

SRIRAM T K, SHAILAJA GROVER, SATYABALA HARIHARAN, AND U. DINESH KUMAR

PACKAGE PRICING AT MISSION HOSPITAL

Dr Satyajit Bose watched the fresh green paddy fields from his Toyota Innova while driving on National Highway 2 (NH 2) from Burdwan to Durgapur in West Bengal, a state in East India. He turned to Professor Dinesh Kumar and remarked, “A drive on this highway is like doing meditation: the greenery of this place relaxes your mind. This stretch of land is one of the world's most beautiful places.”

Professor Kumar nodded in acceptance; West Bengal was not unfamiliar to him since he had taught at the Indian Institute of Management, Calcutta, for a few years. But he was preoccupied with the reason for his visit to Bose and Durgapur. Dr Bose was the chairman of the Mission Hospital (a multispecialty hospital) in Durgapur. Despite treating patients with all illnesses, the hospital specialized in cardiology. It was widely popular among the locals and patients from neighboring states and other countries, such as Bhutan and Sri Lanka. The hospital performed an average of 150 heart surgeries every month and was in the process of increasing the capacity to 200 per month. A list of major cardiac surgeries performed at the hospital is shown in **Exhibit 1**.

As Chairman of Mission Hospital, Dr Bose discussed the problem he was experiencing. He said:

Professor, healthcare business models are changing rapidly. Our hospital publishes price lists for many treatments. The state governments negotiate package prices with us for specific ailments; these schemes are designed to assist economically weaker sections of society. In addition to package pricing, there is intense competition between hospitals to attract patients. We are still determining whether the package pricing is the right approach. I sometimes think we should charge as we used to when patients paid for their treatments and consultancy fees.

Indian hospitals often charged flat rates (package or fixed price) for several treatments. As a result, treatment costs had become less uncertain for patients. A flat rate was also popular among medical tourism customers in India. Health tourism customers had been offered customized healthcare packages based on their preferences, including hospital choices, cities, travel arrangements, hotel accommodations, and nearby tourist attractions. **Exhibit 2** shows a leading medical tourism provider's package price for a few cardiac surgeries. Many hospitals quoted a flat fee for treatments such as heart surgery and knee replacements. The patient would only have to pay the agreed flat price regardless of actual expenses or treatment duration since it was a contract between the hospital and the patient. Because hospitals were perceived to perform unnecessary diagnostic tests, Indian state governments often insisted on such contracts.

Package pricing posed a high risk since actual costs may exceed the package price. On this matter, Dr. Bose stated:

This is like buffet pricing in restaurants, where customers pay a fixed price and can eat as much as they want. While restaurants control their menus, hospitals do not control how long it takes for patients to recover because it depends heavily on their bodies.

Sriram T K (Research Assistant, IIM Bangalore), Shailaja Grover (Consultant, IIM Bangalore), Satyabala Hariharan (Research Assistant, IIM Bangalore), and U Dinesh Kumar, Professor of Decision Sciences, prepared this case for class discussion. This case is not intended to serve as an endorsement, source of primary data, or to show effective or inefficient handling of decisions or business processes.

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Dr Bose needed to make several decisions—whether to use package pricing or traditional pricing, how to devise package pricing, and how to use package pricing as a competitive strategy in the market since many new hospitals were expected to open soon in Durgapur.

ABOUT THE MISSION HOSPITAL

The Mission Hospital was founded in April 2008 to provide affordable, high-quality health care. This was a division of Durgapur Medical Centre Private Limited. It was the first hospital in Durgapur to provide state-of-the-art medical facilities to its patients. When asked about the ideology behind setting up this hospital, Dr Bose shared, “Our mission is to decentralize super-speciality healthcare, and deliver it to every doorstep in eastern India, beyond the metropolis, and heal patients with dedication, honesty, and tender loving care.”

In addition to seven operating rooms with laminar airflow and high-efficiency particulate arrestance filters (HEPAs), the hospital also had mother and childcare units, 24-hour emergency departments, blood banks, and pneumatic chutes that were fully automated. Mission Hospital was the first super-speciality corporate hospital outside of Kolkata. Many government and non-government treatment schemes were available at the hospital, attracting patients from nearby areas. Many patients from neighboring states and countries were treated at Mission Hospital. As part of its commitment to improving patient satisfaction, the hospital focused on improving responsiveness, efficiency, courteousness, and helpfulness for patients. The hospital invested substantial amounts in training and development to maximize the potential of its employees.

PACKAGE PRICING FOR TREATMENTS

In package pricing, patients received a quote for treatment costs before admission. Depending on the patient's surgery or treatment needs, medical health, room charges, and other factors such as age, weight, height, gender and blood group, his or her treatment price was customized. The treatment charge for a patient was considered "fixed" regardless of the actual cost incurred by the hospital. In such a system, any variation in the planned treatment did not affect the price quoted to the patient by the hospital. Payments to hospitals were made ex-ante at the time of admission.

Mission Hospital considered adopting fixed package pricing to improve customer confidence and make its pricing policies more transparent. A quote would be provided for the total amount to be paid, which included consultation fees, operating theatre charges, anaesthesia fees, laboratory tests, medications, room rent, and taxes. The patient paid only what was quoted, with no hidden costs.

PACKAGE PRICING: WHY AND WHY NOT?

There was usually anxiety among patients that the hospital might recommend unnecessary tests and medicines to increase their bill. It was always uncertain how much one would pay to the hospital. Combined with the fact that only 30% of Indians had any financial tool, such as health insurance, to cover medical expenses, this was extremely important (*Financial Express*, 2013).¹ As a result of package pricing, the patient was protected from any risk of cost escalation during treatment. The hospital handled any extension of the patient's stay for any reason, including a medical complication. This system also helped patients estimate their expenditures and plan their treatment. Prices at different hospitals were available before admission, making it easier for patients to compare them and make an informed decision.

Package pricing also reduced disputes between patients and hospitals over treatment costs. Many patients were covered under insurance policies or government programs. Payment disputes sometimes arose between these agencies and hospitals over treatment costs. Hospitals could suffer a loss if they did not receive payment for the

¹ <http://archive.financialexpress.com/news/4-factors-that-impacted-health-insurance-industry-in-2013/1212100>, accessed on 24 May 2023.

treatment they provided. **Exhibit 3** shows the package price for a few heart surgeries prescribed by the Central Government Health Scheme (CGHS). The Mission Hospital had been accredited by the National Accreditation Board for Hospitals and Healthcare Providers (NABH) and empanelled under the CGHS program. With package pricing, hospitals could negotiate treatment charges with insurance companies and government agencies more effectively.

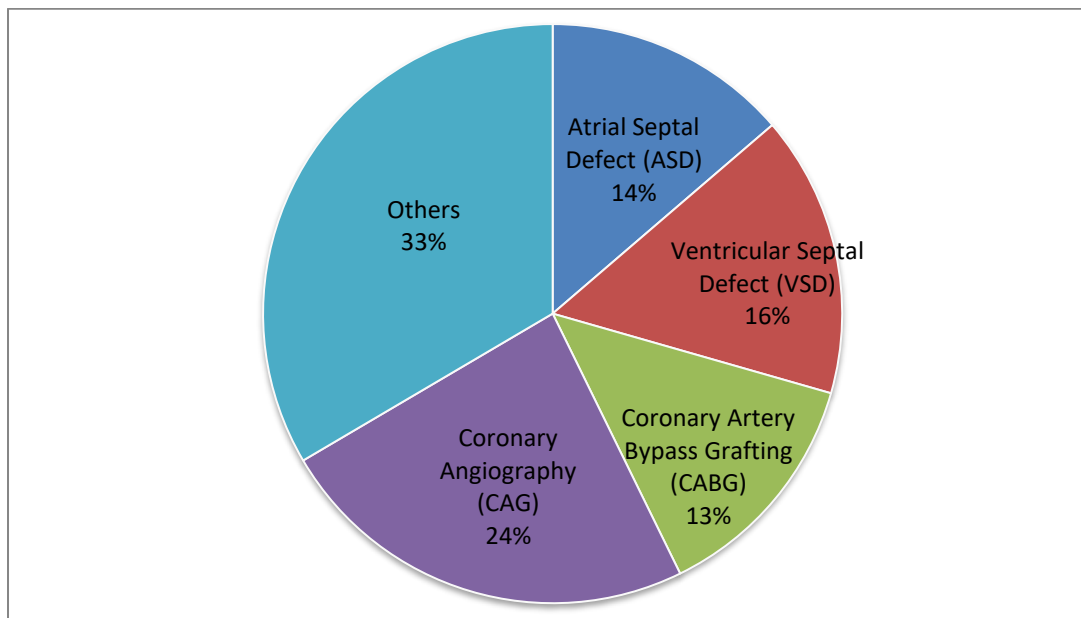
There were, however, some drawbacks to the flat fee as well. Underestimating treatment costs could result in losses for the hospital. Moreover, hospitals might compromise the quality of their patients' treatment to reduce costs, resulting in patients not receiving the care they needed or being discharged earlier than necessary, which could affect their healing or recovery process. The hospital also faced the challenge of accurately estimating the patient's treatment costs. If a patient stayed longer than expected, the hospital incurred additional costs. Typically, hospitals considered the possibility of cost escalation when quoting flat fees to patients. It worked similarly with insurance in reducing risks for both parties.

DECISION-MAKING FOR THE MISSION HOSPITAL

Dr Bose had to design a system to predict the package price during admission. Mission Hospital's IT department collected historical patient data. **Exhibit 4** provides information on the variables that the hospital had collected. Dr Bose believed that past data could help the hospital develop a predictive model for treatment costs.

Exhibit 1

Mission Hospital Surgery Statistics



Source: Mission Hospital

Exhibit 2

Cardiology Treatment Packages

Cardiac Care Surgery Packages	Days in Hospital	Procedure Cost (USD)	Procedure Cost (INR)
Angiography (including non-ionic contrast)	1	398	23880
Coronary Angioplasty (including two stent)	Depends on the treatment	11000	660000
Open Heart Surgery (CABG)	9	5500	330000
Pediatric Cardiac Surgery - ASD/VSD/AV Repair, MV Repair/Paediatric TOF	9	4267	256020
Aortic Valve Replacement (AVR) or Mitral Valve Replacement (MVR), including one valve	Depends on the treatment	10000	600000
EPS	1	759	45540

Source: <http://www.medicalindiatourism.com/treatment-packages/cardiology/> last accessed on 21 May 2023

Exhibit 3

CGHS Kolkata 2010 Package Rates (in INR)

Name of treatment procedure	Rates for NABH accredited hospitals	Rates for Non-NABH hospitals	Rates for Super Specialty Hospitals
ASD closure	53000	45050	53000
VSD with graft	53000	45050	53000
CABG	130000	110500	130000
Coronary angiography	11500	10000	11500
DVR	130000	110500	130000
CATH	10350	9000	10350

Source: Office Memorandum, Department of Health and Family Welfare, Government of India

Exhibit 4

Variable Description of Data

Variable	Description
Age	Age of the patient in years
Body Weight	Weight of the patient in kilograms
Body Height	Height of the patient in centimeters
HR Pulse	Pulse of the patient at the time of admission
BP-High	High BP of the patient (Systolic)
BP-Low	Low BP of the patient (Diastolic)
RR	Respiratory rate of patient
HB	The haemoglobin counts of patient
Marital Status	Marital status of the patient Married Unmarried
Gender	Gender code for patient Male Female
Past Medical History Code	Code given to the past medical history of the patient: Diabetes1 (Type I Diabetes) Diabetes2 (Type II Diabetes) Hypertension1 (Only Hypertension) Hypertension2 (Hypertension and Diabetes) Hypertension3 (Hypertension, Anxiety, Depression, Chest Pain) Other (cold, loose motions, jaundice, etc.)
Mode of Arrival	How the patient arrived at the hospital Ambulance Transferred Walked in

Exhibit 4 (Continued)

Package Pricing at Mission Hospital



State at the Time of Arrival	State in which the patient arrived. Alert Confused
Type of Admission	Type of admission for the patient Elective Emergency
Key Complaints Code	Codes given to the key complaints faced by the patient ACHD CAD-DVD CAD-SVD CAD-TVD CAD-VSD OS-ASD other- heart other- respiratory other-general other - nervous other - tetralogy PM-VSD RHD None
Total Cost to Hospital	Actual cost incurred by the hospital.
Total Length of Stay	Number of days the patient stayed in the hospital.
Length of Stay - ICU	Number of days the patient stayed in the ICU.
Length of Stay - Ward	Number of days the patient stayed in the ward.
Implant used (Y/N)	Any implant done on the patient.
Cost of Implant	Total cost of all the implants done on the patient, if any

Source: Mission Hospital