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National League against Cancer of Guatemala

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ABSTRACT

This case introduces students to the conceptual framework of the Activity Based Costing (ABC) system applied to a health service organization. The case was written by documenting a real situation faced by the controller of the National League against Cancer in Guatemala (LNNCG). The controller wanted to improve the costing system of the various units of the League, but focuses on those of the surgical and hospitalization divisions. Even though both areas were separate costing centers, they shared some significant costs. The case allows for an in-depth discussion of cost classifications, cost drivers, allocating rates, and the managerial implications of developing a new costing system.

1. Introduction

One morning in early October 2012, Sandra Veliz, the General Controller of the National League against Cancer of Guatemala (LNCCG, its acronym in Spanish), reviewed the costs of the various services provided by the League. The following week, she expected to start receiving the budgetary needs from all of the departments, so she needed to determine the costs that she would use as a basis for preparing the preliminary budget. In addition, she wondered if more resources were needed to support the organization's increasing operations. If the Board of Directors could not increase funding, she would have to justify an increase in the price schedule by presenting a strong cost analysis.

Since she had been appointed General Controller in 2009, Ms. Veliz had made significant progress in evaluating the costs for various services, and she felt comfortable with the established costs for diagnostics, chemotherapy and radiotherapy. The doctors, residents, nurses, and staff members of these departments operated independently, which made it easier to allocate fixed payroll costs. However, this was not the case in the surgery and hospitalization departments. Although surgery and hospitalization were different cost centers, the regular doctors and residents in the surgery department did rounds in the hospitalization area when they were not in surgery. Additionally, cost allocation was complex due to the number of surgical procedures that varied in time and supplies used.

Ms. Veliz was very interested in improving the cost model for the surgery department. First, she was worried that the fees currently charged to surgery patients did not reflect the department's operating costs, which could affect the sustainability of the institution in the medium term (see Fig. 1). In addition, in a scenario in which it was increasingly difficult to compete for donor resources, a better cost model that made the real needs of the hospital evident would help the hospital compete for new resources.

2. National League against Cancer

The National League against Cancer was a non-political and non-religious organization that aimed to promote the fight against cancer and all of its manifestations in the Republic of Guatemala, either acting on its own or in cooperation with the government and private agencies. The League was founded in 1952 by the Rotary Club of Guatemala. The organizing committee was chaired by Dr. Bernardo del Valle Samayoa, and both his statutes and the organization's legal status were approved by the government on February 3, 1953. The first clinic financed by the League was inaugurated on August 28, 1953 on the premises of the Hospital San Juan de Dios.

In 1954, the League obtained a piece of land adjacent to the Hospital Roosevelt from the central government and began to build facilities for outpatients. In 1969, a hospital was established with two floors and the capacity to hospitalize 80 patients. Subsequently, an additional level was built, expanding the building's area to 8052 m^2 and allowing the hospital's capacity to increase to 121 beds. Although most of the buildings were already depreciated for accounting purposes, an annual depreciation of Q. 937,500 was assumed.

The League financed its operations by charging (at subsidized fees) for the services provided as well as by collecting donations from companies and altruistic individuals and receiving government transfers for patients referred from national hospitals. The League was formed by four entities: the “Dr. Bernardo del Valle” Cancer Institute and Hospital

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National League against Cancer of Guatemala
Surgery times, hospitalization and examples of procedures by category

Category	A			B			C			D		
Time allocated to surgery (hours)	2.00			2.00			3.00			4.00		
Average net operating time (hours)	0.68			1.17			1.87			2.31		
Anesthesiologist average time (hours)	0.95			2.25			2.72			3.24		
Room cleaning and preparation of instruments (average time in min)	25			25			25			25		
Average days of hospitalization	2			3			5			7		
Procedures: Surgical Oncology	Cones			Colostomy			Hernia repair mesh			Radical hysterectomy		
	Biopsy			Oophorectomy			Cholecystectomy			Gastrectomy		
	Tracheostomy			Jejunostomy			Rehepatic jejunostomy			Maxillectomy		
	Lipoma resection			Exploratory laparotomy			Suprapubic Protatectomia			Abdominal perineal		
	Renal catheter placement			Orchidectomy			Ovarian and endometrial routine			Radical mastectomy		
	Washes			Wide grafts			Biopsy and laparotomy			Radical neck dissection		
	Osteochondroma resection			Hypogastric Ligation			Unilateral lingual dissection			Parotidectomy		
Procedures: Reconstructive Surgery	Minor facial defects			Intermediate facial flaps			Major facial flaps			Major flaps		
	Minor facial flaps			Major grafts			Partial nasal reconstruction			Major bone grafts		
	Hand and face cysts			Dermis grafts			Nerve grafts					
	Facial flanges release			Placing expanders			Eyelid reconstruction					
Socioeconomic Level	Low	Medium	High	Low	Medium	High	Low	Medium	High	Low	Medium	High
Fees per surgery (in Q.)	1,050	1,150	1,250	1,400	1,510	1,620	1,680	1,810	1,940	2,080	2,250	2,450

Source: INCAN and LNCCG.

Fig. 1. National League against Cancer of Guatemala surgery times, hospitalization and examples of procedures by category.
Source: INCAN and LNCCG.

(INCAN in Spanish), the Women's Board, the Department of Prevention and Health Education Research (PIENSA in Spanish), and a pharmacy.

The goal of PIENSA was to prevent the most frequent types of cancer. These sessions included information campaigns in the media, lectures, and early prevention tests provided at reduced cost. The campaign had a dual purpose: first, to raise public awareness that cancer is a latent problem; and second, to detect cancer in its early stages, thereby increasing the chance of cure and significantly decreasing treatment costs. PIENSA developed campaigns throughout the year and dedicated each month to conducting seminars focused on a particular type of cancer. Because of their higher rates of frequency, cervical cancer and breast cancers were prioritized; the months of July and August were dedicated to cervical cancer, while September–December were dedicated to breast cancer.

The Women's Board was responsible for fundraising by holding events such as raffles, charity dinners and races that subsidized the operations of other units. Another part of the League was the pharmacy. The pharmacy had the same facilities for purchasing medications at the same prices and conditions as government institutions, which allowed them to provide medications at affordable prices for the benefit of patients.

INCAN was the executive and most visible arm of the League. It included detection and evaluation clinics as well as ancillary services such as diagnostic imaging (X-ray, mammography and tomography), a blood bank, a palliative care unit and a physiotherapy unit. For treatment, INCAN offered services such as chemotherapy, radiotherapy, oncology and reconstructive surgery. To allow for the postoperative recovery of patients who underwent surgery, INCAN had a hospitalization area divided into sections for men, women and radiotherapy patients.

According to its mission the League was a private nonprofit institution committed to providing quality of life in education, prevention, diagnosis, and cancer treatment services for young adults in Guatemala. Its vision was to be a leading institution in the region for research and comprehensive cancer care with the latest technology and trained staff with social sensitivity to develop strategies for our continuous improvement.

3. Surgical and hospitalization services

INCAN offered oncology and reconstructive surgery as final treatment options. At the level of institutional statistics, surgeries were classified into three categories: minor, major and radical surgery. However, for the purposes of cost and collection rates, surgeries were grouped into four categories based on the level of complexity, the average duration and the required supplies. To make the vast number of surgical procedures performed by INCAN manageable, Ms. Veliz requested the assistance of the Medical Director for the classification of procedures based on his knowledge and experience (see Fig. 1). This classification made it possible to establish a cost system that would have been very difficult to implement if procedures were analyzed individually. The classification system also served as the basis for a system of rates by surgical category and socioeconomic status of the patient (see Fig. 1).

The hospital also had a hospitalization area for the recovery of patients who had undergone operations. The surgery and hospitalization units, although different cost centers in the accounting books, were in practice very closely related due to the postoperative follow-up procedures that doctors gave their patients. There were also other cost centers that provided support services such as cleaning, laundry, cooking and sterilization.

3.1. Surgery unit

INCAN had four operating rooms (ORs) that were equipped according to the procedures to be performed. OR I was used for procedures involving head, neck and solid tumors. OR II was equipped for procedures related to breast cancer and gynecology. OR III had specialized equipment for surgeries involving the abdomen, chest and soft tumors. OR IV supported the other three operating rooms and was available for all types of surgeries (see list of equipment for operating rooms Fig. 2).

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