KEY MESSAGES:

- The Costa Rican Social Security Fund (CCSS) has taken its first steps towards the introduction of strategic purchasing of healthcare services with a pilot that was introduced for the first time as part of the institution’s 2024 budget, which is currently being implemented. With this highly relevant reform, the CCSS begins its transition from a resource allocation model based solely on the historical budget to (i) a capitation model at the first level of care and (ii) the introduction of prospective elements at the hospital level.
- The purpose of the review in the resource allocation methodology is to align resources with the health needs of the population and the supply of services, while encouraging the achievement of specific strategic objectives, such as increasing productivity, accessibility, and quality of services.
- The designed resource allocation models were the result of the intersection of the latest scientific evidence and the information available in the CCSS information technology (IT) systems. The results of this pilot phase will be monitored and evaluated to inform future adjustments and improvements. The further development of the IT systems will also allow continuous improvement of the strategic purchasing model.
- This reform has been driven by the “Program for Results for the Strengthening of Universal Health Insurance in Costa Rica”, approved by the World Bank Executive Board in 2016 and implemented by the CCSS until January 2024. The technical assistance provided by the World Bank in support of CCSS’s efforts, as well as the communication and negotiation with the managers of the pilot phases, have been key facilitators for the proper development and advancement of the models.
- The future of strategic purchasing requires a major commitment from the CCSS administrators and managers, as learning from the pilot and continuously adapting to the progressive implementation, including to other regions in the country, will be critical to the overall success of the reform.

Introduction

The Costa Rican Social Security Fund (CCSS) is the largest administrator of resources and provider of health services in Costa Rica. (1) For decades, the allocation of resources to its health units has been done through historical budgets, which do not necessarily ensure that these resources are aligned with the needs of the population. The resource allocation system to date has not been linked to results, improvement in outcomes nor other performance indicators, i.e., health services have not been purchased strategically. After some attempts in the past, for the first time, the CCSS has developed a new resource allocation model that includes elements of strategic purchasing, in line with the general evolution in the world, and is on the way to implement them. The
models, developed by the CCSS under technical assistance from several global experts, include (i) budget allocation with prospective elements for hospitals, and (ii) a capitation model for the first level of care (health areas).

The development of these resource allocation mechanisms in the CCSS was driven by a Program for Results (PxR), a World Bank financial instrument that promotes the achievement of strategic goals and objectives of programs that seek to improve the use of general public expenditures or improve their performance through their own processes and institutions. In Costa Rica, this program was implemented between 2016-2024 for the Strengthening of Universal Health Insurance. Its initial objectives included modernizing and strengthening the primary health care network, improving the quality of services, increasing population coverage, and making the network more capable of prevention, early diagnosis and control of diseases relevant to the local, regional and national epidemiological profile. It also aimed to improve the institutional and financial efficiency of the CCSS.

This knowledge brief is part of a larger series of knowledge reports developed by the World Bank that seeks to describe the key reasons for success, challenges, and key lessons learned in developing prospective resource allocation models, with the goal of providing a roadmap for other countries interested in implementing similar reforms.

Background: Development and Pilot
Costa Rica invested 7.9% of GDP in health in 2020, an increase of more than 1 percentage point since 2000. At the same time, health care spending has increased. Between 2016-2020, outpatient and average costs per day of hospitalization in the CCSS have nearly doubled; as a result, efficiency in the use of economic resources has been recognized as essential to a sustainable financial future.

Historically, the CCSS has allocated an annual budget to the health facilities to cover the inputs necessary to provide services (salaries, materials, equipment, etc.) through a historical exercise. Under this model, budgets are allocated based on the budget execution of the immediately preceding period and inflationary adjustment, without considering population and epidemiological needs. The advantage of the current resource allocation model is that it is simple and relatively easy to implement. However, it can lead to inefficiencies in the use of economic resources among the various health units, as well as inequitable distribution of resources.

Consequently, the CCSS has worked to implement cost-containment mechanisms to ensure that health facilities serving populations with greater needs receive more resources. The allocation of resources with prospective elements promotes the transfer of risk from the funder to the provider in order to achieve pre-agreed outcomes and results, with the goal of providing cost-effective services, optimizing processes, and improving service quality.

The initial cooperation agreements between the World Bank and the CCSS identified the need to improve institutional capacity and effectiveness for strategic purchasing of health services. In particular, it was considered relevant to strengthen the budget allocation model and introduce tools to migrate to a per capita budget system for primary care and to introduce prospective elements for hospitals. It was therefore determined that one of the indicators linked to disbursement within the PxR would be related to the development of the annual budget by means of prospective tools for the first level of care and for the hospitals. It was intended that CCSS decision-makers would be able to analyze the efficiency of the resources allocated and improve the quality of services and health outcomes for patients. In the CCSS, the Financial Management department, specifically the Budget Department, was responsible for monitoring compliance with this indicator. Thus, a technical team was created to manage and coordinate all the activities and communications necessary for the correct design and execution of the project.

This team requested technical assistance from the World Bank to develop the new budget allocation models. First, a team of consultants was assigned to conduct a review...
of the literature and of the international experience on prospective resource allocation models for primary health care and hospitals. Based on this review, two prospective annual budget models were developed for the CCSS. The development of a capitation-based model for primary care and a model with prospective elements for hospitals were considered appropriate based on the literature review and the institutional readiness of the CCSS. Both models were calculated for the allocation of the "effective budget," that is, the portion of the budget that is transferred to and managed by the health care units. The effective budget can be used for unit operating expenses (e.g., salaries and their increases, subsidies). The rest of the budget, the "non-effective" part, are resources over which the units have no control or management, and are used mainly for the purchase of drugs and medical and laboratory instruments. (7, 8)

The development of both models was carried out during the year 2022 and half of the year 2023 by a team of consultants, who were supported by the budget technical team within the CCSS to provide them with the data and information necessary for the development of the models.

At the same time, and as part of the successful progress in the design of the resource allocation models, medium and long-term (10 years) projections were made with calculations to close the identified inequity gaps in the distribution of resources at the end of this 10-year period. (7)

These two developed models became part of a pilot program for the 2024 budget formulation, for which the Integrated Health Services Delivery Network of Huetar Norte was selected. The pilot of the capitation model for the first level of care was implemented in the 8 health areas of the region. In turn, the prospective model for hospitals is being piloted in 2 hospitals of the CCSS in the same region. The timing for scaling up to the national level will depend on the lessons learned and the progress made in the first stages of the pilot. (9)

**Description of innovations in resource allocation**

Based on the review of international best practices and the availability of information from the CCSS, it was decided to develop a per capita resource allocation model for primary care (health areas) and a model with prospective elements for the hospital level of the institution.

**Capitation model for the first level of care (health care areas)**

This model consists of two parts, a base rate, and a risk-adjusted model. The base rate is an average amount allocated to health areas based on the number of people registered in each health area. The second component, the risk adjustment index, allows a portion of resources to be allocated based on specific population characteristics in each health area that are expected to lead to an increase in health spending. The risk adjustment index considers factors related to access to services (transportation network, proportion of population living in rural areas) and the population’s need for health services (population under 1 and over 75 years of age, accident rate, proportion of population with diabetes). In the future, the CCSS plans to use advanced predictive models to more accurately estimate the risk adjustment index of specific population groups.

**Prospective model for hospitals**

The model of prospective elements in the annual budget allocation to hospitals was developed considering four results-focused priority areas: productivity, accessibility, quality of care, and efficiency. To improve productivity and accessibility, targets related to an increase in the percentage of hospital occupancy, the turnover rate of hospital beds, and the ratio of first-time outpatient visits to the total number of outpatient visits were included. In terms of quality of care, the goal is to reduce the number of healthcare-associated infections. Regarding efficiency, the goal is to ensure compliance with budget policy and the full execution of additional resources for special projects. Each of these areas includes specific indicators and weightings developed based on the contextual analysis of the two pilot hospitals where the tool was initially implemented. In total, the model is composed of 6 indicators that integrate a baseline situation and the expected improvement by the end of the year. (8)

**FACILITATORS**

The design of this critical reform has been facilitated by several factors, such as the technical assistance provided by the World Bank, the communication with the pilot...
management units, and the very existence of the project within the PxR, among others.

Appointment of a technical team: A technical team was established within the Budget Directorate of the CCSS to oversee the progress and make future adjustments to the design of the prospective resource allocation models. The team is composed of personnel from the Budget Directorate, Financial Management, Medical Management and Purchasing Directorate. The main role of the team has been to facilitate the work of the external consultants, including the communication with the technical bodies, to give access to information and provide feedback on the progress made by the consultants, and to follow up on compliance with the indicators established by the World Bank. Their knowledge of the specific details of the operation and management of CCSS financing and budget formulation has been essential to inform and complement the technical expertise of the consultants in the development of the models.

Technical Assistance: The CCSS Budget Directorate recognized the need to seek the needed skillset from outside the organization to design the new budget allocation models. With the support of the World Bank, a local consultant was identified to provide the support needed. The expert had both local knowledge of the financing system of the health care sector as well as extensive international experience supporting other countries in similar reforms. In addition, a senior expert from Spain was also contracted to provide additional insights and lessons learned from the reform that took place in Catalonia. Such technical assistance ensured that the reform was designed taking into account the best possible evidence.(9)

Prospective Model Workshop: To share the international experience and knowledge on prospective payment models in the CCSS, an introductory workshop was held with the participation of CCSS staff and pilot management units, the consultants involved, and World Bank officials. During the sessions, thematic content related to prospective payments was reviewed, and the consultants presented the models developed until then to receive feedback from staff and management units. This workshop facilitated the understanding of the models, dispelled doubts and fears, and established the beginning of communication between managers and directors of the CCSS, which would continue up to and throughout the implementation phase.

Program socialization with the pilot’s management units: To improve the reception and acceptance of the reform, the Budget Directorate held socialization sessions with the management units. This not only increased familiarity with the tool, but also made it possible to identify opportunities for improvement so that the tool could be adapted to the real world. For example, factors such as the rurality of the health areas, demographic factors such as pregnancies and migrant populations, epidemiological factors such as the incidence of malaria were considered, as was the availability, timeliness, and quality of the required information.

Cross-departmental collaboration: The information needed to develop the models came not only from various CCSS departments, but also from the CCSS Board of Directors. To bring it together, the Budget Directorate was able to connect the consultants with the various areas from which information is needed. They even facilitated meetings with other departments outside of the Financial Management Unit.

Health Information System: An important step for the design of such prospective models was to have access to the needed data, which in this case were obtained through the Single Digital Health Record (EDUS), the computerized system widely implemented in the CCSS.

World Bank Technical Assistance and Flexibility: As part of the implementation support plan, the World Bank team provided technical advice to CCSS staff, which was recognized by the CCSS as essential to advancing the development of the prospective budget models. On the other hand, it has been recognized that the World Bank's flexibility in the face of delays caused by the challenges that have hindered progress has been very helpful in keeping the project on track.

Inclusion of a PxR Objective: The development of prospective models was one of the indicators promoted by the PxR, in agreement between the CCSS and the World Bank, meaning that the achievement of the final objective and its intermediate milestones corresponded to the right to request the disbursement of a sum / an amount agreed in the loan. This has ensured that the actions defined are effective in achieving projected goals.
CHALLENGES MET AND SOLUTIONS APPLIED

While several challenges hindered progress and delayed the Program, these have been gradually resolved.

Data Availability: For the CCSS, the ideal prospective payment model for hospitals would have been based on Diagnosis Related Groups (DRGs). Unfortunately, due to the lack of data availability in the system, and due to the existence of initiatives under implementation in the institution (e.g., ERP software), this approach had to be deferred to future phases. It was decided to integrate the model based on the three areas of productivity with the vision that in the future it will be possible to integrate the DRGs. There are also variables that are relevant to the context of the health areas but are not currently collected (e.g., indigenous and Afro-descendant populations and access to health services).

Delays in Data Delivery: The models integrate information compiled by various departments and areas of the CCSS. Obtaining the data to build the models was a key challenge. However, with the support of the Budget Directorate’s intervention, it was possible to expedite access to data.

Cyberattack on CCSS systems: The cyberattack on the CCSS IT system caused disruptions in the progress of the prospective payment models. The primary impact was a disruption in the collection of information for model development. Fortunately, this was resolved once the cyberattack was resolved.

COVID-19 pandemic: The pandemic was also a factor that slowed the progress of the models due to the distortion of service delivery and the subsequent difference in the data used to generate the shadow budgets, so it was decided to use information from 2019 and more recently to update it to 2022.

Technicality and limited knowledge of prospective payment models: CCSS administrative and clinical staff had limited experience with prospective payment models. This created doubts and fears about potential implementation barriers. Gradually, through the workshops, socialization, and application of the pilots, this resistance has been mitigated, as the benefits of the reform were well received and agreed upon.

THE ROAD AHEAD AND THE GAPS TO BE CLOSED

The CCSS has succeeded in designing and piloting innovative resource allocation models. In the future, the CCSS will need to facilitate their effective integration and ensure a progressive implementation which can be thought of as three main phases. In the first phase, the aim was to implement the first pilot of the models developed with two hospitals and eight health areas. To this end, a negotiation of the objectives to be achieved by the pilot management units was successfully generated and preceded the implementation of the pilot in 2024. An evaluation of the exercise and its results will be key to strengthen the tool and methodology during the execution of this first phase. The evaluation and its quantitative and qualitative metrics will be key to scaling up positive results at the institutional level. The second phase will be the implementation of the models for the 2025 budget formulation and its duration will depend on the lessons learned from the first phase. The aim of this phase will be to increase the number of hospitals and health areas in which the models tested and piloted in the previous phase are applied, and to increase the number of indicators in the models. Finally, it is hoped that the third phase will produce more sophisticated and comprehensive models that include patient health risk stratification.

Due to the heterogeneity in the allocation of resources currently received by health units, the ultimate goal will be to achieve a standardized base fee allocation. This will be achieved through a progressive adjustment of the base rate assigned to each unit, either for an increase or decrease, depending on the current situation of the units. By achieving this standardization in the base fee, only the risk adjustments will vary according to the local context.

Similarly, the objectives to be achieved within the budget allocation models will be agreed upon between the CCSS and each management unit in each of the phases before they are implemented. This gradual and continuous learning process will allow for the improvement of relevant indicators to be included, such as those related to access to health services. It will also be important to consider a solid legal framework so that the achievement of goals and the corresponding payment are effectively applied.

Another clear objective of the CCSS is to shift budget allocation from the individual health units to a budget allocation at the “Integrated Health Service Networks” (RIPSS) level. The aim is to strengthen the RIPSS and their
management with the units belonging to each of their territories.

The progressive and gradual nature of the transition to strategic purchasing creates processes that will take decades to complete. The far-reaching success of the day-to-day implementation of these models in the administrative processes of the CCSS and their impact on health outcomes, improved patients’ experience and quality of services, and resource efficiency, will depend on proper communication, execution, and negotiation among the key actors, which has been successful so far. Box 1 summarizes the lessons learned throughout the development and implementation of the reform.

**Box 1. Lessons Learned**

- Recognize the technical capacity and experience of the institution and its staff in strategic purchasing is instrumental prior to seeking external expert advice when necessary.
- Develop budget allocation models based on the intersection of the best scientific evidence, the availability of information and the counterpart’s institutional maturity.
- Create a space for open discussion with unit managers to express their concerns about the revised resource allocation models, and try to identify measures to mitigate them, as this will reduce resistance to future implementation.
- Negotiate realistic goals with the management units.
- Evaluate the pilot phases with quantitative and qualitative goals makes for better progress in scaling up.
- Establish effective communication with pilot managers is important for adequate learning.
- Carry out a long-term progressive scaling up – this will be key for successful project implementation.
- Plan with future goals that include the integration of new indicators to achieve implementation of the best possible models.
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