



Case Studies

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3.1 Aravind Eye Care: An Innovative Hospital Network for Vision

Aravind Eye Care is a leading eye hospital dealing with critical ailment like blindness, particularly needless blindness in India. Aravind has developed an inclusive model for eye healthcare for all sections of society.

► Background

In early childhood everybody likes to play the blindfold game. However, all of us dread the part where one has to become the blindfolded person. We rely on our vision so much that even a few minutes without it makes us feel helpless and vulnerable. It is very difficult to imagine life without vision. The main cause of needless blindness is cataract; which ironically, is an easily curable disease. But if it is not cured, it can lead to partial or complete blindness.

Millions of people around the world mainly in the developing countries suffer from needless blindness. About 70% of India's population lives in rural areas. They lack access to modern health services, as education remains low. Additionally, most of the people from rural areas are poor and hence cannot afford costs of health services. Hence, people from these rural areas are vulnerable to preventable diseases including needless blindness.

► Innovative Business Model

Dr. Venkataswamy from Chennai was the visionary who started Aravind Eye Care. In spite of suffering from arthritis he became Ophthalmologist and started doing cataract operations in Madurai Medical College. He also started the concept of eye camp programs in 1960s. Based on his experience in these eye camps, Dr. Venkataswamy realized that the government alone cannot meet the health needs of all, since there are a number of challenges like inadequate infrastructure, growing population and low per capita income etc. Considering this as an opportunity, he started Aravind Eye Care, an alternative self-supporting healthcare institute that supplements the efforts of the government to overcome blindness.

As Dr. Venkataswamy says, "needless blindness can be considered as a barrier to India's productivity". He considered it a great opportunity to cater to the poor and illiterate population in India.



In 1976, the first hospital of Aravind Eye Care was built in Madurai. It had the capacity of 11 beds and used to provide care for patients with disabling cataract blindness. Currently, Aravind Eye Care has become a high volume eye care provider with a network of 5 hospitals having a total capacity of 3,400 beds. It caters to every section of the society including the bottom of the pyramid (BoP).

Aravind has also started vision centres to cater to people with cataract as well as for those with rare eye problems such as glaucoma, retinal disorder, etc. The first vision centre was started in 2004 and most of these vision centres are located in rural areas. Each vision centre caters to a population of about 50,000. At present, there are 14 vision centres in Madurai.

Over the years, with the addition of several other activities Aravind Eye Hospitals has evolved into Aravind Eye Care System. The Aravind Eye Care System has many divisions:

- Aurolab: a manufacturing facility to manufacture intraocular lenses;
- Lions Aravind Institute of Community Ophthalmology (LAICO): a training centre;
- Aravind Medical Research Foundation: a centre for ophthalmic research;
- Aravind Centre for Women, Children and Community Health: a research centre for women and children;
- The Rotary Aravind International Eye Bank: an international eye bank. ¹

► Sustainable Solutions

High Asset Use

Aravind Eye Care follows unique HR practices. It trains mid-level ophthalmic personnel, mostly women from villages, who are trained in a two-year course. These women, who have never had the chance to go to college, can get the opportunity to enter the work stream as mid-tier technicians. 60% of Aravind's workforce is made up of these women. These women perform many routine tasks which help the surgeons to operate at a high volume with an increased efficiency.

Additionally, standardized procedures have been set up at Aravind in order to maintain a high quality in the medical attendance. In an innovative way, Aravind has also maximized the use of physical infrastructure in their operation theatre. Operation tables and surgical microscopes were installed in such a manner that a surgeon can perform one surgery and then immediately move his microscope to perform the second surgery on the adjacent table. Hence, huge cost reduction, uniform quality output and economies of scale could be ensured.

Process Re-engineering

Furthermore, Aravind has innovatively developed the so-called 'Forecasting Table'. A 'Forecasting Table' gives the hospital an idea on the inflow of expected patients on a particular day. Some other indicators are also considered in the development of the 'Forecasting Table' such as national holidays, festivals, political movement in the state and city, etc. The table acts as an alert signal to manage human resources in terms of surgeons and staff more efficiently. It is usually made a year earlier but revised every month for the remaining period. The trend of past patient inflow helps the hospital to make forecasts for the coming year.

Aravind also follows an integrated management system. The system helps the hospital staff to monitor the amount of time a patient spends in a particular unit. For example, if a patient remains in a unit for more than 90 minutes a red alert shows in the system. The designated staff acts immediately and checks the reason for delay. The situation of red alert is rare as the movement of patients is well taken care of with the help of staff within a unit.

Price Modelling

The innovative 'Price-Modelling' of Aravind has made the service affordable to every segment of the population. It charges patients according to their 'willingness to pay'² for the service. Patients are not



required to show any identity proof (usually a hindrance in obtaining any free service) in order to get free treatment.

The pricing policy is done in such a way in order to capture as much 'consumer surplus'³ as possible. There are four options available to patients:

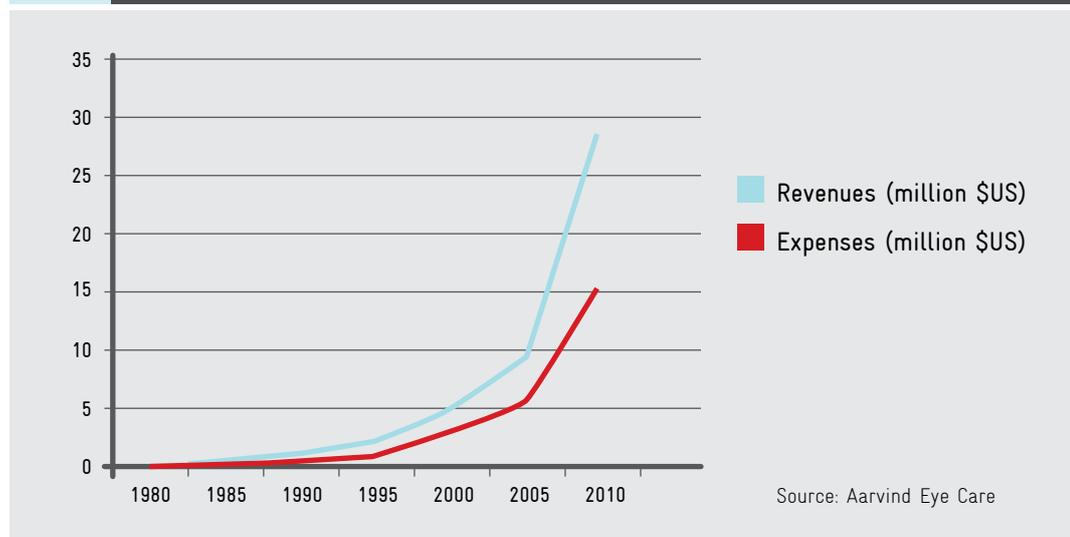
- 1 Free of cost treatment
- 2 Treatment with minimal fee
- 3 Treatment with regular fee (the market price)
- 4 Treatment with premium fee (for additional luxury features like AC rooms, etc.)

A normal cataract procedure costs Aravind approximately 18.56 Euro. Generally, Aravind receives 11.14 Euro as a subsidy from the government of India, for every cataract patient treated free of cost through the outreach camps. Hence, Aravind spends only 7.42 Euro from its revenues for every free cataract treatment at the outreach camps. Such an innovative pricing model has been possible because Aravind has been able to reduce its operational costs. Additionally, every fully paying patient is cross-subsidizing 3-4 patients who cannot pay the fees.

Financial Sustainability

Aravind has maximized the use of physical infrastructure such as operation theatres by installing operation tables and surgical microscopes in a manner that a surgeon can perform one surgery and then immediately can move his microscope to perform the second surgery on the adjacent table.

FIG. 1 Development of revenues and expenses of Aarvind Eye Care



Aravind has employed the same strategy to its human resources policies. It has divided the surgery into sub-parts and has created specialists for each sub-part. Ophthalmic surgeons for instance are best in performing surgeries instead of engaging into other preliminary tasks and hence, can use the time saved to enhance their volume of surgeries. This in turn reduces the cost to the hospital which enables Aravind to offer more affordable treatments. The system is so efficient that a surgeon can perform up to 2,000 cataract surgeries in a year as compared to 400 surgeries performed by an ophthalmologist on an average in India and 200 on an average in the US.

To cut down the cost for cataract treatment, Aravind started manufacturing intraocular lenses (IOL) at Aurolab in 1992. Earlier the imported lenses used to cost the hospital around 74.24 Euro per IOL. With the help of Aurolab the cost of IOL has been reduced to 1.48 Euro. Currently, Aurolab manufactures 7% of the world's IOLs used in more than 120 countries, resulting in a drastic increase in their revenues.



Social Impact

As a part of their outreach activity, Aravind hospitals started so-called 'Eye Care Camps'. By the year 2011, Aravind had organized approximately 2,100 such camps across Tamil Nadu and Kerala per year⁴. The main objective of these camps was to reach out to as many as possible people that are suffering from needless blindness.

The eye camps are similar to the hospitals. All the procedures done in a hospital are also done in the eye camps except from surgeries. For instance, screening of patients and providing glasses is taken care in the camps. In case patients need a surgery, they are transferred to the hospital free of cost. Aravind normally follows up with these patients after the treatment by inviting them to camps conducted near their location.

As a marketing strategy, Aravind has also started collaborating with community partners. The partnership format may differ from one camp to another. At present, there are about 20-25 camp organizers in Tamil Nadu and Kerala.

► Innovation Culture

Aravind's ability to innovate has its origin in the vision of its founders and the continuous innovation culture that is prevalent in the system. Every employee at Aravind is part of the innovation culture since its inception. The staff is regularly updated on new developments. Staff members are encouraged to provide innovative ideas to tackle challenges they are faced with while dealing with hospital processes. Those ideas are accumulated through monthly meetings of heads of the nursing staff and the management team. An effort is made to implement these ideas within 72 hours.

Footnotes

- 1 (<https://wiki.brown.edu/confluence/download/attachments/9994241/Aravind+case.pdf?version=1>)
- 2 'Willingness to pay', in economics is defined as the maximum amount an individual is ready to pay for a good or service.
- 3 'Consumer Surplus' is the difference between a person's 'willingness to pay' and the amount that he/ she actually end up paying.
- 4 Mehta, P.K. & Shenoy, S., 2012. Infinite Vision. 1st ed. New Delhi: HarperCollins