

oikos Case Writing Competition 2016

Social Entrepreneurship Track

Runner-up

**Dr. Devi Shetty of Narayana
Hrudayalaya: Delivering Quality
Cardiac Care to the Masses**

Inspection Copy

G.V. Muralidhara
(IBS Hyderabad, IFHE University)

This is an Online Inspection Copy. Protected under Copyright Law. Reproduction Forbidden unless Authorized. Questions relating to permission should be directed to casehelpdesk@ibsindia.org

© 2016, IBS Center for Management Research, IBS Hyderabad. All rights reserved.
This case was prepared as a basis for class discussion rather than to illustrate the effective or ineffective handling of an administrative situation.

oikos case competition

<http://www.oikos-international.org/cases>



Join  today!

oikos is an international student-driven organization for sustainability in economics and management. Founded in 1987 in Switzerland, we today empower leaders to drive change towards sustainability worldwide.

Our programs embed environmental and social perspectives in faculties for economics and management. They comprise conferences, seminars, speeches, simulation games and other initiatives to transform teaching and research. They promote the integration of sustainability in curricula. And they provide platforms for learning, creating and sharing solutions.

The heart of our organization are our student members that turn ideas into action in currently more than 45 oikos chapters around the world. They are supported by a global community of oikos alumni, advisors, faculty, and partners, as well as an international team based in Switzerland.

Go to www.oikos-international.org to learn more about our projects.

If you are a student...

Go to www.oikos-international.org → “Find a chapter” to find an existing chapter at your university.

Go to www.oikos-international.org/about/people/members/start-a-chapter/ to start a new chapter at your university.

Go to www.oikos-international.org/about/join-our-team/ if you would like to apply for a position in our international team in Switzerland.

If you are a faculty member...

Contact faculty@oikos-international.org to find out how to participate in oikos projects.

Dr. Devi Shetty of Narayana Hrudayalaya: Delivering Quality Cardiac Care to the Masses

Abstract

The case discusses the growth of Narayana Hrudayalaya (NH) — a social enterprise set up with the objective of providing affordable healthcare to the needy — its emergence as a chain of well-run hospitals across India, and its foray into foreign countries. The case further highlights the decision of the company to go in for an IPO and poses the question whether this would affect the social objective of the organization in view of the pressures it would face as a publicly listed company.

NH was established in Bangalore in the year 2001 by Devi Shetty (Shetty) with a 225-bed hospital primarily providing cardiac care. By 2015, it had grown into a chain of 57 facilities with 5,600 operational beds. NH stood apart in the Indian healthcare market by providing quality healthcare to the masses at an affordable cost. In 2015, it had operational revenue (standalone) of INR 13,075 million with a profit of INR 289 million, treating patients from 25 countries. Shetty had plans to establish facilities with 30,000 beds by 2020. He pioneered several innovations to bring down the cost of treatment and the way in which the treatments were funded.

The challenge for Shetty was to ensure that the avenues and the investors he chose for further funding were in alignment with his priorities, growth plans, and expectation of returns.

In September 2015, Shetty announced his intention to go in for a public issue. There were doubts raised whether the pressure of shareholder expectations would distract Shetty from his social goals.

In 2012, Shetty had stated, “We are eccentric people. We are in the business because we want to help the underprivileged and the cost of healthcare to come down. For that, I need the freedom.” Will Shetty be able to enjoy that freedom and continue with his mission?

'No matter how good a surgeon you are, if you are not affordable it is of no use.'

– Devi Shetty, in October 2015

'Never doubt that a small group of committed people can change the world – Indeed that is the only thing that has.'

-Margaret Mead, Anthropologist

'Hands that serve are more sacred than lips that pray.'

- Mother Teresa

INTRODUCTION

In September 2015, Devi Shetty (Shetty), Founder Chairman of Narayana Hrudayalaya (NH), a hospital chain that stood apart in the Indian healthcare market by providing affordable quality healthcare to the masses, announced his intention to go in for a public issue. The announcement attracted widespread interest in the media. Questions were raised about the reasons for the public issue since Shetty had been running his hospital chain successfully for fifteen years, achieving his social mission of providing treatment to any patient who walked into the hospital irrespective of his/her ability to pay for the treatment. There was concern that the pressure of shareholder expectations and quarterly results would distract Shetty from his social goals.¹

NH was established in the year 2001 in Bangalore with a 225-bed hospital that primarily provided cardiac care. By 2015, it had grown into a chain of 57 facilities with 5,600 operational beds — 56 facilities in India and one in the Cayman Islands. In 2015, NH had operational revenue (standalone) of INR 13,075 million with a profit of INR 289 million, treating patients from 25 countries.² Shetty, who had pioneered several innovations to bring down the cost of treatment and the way in which the treatments were funded, had plans to establish facilities with 30,000 beds by 2020 (See Exhibit I for trend of revenue and profit).

Shetty had several firsts to his credit including operating on a 9-day-old baby.³ By 2015, he had performed more than 4,000 pediatric heart surgeries.⁴ He received several awards for his work in providing affordable healthcare. These included the Padma Bhushan — the third highest civilian award given by the Government of India — in 2012, Indian of the Year by CNN-IBN in 2010, the Social Entrepreneurship Award by CII in 2005, and the Ernst & Young Entrepreneur of the Year Award in 2003 (See Exhibit II).

It remained to be seen whether Shetty would be able to continue his social mission of providing quality healthcare at an affordable cost to everyone who needed treatment even after NH became a public listed company, subject to the pressures of the stock market and shareholders.

A CHILDHOOD INSPIRATION

Born in 1953 in a small town in Karnataka, India, Shetty learnt the art of survival early in life. He was eighth in a large family of nine children and the bullying he faced from his elder brothers and classmates in school made him mentally strong and motivated him to take up body building and training in martial arts. In 1967, when Shetty was in the sixth standard, his

¹ Rohini Mohan, 'Here's Why Devi Shetty Of Narayana Health Is Looking To Hit Dalal Street', Economic times, September 1, 2015

² Peter Frisk, 'Game Changers: Creative Innovative Strategies For Business and Brands', John Wiley and Sons Ltd., UK, 2015

³ 'Heart Surgeon: Devi Prasad Shetty', Aspire-India Today, August 9, 2010

⁴ <http://www.healthcitycaymanislands.com/about/dr-shetty-message/>

teacher announced in class that Dr. Christiaan Barnard had performed the first heart transplant operation in Cape Town, South Africa. The announcement lit a spark in Shetty and made him determined to become a heart surgeon one day. In addition, seeing his parents getting older and falling ill made him realize the importance of the medical profession and to develop a passion for it. Talking about his purpose in life, Shetty recalled a childhood incident: “My mother was speaking to a distant relative of ours in Bombay (Mumbai). This lady was telling my mother about a particular surgeon who, apart from saving her child’s life, also offered his service completely free of cost. I could hear my mother blessing the mother of that surgeon for giving birth to such a wonderful person and ended up saying that this world is still a wonderful place because of people like him. That was the time I found the purpose to my life, the purpose of bringing happiness to all the children of this world.”⁵

Shetty went on to do his MBBS and MS in General Surgery from Kasturba Medical College in Mangalore, India. From 1983 to 1988, he did a stint as a cardio thoracic surgeon at Guys Hospital in London, where he acquired his experience in cardiac surgery and also exposure to the National Health Service of the UK, which delivered quality medical care to a large number of people.

In 1989, after returning to India, Shetty co-founded Asian Heart Foundation, a non-profit focused on cardiac care that helped other organizations in setting up hospitals. The foundation helped in setting up the B.M. Birla Heart Research Institute in Kolkata in 1989, the Manipal Heart Foundation Hospital in Bangalore in 1997, and a cardiac care unit in association with the West Bengal government. In 1999, the foundation also started its own cardiac hospital, Rabindranath International Institute of Cardiac Sciences (RTIICS), in Kolkata. In 2001, Shetty established Narayana Hrudayalaya in Bangalore on land provided on lease by his father-in-law, who also contributed the initial capital for setting up the hospital.

WORKING FOR A SOCIAL CAUSE — MOTHER TERESA’S INFLUENCE

While working in Kolkata, Shetty received a phone call one day from a person who wanted him to visit her home. Being a surgeon, Shetty naturally wondered how he could be of any assistance at someone’s home. The caller, however, promised that the visit would change his life. And this turned out to be true, since that call was to treat Mother Teresa.⁶ Shetty continued to treat Mother Teresa as her personal physician for a number of years. She had a great influence on him and inspired him to provide healthcare to the masses. Seeing Shetty treat a child for a heart problem, Mother Teresa told him: “Now I know why you are here. To relieve the agony of children with heart disease, God sent you to this world to fix it.”⁷ Shetty’s vision was to ensure that everyone who required medical care received it irrespective of his/her ability to pay for the treatment.

HEALTHCARE AND HOSPITAL SECTOR IN INDIA

With a large population, India lagged behind global standards in providing quality healthcare to all her needy citizens. The total expenditure on health as a percentage of the gross domestic product was 3.8 per cent compared to a global average of 8.6 per cent. The government expenditure on health as a percentage of total expenditure on health was only 30.5 per cent in India against a global average of 57.6 per cent in 2012. That meant private expenditure constituted a high 69.5 per cent of total expenditure on health whereas the global average was 42.3 per cent. In India, 87.2 per cent of private expenditure on health was

⁵ <http://www.healthcitycaymanislands.com/about/dr-shetty-message/>

⁶ Mother Teresa (1910-1997), a Roman Catholic missionary, devoted her life to the care of the poor and the destitute. She worked from Kolkata and started the ‘Missionaries of Charity’ in 1950. Her work was recognized and acclaimed throughout the world and she received several awards including the Nobel Peace Prize in 1979.

⁷ <http://www.healthcitycaymanislands.com/about/dr-shetty-message/>

met from out-of-pocket expenditure against a global average of 52.6 per cent.⁸ This was because a majority of Indians were not covered by health insurance. The country also lacked healthcare infrastructure that was commensurate with its huge population. The healthcare infrastructure in India needed huge investments to bring it up to the level of the infrastructure in developed countries. It was estimated that India had one bed for every 1,050 patients compared to one for every 350 in the U.S. and one for every 85 in Japan.⁹ There was a high incidence of heart disease among Indians and they exhibited three times higher vulnerability to heart disease than Americans or Europeans due to their genetic disposition. On an average, Indians suffered heart attacks at the early age of 45 against 65 for people in London. India accounted for 45 percent of coronary heart disease worldwide.¹⁰ However, there was inadequate capacity in the country to perform cardiac surgery. India needed 2 million cardiac surgeries every year whereas only 100,000 to 120,000 surgeries were performed. Similarly, around 600 to 800 children were born with a heart problem in the country and 90 per cent of them died gradually without proper care.¹¹ Thus, there was a huge supply-demand gap in the country for cardiac care.

The hospital sector in India consisted of a variety of establishments such as government hospitals, private nursing homes, hospitals run by missionary organizations, hospitals sponsored by corporate houses, charitable hospitals funded through philanthropy, and hospital chains and corporate hospitals funded through public equity (*see Exhibit III*). Apollo Hospitals was a pioneer in setting up a chain of modern, well-equipped hospitals as a public limited company. The Government of India's National Health Policy of 1982 gave industry status to hospitals, thus opening the doors for financing from financial institutions. The policy also paved the way for private service providers to play an important role in healthcare delivery in the country.¹²

WALMARTIZATION OF HEALTHCARE – SHETTY'S INNOVATIVE APPROACH

To bring down the cost of healthcare and make it affordable to the common man, Shetty resorted to what he called Walmartization in managing the hospitals.¹³ He applied the business principles that helped Wal-Mart¹⁴ offer its unique 'Everyday Low Prices' to the running of his chain of hospitals.

The first principle was Economy of Scale (*See Exhibit IV*). This was based on the premise that with a large scale of operation, input costs could be challenged.¹⁵ The Bangalore facility of NH performed around 30 cardiac surgeries every day, which was 10 per cent of the cardiac surgeries performed in the entire country.¹⁶ This gave Shetty huge bargaining power in dealing with both medical equipment manufacturers as well as consumables suppliers. He could source consumables directly from manufacturers, cutting out the middlemen. V. Raja, head of General Electric Co.'s healthcare business in India, said, "Dr. Shetty drives a hard bargain and wrestles some savings because he is such a big customer."¹⁷ The cost of setting up

⁸ World Health Statistics 2015, www.who.int/gho/publications/world_health_statistics

⁹ 2015 Health Care Outlook India, www2.deloitte.com/content/dam/Deloitte/global/Documents

¹⁰ <http://india.ashoka.org/fellow/devi-shetty>

¹¹ Neelam M Kachhap, 'Breaking Ground On The Way To Success', The Financial Express, March 12, 2015

¹² Bertrand Lefebvre, 'Hospital Chains in India: The Coming Of Age?', ifri Centre Asie, January 2010

¹³ www.ndtv.com/the-unstoppable-indians-dr-devi-shetty-aired-february-2009

¹⁴ Wal-Mart Stores, Inc. operated retail stores in various formats around the world and was a US \$ 261 billion (May 2015) market cap company known for its stated policy of offering 'everyday low prices' to its customers.

¹⁵ Forbes India: Dr Shetty and his business with a heart, <http://www.ibnlive.com/news/business/forbes-india-tuesday-320015.html>

¹⁶ www.ndtv.com/the-unstoppable-indians-dr-devi-shetty-aired-february-2009

¹⁷ Geeta Anand, 'The Henry Ford Of Heart Surgery', The Wall Street Journal, November 25, 2009

a bed was reported to be INR 1.75 million for NH compared to INR 10 million for other hospitals in India¹⁸. Similarly, Shetty was able to procure consumables and reagents at significantly low prices, making the cost of conducting lab tests a fraction of what it was in other labs and hospitals. Significant cost reductions were also achieved through standardization and centralized procurement. A Raghuvanshi (Raghuvanshi), Vice Chairman, MD and group CEO of NH, said, “We standardize the products that we keep on our shelves. Almost 95 per cent of the inventory is standardized across all the hospitals. Just 5 per cent is left to the local hospital to buy.”¹⁹ NH did an average of 30 CT scans per machine per day whereas the average number of CT scans done in India was seven per machine.²⁰ Based on the large utilization of equipment, he was able to convince the manufacturers of the equipment to place the machines for use at NH without the hospital having to incur any capital cost.

The manufacturer’s earnings came through the sale of the reagents required for the tests. In addition, Shetty developed alternative sources for the manufacture and supply of items like sutures and disposable drapes, which brought down the expenditure on these by 50 per cent. The second principle Shetty used in NH to bring down costs was to improve the efficiency of utilization of resources. The infrastructure was used 12 to 14 hours a day.²¹ Doctors and supporting staff like nurses and technicians formed a major component of the operational cost of running a hospital. Shetty applied the principle of specialization to enhance the productivity of surgeons. Instead of every surgeon performing all types of operations, at NH, each surgeon specialized in a particular type of surgery like pediatric surgery or bypass surgery, which made them highly proficient in their respective specializations.²² This was made possible by the scale of operations at NH. In addition, the support team ensured that the surgeon focused only on the critical tasks to utilize his/her time effectively. Surgeons at NH performed twice the number of operations per day, six days a week, compared to a doctor in the US who typically worked five days a week. Similarly, Shetty recruited people with basic degrees and trained them to perform tasks like reading radiology reports or operating ECG machines. This brought down the manpower costs significantly. The Wall Street Journal called Shetty ‘The Henry Ford of Heart Surgery’ for his efforts in applying a factory model for hospitals to cut down costs and improve profits.²³

While improving productivity, Shetty ensured that highest standards of quality were maintained. While some people wondered whether he was compromising on quality in his quest for volumes, the figures told a different story. NH was able to bring down the mortality rate within 30 days of coronary artery bypass surgery to 1.4 per cent compared to the average of 1.9 per cent achieved in the US in 2008. Jack Levin, Chief Executive of the American College of Cardiology, opined that through specialization, Shetty was able to use high volumes to improve quality.²⁴ Raghuvanshi said, “To achieve a low cost model in healthcare, unlike in any other industry, you have to have as good quality as you can produce. There is a general perception among people that if you have low costs it means low quality as well. However, our essential ingredient is quality.”²⁵

¹⁸ Sheha Shah, ‘CDC Group Invests Rs.300 Crore In Dr.Devi Prasad Shetty’s Narayana Hrudayalaya Hospitals’, January 15, 2015, <http://health.economictimes.com>

¹⁹ <http://www.thesmartceo.in/cover-story/narayana-healths-ten-year-plan.html>

²⁰ Rohini Mohan, ‘Here’s Why Devi Shetty Of Narayana Health Is Looking To Hit Dalal Street’, Economic Times, September 1, 2015

²¹ <http://www.dailyrounds.org/blog/balancing-social-good-while-being-for-profit-dr-devi-shettys-narayana-health-is-going-to-the-stock-market/>

²² Forbes India: Dr Shetty and his business with a heart, <http://www.ibnlive.com/news/business/forbes-india-tuesday-320015.html>

²³ Geeta Anand, ‘The Henry Ford Of Heart Surgery’, The Wall Street Journal, November 25, 2009

²⁴ Geeta Anand, ‘The Henry Ford Of Heart Surgery’, The Wall Street Journal, November 25, 2009

²⁵ <http://www.thesmartceo.in/cover-story/narayana-healths-ten-year-plan.html>

FOCUSING ON PROFITABLE REVENUE STREAMS

Most hospitals in India concentrated on maximizing revenues from in-patients. But in addition to the revenue from in-patients, Shetty focused on maximizing revenue from out-patient treatment and investigations, which he found generated higher margins. NH treated 1.5 million out-patients annually.²⁶

THE ROBIN HOOD OF HEART CARE

Though all the innovative measures that Shetty had implemented had brought down the cost of a heart operation to around INR 60,000, there were still patients who could not afford even that. Those who could not pay were provided treatment free of charge through various schemes. This Shetty achieved through cross-subsidization with a unique sliding-scale payment system for treatments²⁷. Sixty per cent of the patients who underwent heart surgery and could afford to pay for it, paid almost twice the amount that a poor patient who couldn't afford it, paid. The system of daily profit and loss statement ensured that the ratio could be fine-tuned on a daily basis. There were also large contributions received from rich patients who had undergone treatment at NH. A patient from the US, for instance, contributed US \$ 1 million to NH to express his gratitude for the successful operation he had undergone at NH. Also, seventy to eighty heart surgeries every month were sponsored by merchants on Commercial Street, a prominent business area in Bangalore²⁸. In addition to this, around 12 per cent of such treatments were covered through an innovative health insurance scheme.

INNOVATIONS IN FINANCING OF PATIENT TREATMENT

Shetty believed that charity was not scalable. Therefore, to ensure that NH could treat a large number of patients who could not afford the charges in a sustainable manner, Shetty convinced the Karnataka Government to float a micro-health insurance scheme that provided them with the facility of a heart operation at a nominal premium of INR 5 per month, which was less than the cost of a cup of tea. The Yeshasvini Cooperative Farmers Health Care Scheme provided insurance cover to more than 4 million farmers in Karnataka and was being replicated by other states in India.²⁹

USE OF TECHNOLOGY TO EXPAND REACH

Shetty made effective use of technology to expand the reach of his hospital. NH had one of the largest telemedicine networks in the world. The hospital offered 350,000 tele-consultations annually through 900 telemedicine centers spread over 60 countries including India, in Africa, West Asia, and the Far East.³⁰

In addition, NH successfully employed information technology to improve efficiency. An enterprise resource planning system hosted on the cloud enabled it to manage information and use it effectively. Senior doctors and administrators of each hospital received an SMS at noon every day giving information about the financial performance of the previous day. Business intelligence was used to generate real time data on 30 parameters that helped in improving efficiency and quality.³¹

²⁶ <http://www.dailyrounds.org/blog/balancing-social-good-while-being-for-profit-dr-devi-shettys-narayana-health-is-going-to-the-stock-market/>

²⁷ <http://india.ashoka.org/fellow/devi-shetty>

²⁸ <http://www.bbc.co.uk/programmes/p00cz9dt>

²⁹ <http://yeshasvini.kar.nic.in/about.htm>

³⁰ Sreelatha Menon, 'The Promise Of Telemedicine', Business Standard, March 14, 2012

³¹ N. Madhavan, 'Compassionate Heart', Business Today, May 25, 2014

WOMEN EMPOWERMENT

Shetty gave importance to women in his establishment since he believed that they were compassionate and dedicated and most suitable for healthcare. Of the people employed in the set-up, 94.8 per cent were women. Shetty was also of the view that whatever money a woman earned went directly to the family whereas a man contributed only a portion of what he earned to the family. NH hired women from villages and trained them in operating ECG machines. Over time, they became highly proficient in operating these machines since they specialized only in this.

DEVELOPING TALENT – TOWARD DAWN PROGRAM

To address the need for doctors and also create a pipeline of doctors who were passionate about their profession, Shetty launched the 'UdayarPathe' (Toward Dawn) along with Asia Heart Foundation to identify talented rural students in West Bengal state when they were in the seventh standard and supported them in their education through high school and medical college.³² He strongly believed that people coming from a poor background would be passionate about serving the poor and the needy. As of 2015, there were 385 students in the program.

THE PERSONAL TOUCH

Shetty made it a point to meet his patients and their families personally and comfort them with reassuring words. People who were given a fresh lease of life by him through the treatment considered him a god. His personal touch was evident in his gesture of installing four shrines of different religions at the entrance to NH at Bangalore to provide a place for people of different religions to pray for the well-being of the patients.³³

CHARISMATIC NETWORKER

Shetty's charismatic personality and accessibility ensured that his work received widespread exposure in the media including through international media such as the BBC. As the Secretary of the Association of Health Providers, India, he had access to the Prime Minister of India, Narendra Modi. His ability to network and collaborate with many helped him expand NH's network through a number of different partners in different locations (*see Exhibit-V for the variety of arrangements NH used to expand its network*). Shetty partnered with Kiran Mazumdar Shaw (Kiran)³⁴, founder of the company Biocon, in establishing the Mazumdar Shaw Cancer Centre, a world class facility with 1,400 beds in Bangalore.³⁵ He was able to attract young, talented medical professionals due to his visionary appeal. He said, "We never advertise for people. We regularly receive applications from people who want to work with us."³⁶ Detractors remarked that it was Shetty's personal charm rather than the hospital's model that had opened many doors to ensure the smooth expansion of NH.³⁷

Though Shetty played a major role in providing a charismatic leadership and was the main force behind the growth of NH, he could not have achieved success without the support of a trusted team that he banked on. He was supported by his long-time associates like Raghuvanshi, a pediatric heart surgeon who led the management team. The management

³² <http://india.ashoka.org/fellow/devi-shetty>

³³ <http://www.bbc.co.uk/programmes/p00cz9dt>

³⁴ Kiran Mazumdar Shaw, a non-executive director of Narayana Hrudayalaya, is the founder of Biocon, the largest publicly traded biopharmaceutical company in India.

³⁵ Kiran Mazumdar Shaw, 'Dr. Transformer: Devi Shetty's Amazing Mission of Delivering Affordable Healthcare to All (Blog)

³⁶ <http://www.bbc.co.uk/programmes/p00cz9dt>

³⁷ Rohini Mohan, 'Here's Why Devi Shetty Of Narayana Health Is Looking To Hit Dalal Street', Economic Times, September 1, 2015

team also had health industry veterans like Lloyd Nazareth, the chief operating officer, and functional experts like George Thomas, an HR expert who had earlier worked with the IT major Infosys. Shetty's son, Viren Prasad Shetty (Viren), a management graduate from Stanford, assisted him as the senior vice-president. Shetty also strengthened his management team by recruiting MBAs from top-rung Indian Institutes of Management.³⁸

But the real backbone of the hospital was the team of passionate and dedicated surgeons who had worked with Shetty for more than 25 years.³⁹

LOOKING AHEAD– EXPANSION PLANS AND FINANCING GROWTH

By 2015, Shetty had successfully expanded his network of hospitals to 57 facilities including one hospital in Cayman Islands. The hospital at Cayman Islands was set up in partnership with Ascension⁴⁰ with the aim of attracting patients from the US who could get treatment at 50 per cent of the cost they would have incurred on similar treatment in their country. He was also planning to expand to Malaysia⁴¹. Shetty planned to expand the capacity of the NH network of hospitals to 30,000 beds by the year 2020.

To finance his ambitious growth plans, Shetty had to tie-up appropriate sources of funding. Some of the early stage investors in NH were also looking at exit options based on the time horizon of their investments. The challenge for Shetty was to ensure that the avenues and the investors he chose for further funding were in alignment with his priorities, growth plans, and expectation of returns.

While the financing for the establishment and early stage growth had come from his own and his family's contribution as well as private equity investors, Shetty was exploring other options like public issue to fund further growth. However, a survey by Columbia Business School's Investors' Circle in 2008 had found that only 2 per cent of for-profit and environmental entrepreneurs used public issue as a source of funding (see Exhibit VI). Though Apollo Hospitals (in 1983), Kovai Medical Centre and Hospital in Coimbatore (in 1990), Devaki Hospital in Chennai (in 1992), and Fortis Healthcare (in 2007) had used the IPO route for funding,⁴² PwC, a consulting and accounting advisory company identified various other sources of funding for healthcare enterprises in India as the prominent options (see Exhibit VII).

The public issue that Shetty was proposing to launch was for the sale of 20,436,081 shares to investors and would constitute at least 10 per cent of the post-issue paid-up capital (see *Exhibit VIII for shareholding pattern of NH*). The issue was for sale by existing shareholders⁴³ and was not expected to result in the receipt of any proceeds by the company. The company was expecting the public issue to enhance its visibility and brand image and to provide liquidity to the company's shareholders⁴⁴. Speaking about the reasons for the public issue, Kiran said, "The immediate reasons are that Narayana's current investors are looking for an exit." To the question whether the public listing would put pressure on Shetty for

³⁸ Dibyendu Ganguly, 'How Can Dr. Devi Shetty Quadruple Narayana Hrudayalaya in Five Years', The Economic Times, May 24, 2013

³⁹ Seema Singh, 'Devi Prasad Shetty – Operating With Plenty of Heart', Live Mint, May 29, 2009

⁴⁰ Ascension is the largest faith-based and largest not-for-profit health system in the U.S., <http://www.healthcitycaymanislands.com/about/ascension/>

⁴¹ Praveen Bose, 'Narayana Hrudayalaya to foray into Malaysia', <http://www.business-standard.com/article/companies/narayana-hrudayalaya-to-foray-into-malaysia>

⁴² Sonal Shukla and Nayantara Som, 'Taking stocks: Healthcare IPOs', Express Healthcare, October 2007.

⁴³ The shares were being offered for sale by existing shareholders - Ashoka Investment Holdings Ltd., Ambadevi Mauritius Holding Ltd., JP Morgan Mauritius Holdings Ltd., Dr. Devi Parasad Shetty and Shakuntala Shetty.

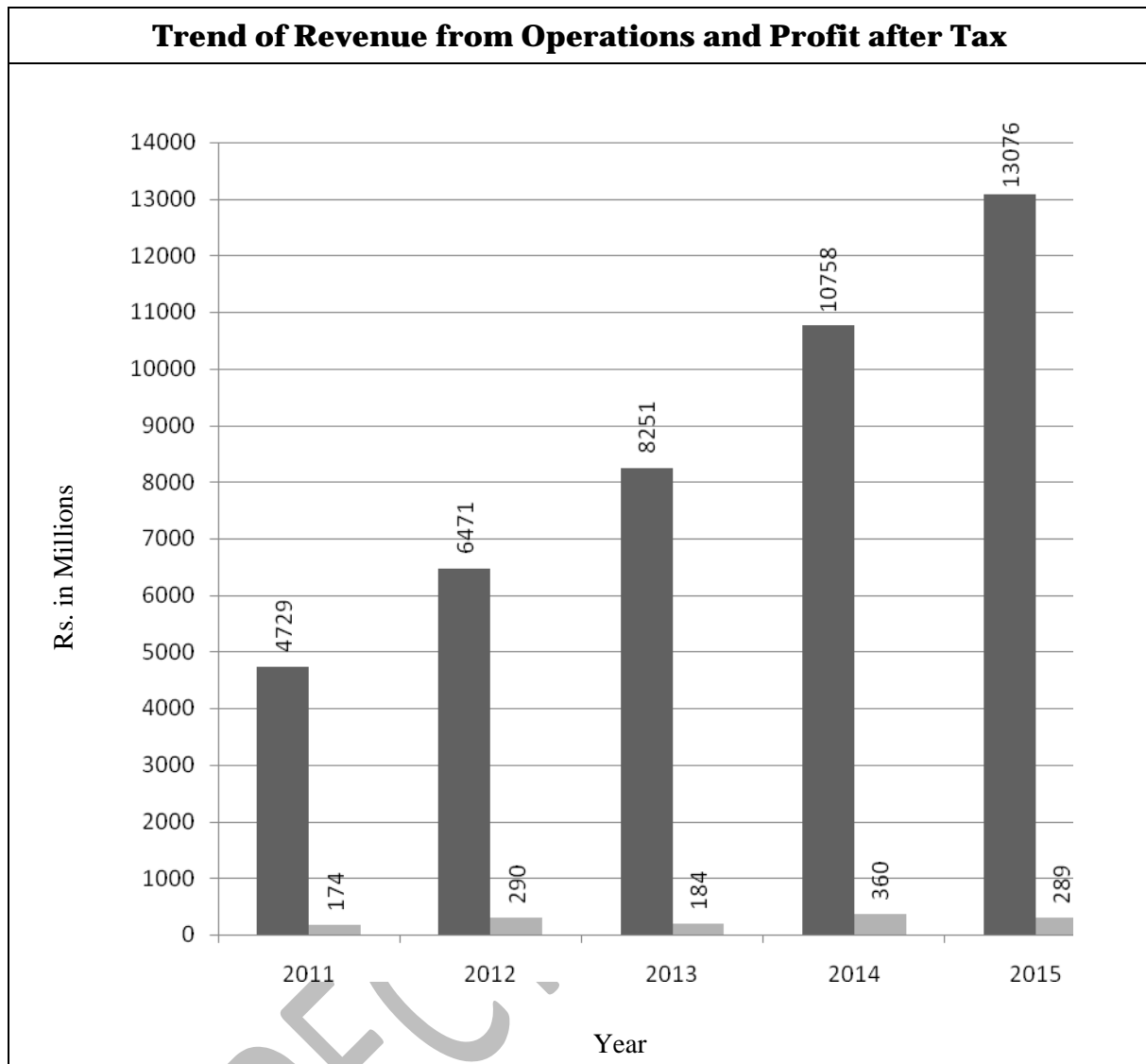
⁴⁴ Narayana Hrudayalaya Limited Draft Red Herring Prospectus dated September 28, 2015

quarterly results and divert his energies away from his first love – surgery and providing healthcare to the needy – RoopaKudva, Managing Director of Omidyar Network, an impact investor, said, “Financial pressures are constructive for social businesses. From businesses with social goals, investors would expect discipline, not unreasonable profit.”⁴⁵ In 2012, Shetty had stated, “We are eccentric people. We are in the business because we want to help the underprivileged and the cost of healthcare to come down. For that, I need the freedom.”⁴⁶ The question being asked was whether Shetty would be able to enjoy this freedom and continue with his mission.

⁴⁵ Rohini Mohan, ‘Here’s Why Devi Shetty Of Narayana Health Is Looking To Hit Dalal Street’, Economic Times, September 1, 2015

⁴⁶ Khomba Singh, ‘We will prove the poor can access healthcare: Dr Devi Prasad Shetty, Narayana Hrudayalaya’, Economic Times, June 25, 2012, http://articles.economictimes.indiatimes.com/2012-06-25/news/32409047_1_healthcare-sector-150-bed-hospital-narayana-hrudayalaya

Exhibit I



Source: Draft Red Herring Prospectus, Narayana Hrudayalaya Limited, September 28, 2015

Exhibit II
Important Awards Received by Dr. Devi Shetty

| Year | Award |
|-------------|---|
| 2012 | Padma Bhushan by the Government of India |
| 2012 | Indian of the Year by CNN-IBN in Public Service Category |
| 2012 | Entrepreneur of the Year by The Economic Times |
| 2012 | Entrepreneur of the Year- Life Sciences and Healthcare by Ernst & Young |
| 2011 | The President's Award by the American College of Oncology |
| 2011 | Innovation Award in the Business Process Category by The Economist |
| 2005 | Social Entrepreneurship Award by the Confederation of Indian Industry (CII) |
| 2003 | Padma Shri by the Government of India |
| 2003 | Entrepreneur of the Year- Start-Up by Ernst & Young |

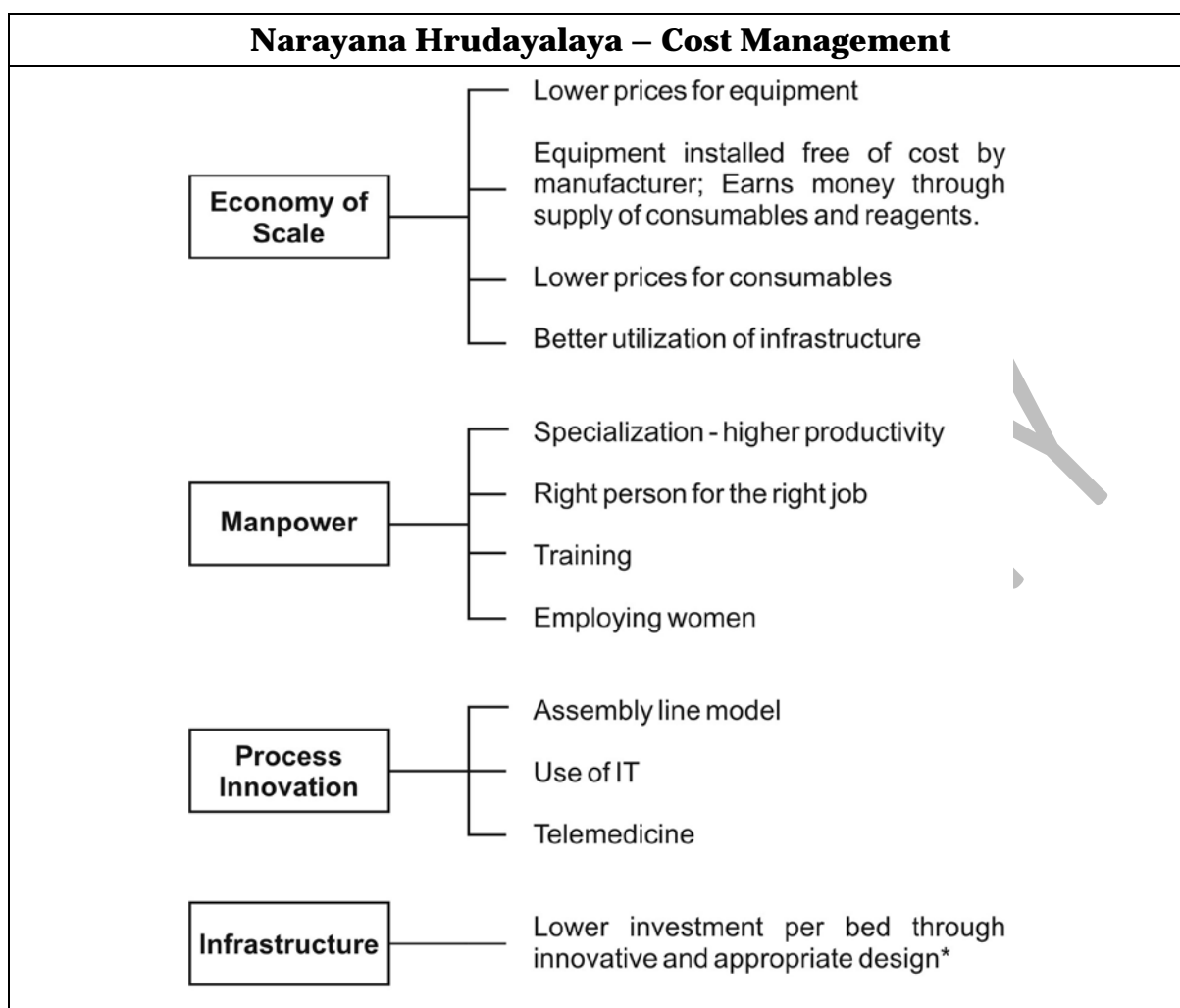
Compiled by the author from various sources

Exhibit III
Prominent Hospitals in India

| |
|---|
| All India Institute of Medical Sciences Apollo Hospitals Aravind Eye Hospital* CARE Hospitals Dr. Agarwal's Eye Hospital Fortis Healthcare Ltd. HCG Hospitals Indraprastha Medical Corporation Kidwai Memorial Institute of Oncology Kovai Medical Centre and Hospital Manipal Group Hospitals Max Health Metro Hospitals National Institute of Mental Health & Neuro Sciences Narayana Hrudayalaya PD Hinduja National Hospital and Medical Research Centre SankaraNethralaya The Tata Memorial Hospital Wockhardt Hospitals |
|---|

Compiled by the author from various sources

**Aravind Eye Hospital had done pioneering work in providing affordable eye care by adopting innovative models in its operation*

Exhibit IV

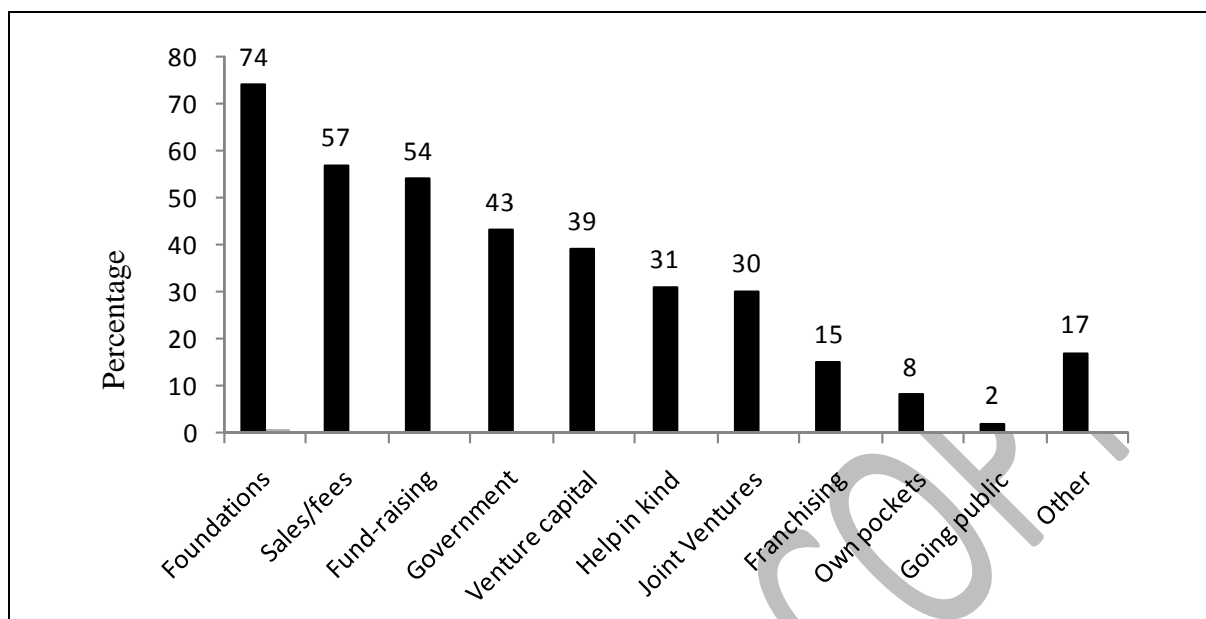
* An example was the 200-bed hospital at Mysore which was built using pre-fabricated materials and did not have air-conditioning except in critical areas like operation theaters. This and other innovative cost saving measures enabled the hospital to charge \$800 for a heart surgery which was less than even the Bangalore facility.

Exhibit V**Models Followed by Narayana Hrudayalaya**

| Sl.No. | Model of operation |
|--------|--|
| 1 | Hospitals owned and operated by NH |
| 2 | Hospitals and Heart Centers operated by NH; Revenue share to the owner of the hospital premises |
| 3 | Hospitals, Standalone Clinics, and Primary Care facilities operated by NH on lease and license basis |
| 4 | Managed Hospitals to whom NH provides hospital management services for a management fee |

Source: Narayana Hrudayalaya Limited Draft Red Herring Prospectus dated September 28, 2015

Exhibit VI
Preferred Sources of Funding



Source: John Elkington and Pamela Hartigan, *The Power of Unreasonable People*, Harvard University Press, 2008

Exhibit VII
Sources of Funding For Healthcare Enterprises in India

| Nature of Funding | Avenue |
|-------------------|---|
| Private | Debt-financing – long-term bank loan |
| | Foreign direct investment |
| | External commercial borrowing |
| | Private equity funds |
| | Individual investors |
| | Foreign institutional investors |
| | Venture capital funds |
| Public | Annual government budget for rural health |
| | Annual government budget for urban health |
| | Government funding for community programs |
| | Incentives and subsidies |
| | Government-sponsored schemes |
| | Community-based schemes |
| Others | Foreign donations |
| | PPP project funding |
| | Donations from HNIs |
| | Insurance schemes |

Source: *Healthcare Infrastructure and Services Financing in India – Operations and Challenges*, www.pwc.com/india

Exhibit VIII
Shareholding Pattern of Narayana Hrudayalaya Limited

| Name of the shareholder | Percentage of Shareholding |
|---|-----------------------------------|
| Dr. Devi Prasad Shetty | 33.37 |
| Shakuntala Shetty | 32.06 |
| JP Morgan Mauritius Holdings IV Limited | 10.91 |
| Ashoka Holdings | 8.63 |
| CDC Group | 5.88 |
| Narayana Health Academy Private Limited | 3.19 |
| Ambadevi Mauritius Holdings Limited | 2.59 |
| Kiran Mazumdar Shaw | 2.35 |
| Narayana Health Employees Benefit Trust | 1.02 |

Source: Draft Red Herring Prospectus, Narayana Hrudayalaya Limited, September 28, 2015

Readings and References

1. Alicia E. Plerhoples, Social Enterprise As Commitment: A Roadmap, 48 WASH.U.J.L. & POL'Y 089(),
http://openscholarship.wustl.edu/law_journal_law_policy/vol48/iss1/10
2. Healthcare Infrastructure and Services Financing in India – Operations and Challenges, www.pwc.com/india.
3. John Elkington and Pamela Hartigan, The Power of Unreasonable People, Harvard University Press, 2008.
4. William D. Eggers and Paul Macmillan, The Solution Revolution, Harvard University Press, 2013.
5. Clayton M. Christensen, 'A Disruptive Solution for Health Care', Harvard Business Review.
6. Jason Hwang and Clayton M. Christensen, 'Disruptive Innovation In Health Care Delivery: A Framework For Business-Model Innovation', Health Affairs,
<http://content.healthaffairs.org>.