceded only by Puerto Rica, Chile and Cuba (20). Based on The World Bank's data on Universal Healthcare coverage index, Costa Rica had a score of 75 in 2015. This means Costa Rica has ranked 34th out of 130 with available data. Although many of PHCPI's 38 indicators are missing data for Costa Rica, there are some that show the success of the intervention. For example, antenatal care coverage, which means four or more visits, was at 97.6% compared to the "worst" world value of 6.3%, and the "best" value of 99.7% (18).

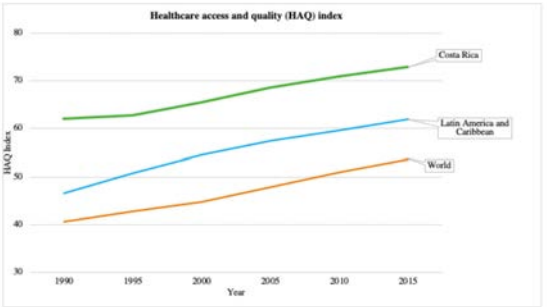

Figure 2. Healthcare access and quality (HAQ) index of Costa Rica compared to Latin America and the world from 1990 to 2015. Data provided by GBD collaborators 2018 (19).

One of the main aspects of primary health care, as seen in the Comprehensive Primary Health Care (CPHC) model, is prevention and control of infectious disease (6). Before the 1970s, many health care programs were vertically oriented towards fighting specific diseases. For example, in the 1960s, Costa Rica ran four disease-specific campaigns: tuberculosis (TB), venereal disease, parasites and malaria (6). The implementation of the EBAIS model, which promotes prevention and care at the primary level, should be evaluated on its ability to address infectious disease prevention and eradication. Since 1990, Costa Rica has decreased the rates of communicable diseases from 65 cases per 100,000 people to 4.2 in 2010, likely due to the use of vaccination, better sanitation and the EBAIS system (6). PHCPI performance indicators validate Costa Rica's Primary Health Care through an 85.0% TB treatment success rate among new TB cases, with a total of 80% of TB cases being detected and treated and with 54% of people living with HIV receiving ART (18).

The increase in health care access and the decrease of infectious diseases seem to be signs of a successful primary health care program. However, non-communicable diseases, such as cardiovascular disease, have been increasing worldwide. Countries are now experiencing an epidemiological transition, with non-communicable diseases becoming the leading cause of death worldwide. It is important to evaluate the performance of the EBAIS model on NCDs, as it must now meet the country's growing health care needs stemming from chronic conditions. It should be noted that Costa Rica's primary health care system achieved the best result for lower-middle income countries regarding adult mortality from NCDs: 12% (18). As of 2012, cardiovascular disease accounts for 30% of deaths in Costa Rica (21). Cardiovascular disease may be a formidable challenge for Costa Rica's health care system, where some report 12 to 18 month long wait times for specialty care

services, such as cardiology (6, 18).

Strengths of the Intervention

The implementation of the EBAIS system in Costa Rica has led to remarkable changes. A large majority of the population now has access to primary health care. Above all, the achievements of Costa Rica's health system from 1995 onwards stem from the strong determination of the Costa Rican government in prioritizing population health and development. In the 1990s, during the creation of the EBAIS system, 7% of the GDP was allotted to the health care system, of which only 30% came from private funds, while the remaining 70% was sourced from public funds (7). This proportion of resources coming from public funds prior to the reform was unusually high when considering that Costa Rica was classified as developing country. Remarkably, health expenses coming from public funding are comparable to the rates of high-income countries like Canada, with 71% public funding in 2000, New Zealand (78%) and Sweden (85%). Costa Rica's funding programs and financial commitment to health care are in part why the country has health outcomes that resemble those of high-income countries.

The CCSS first targeted the poorest health areas, making a sensible choice in providing comprehensive care and reducing the inequities present predominantly in these areas. The rapid increase was substantial due to the previous lack of presence (6). This allowed for the reduction of inequities within the health system and a rapid increase in coverage. An important goal established post-reform was to create a system where hospitals and clinics could be held accountable (8). In order to measure and evaluate the EBAIS model, management contracts (MC) were implemented in 1997. The first MCs were structured as performance-based payments for Health Areas able to reach the indicators and targets negotiated between CCSS administration and service providers (4). The MCs had several important limitations, such as being time consuming, drawing away from consultations, monitoring certain health problems while neglecting others and being poorly aligned with EBAIS objectives. Given the difficulty of monitoring unique MC targets for each Health Area, and in efforts to optimize performance for all 104 Health Areas, MCs were replaced in 2014 by the EPSS (Provision of Health Services Evaluation) and a national set of targets and indicators for the period of 2014 to 2018 were introduced (6). Despite the limitations of the MCs, it is Costa Rica's dedication to monitoring the quality of care that allowed the EBAIS model to adapt and respond to factors like access of care, continuity, effectiveness, efficiency and user satisfaction. For instance, one of the MC requirements included having a physician present from Monday to Friday, which assured that the patients could be seen, and care was provided (4). Since replacing the MCs with the EPSS, the health areas have sustained their efforts to meet targets, enforced by disciplinary action for health areas ranked in the bottom 20% who do not improve their performance within a year (6).

Limitations and Challenges Faced

There are several factors which underlie chal-

lenges faced during EBAIS implementation. Despite the impressive realization speed, Costa Rica still has not met its original goal of 4,000 patients per EBAIS team. Moreover, in 2017 an addition of 295 clinics were missing to complete the reform's targets (6). Since the EBAIS originally started in rural areas, EBAIS teams in larger metropolitan clinics, like in the San Jose capital, are often missing key team members and must share clinics. Furthermore, there remain issues with integrating primary, secondary and tertiary care. Some patients still face issues of access and experience long wait times for specialized doctors, resulting in many going to emergency rooms (6). The recourse of patients towards emergency rooms places a strain on emergency care staff and services, increases wait times and emergency room crowding, leads to less comprehensive evaluations by physicians and only temporarily relieves individuals when specialized care remains needed. As frustrations towards long wait times for specialized procedures grow (sometimes upwards of a year or more) Costa Ricans are increasingly paying out-of-pocket for privatised health care. Thus, the country's health care faces the risk of becoming a divided, two-tiered system.

The rise of the private sector is now challenging the EBAIS model by further exacerbating existing flaws within the public system. Firstly, strong mandatory preventive programs in EBAIS have led doctors to dismiss activities that have not been included in established performance agreements, such as addressing obesity (7). With an aging population and the doubling of the population over 65 since 1990, Costa Rica has undergone and an epidemiologic shift towards a higher NCD burden (6, 21). Furthermore, the long wait times for specialty care mentioned earlier may additionally worsen the problem, especially since many cancer screenings fall under secondary care where wait-times could interfere with access to preventative, screening and treatment services (6). The private health care costs represent a small but growing portion of total health expenditures. In fact, private health costs represented approximately 25% of total health care costs in 2013 (6).

As previously mentioned, health care expenses have been on an upward trajectory and although this reform has attempted to tackle such challenges, political arrangements could be at the source of these limitations. The MOH's role in planning, funding and delivering health care can still be strengthened. Furthermore, audits are lacking and data on needs and activities are still not fully linked to outcomes pertaining to costs and care (21). Even though Costa Rica's institutions are stable, they are quite inflexible, as portrayed through the failure of programs to improve quality and efficiency, such as diagnosis-related group accounting or accreditation programmes, which have been abandoned. This demonstrates how initiatives to improve transparency and accountability have not been well accepted (21).

Reflections

The Costa Rican experience serves as an important lesson for the global health community. Unlike Brazil and other rural health programs,

the EBAIS model was implemented on a national scale and thus dramatically improved health coverage as well as the quality of care received (6). Costa Rica's reform did not use novel interventions but rather combined multiple disciplines and strategies to create a comprehensive system.

Geographic empanelment has been tried by numerous countries, but few have gone beyond simply assigning patients to primary care providers. For example, Turkey has successfully used geographic empanelment for the past two decades, but not in conjunction with integrated restorative and preventative care or multidisciplinary teams, which make up the core of the EBAIS model (6). In contrast, Costa Rica complimented the use of geographic empanelment by simultaneously building teams and programs to ensure accountability and monitoring of population health. Around the world, community health workers play valued roles. In Costa Rica, technical assistants are unique in their professionalism, in-depth training and responsibility for community data collection. Geographic empanelment and multidisciplinary teams have been implemented by countries before, but when used together, they form a strong foundation for measurement and feedback loops (3). This benefits the identification of at-risk populations, cascade of care flaws and allows stronger systems to work on a large scale. Comparing Brazil and Turkey to Costa Rica highlights the latter's unique success in the integration and combination of reforms at a national scale (6).

Finally, UHC policies and values must remain high and prioritized on the political agenda both throughout and after implementation (12). Governments that are currently developing or reforming their health care systems must be willing to motivate stakeholders, make resources available and push for the coordination of UHC across institutions. Like Costa Rica, countries will have to respond flexibly to evolving population health and demands.

Future of the Model

Although the reformed system of health embodied by the EBAIS model was largely effective and efficient, the future of the CCSS may be at stake financially if it does not control expenditures, improve the collection of financial resources and mobilize new sources of funding (21). As the population changes, financial strain will grow from both the expenditure and income side. Researchers predict a rising demand for costly health services as well as a shrinking pool of citizens' contribution through taxes. Some future steps may be required to improve financial sustainability. For one, Costa Rica could work to further optimize the collection of existing revenue sources in response to evolving labour market structures. The CCSS financial model could also be reformed to better monitor health-care costs associated to personnel and information system implementation (21).

Lastly, Costa Rica will have to adapt their model to the growing NCD burden by targeting issues such as nutrition, obesity and exercise. The model will need to survey the factors contrib-

uting to NCDs, such as alcohol use and high fat diets, and educate the public regarding prevention, identification and treatment. Costa Rica has already started educational programs teaching about risk factors and symptoms as well as the ability to self-manage chronic diseases (6).

Overall, Costa Rican health indicators mimic those of middle-high incomes countries despite low income per capita. Costa Rica provides important takeaway lessons for countries around the world looking to reform their primary health care systems. Although the model still has flaws and is undergoing transitions, Costa Rica's successful reformation, implementation and sustainment of their prosperous primary health care system serves as a valuable example for the global health community.

Authors Note

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