Case Study Aravind Eye Hospital
Pondicherry

Franzen/partners August 2009

“Once Aravind, always Aravind”

Content

Preface 'A Visionary Approach to Healthcare'

Aravind is a world-class eye care institution in India whose mission is to eliminate needless blindness. It has a high moral business culture, and well-trained staff. Aravind is constantly looking for ways to improve patient satisfaction. Franzen/ partners was asked to help identify the current quality level of interaction between patients and the medical staff that could be improved.

The fruits of our research 'Once Aravind, always Aravind' are enclosed. Our final conclusion is that rarely have we come upon an organization so in-tune with society's global development. Aravind, and the future of health care in India, are in many ways a perfect match. The Aravind business model has tremendous potential for other health care areas, and, from an HR perspective, even for industrial or governmental sectors.

As with any success story, the risk lies in managing ambitious growth plans effectively. Keeping all the Aravind balls in the air without sacrificing patient satisfaction or its mission requires time for self-reflection. And when you're number one, the smallest mistake can make big headlines.

What follows are some interesting details from an interview I had with Dr. R.D. Ravindran, Chief Medical Officer and Joint Director Aravind Eye Hospital (AEH), in Pondicherry in August 2009, just after we completed the enclosed case study. I would like to highlight the personal mission statement of Dr. Ravindran, Aravind's recruitment policy, the effectiveness of eye camps, personal commitment of Aravind's staff and sometimes the lack of responsibility of other hospitals in eye health care. See for a complete study our report 'Once Aravind, always Aravind'.

Dr. Ravindran's personal mission statement
'Aravind is a place where you can make yourself a better, more holistic person. It is a place where truth is manifest; where all and everybody is the same. It is a place that brings out good qualities in people and creates an environment for everyone to become better. This results in a peaceful life without fatigue'.

A family affair
In 1976, Dr. G. Venkataswamy, founder of AEH, started recruiting girls from villages in Tirunelveli to Madurai. As time went on, their relatives started to work for Aravind, too. This helps to create a family culture.

Each Aravind location has a slightly different culture locally. For example, in Madurai, Tirunelveli and Coimbatore region, adults address children with adult respect and children respect adults. However, in rural areas of Pondicherry the opposite is true. Children address adults as if they are children as well. Girls recruited in Pondicherry start their trainings in Pondicherry but after two months they are transferred to Madurai, Tirunelveli or Coimbatore to learn how to address others respectfully and to learn a better culture.

This is effective in two ways: one the girls themselves are happy to learn about respect and secondly they get positive feedback from their families.

Recruitment

This year Aravind Pondicherry invited 60-100 girls to apply. First we filter the academic level during the application process and afterwards during the personal interview (and more importantly) we focus on attitude, economic conditions and personal skills. The interview process starts with a written essay on personal issues. This essay gives insights into their attitudes, qualities, expressions, handwriting and knowledge. It is important to know the socio-economic background of these girls in order to help the poor segment of the population. They have a truly committed attitude compared with more 'pampered' girls who grew up in the richer families. This year 65 girls have been recruited as nurses and out of these 65 girls 7-8 left, which makes 55/56 girls working for us now.

Over the years, there is an increase in the number of girls applying for Aravind. In 2009 we had 2,100 applications across our five hospitals. Interesting is that other hospitals also copy our recruitment methods. In turn, we also learn from the local entrepreneurs that recruit employees from rural India. As far as the exams are concerned, the government recognizes our courses and conduct the exams.

Aravind has facilitated the setting up of two hospitals in Bangladesh in collaboration with Professor Muhammad Yunus, where we recruit nurses the same way. Nurses come to one of the Aravind Eye Hospitals for a 1-year training course. The language problem is solved by engaging doctors who speak Bangla (language of Bangladesh) to help to train these young women.

Eye camps

Over the last 13 weeks the number of patients who come through the eye camps for eye surgery has increased in Aravind Pondicherry. Even though the number of camps have been reduced, the number of patients who come for surgery through the camp are more. Last year, in each eye camp we performed 40 surgeries compared with 60 surgeries this year. Aravind is looking for ways to cope with the current number of patients, the holidays/marriages of doctors and nurses, and the tensions between these issues.

Aravind's concern

The Aravind doctors work twice as hard as colleague-doctors outside Aravind. A private doctor who works as hard as an Aravind doctor is considered to be a 'hero' and receives a lot of praise by their organization. Aravind doctors do not receive the same amount of appreciation because all doctors within Aravind work hard and achieve a lot. At the same time they gain a lot of experience and confidence which makes them better doctors and are appreciated by the patients. The average work level is higher compared to other hospitals. This sometimes causes friction. One of Dr. Ravindran's daily tasks is to take care of the doctor's well-being. Investment in doctors and senior nurses is critical. He advises them about the higher values in life and how they can grow themselves through the work.

The doctor who performed 106 surgeries in one day is considered to be very good within Aravind. But in order to achieve this kind of success, the individual has to be physically and emotionally fit. Emotional fitness is only possible when enough time for self-reflection is provided by the hospital.

Also important is the environment in which the doctors work, where commitment, faith and inspiration are key elements.

Future plans

Dr. Ravindran is looking forward to a closer collaboration with Franzen/partners. We fully agree.

Franzen/partners bv
Pondicherry, August 2009
Kim-Jun Franzen LL.M

'Once Aravind, always Aravind'

1. Introduction

Aravind Eye Hospital (AEH) Pondicherry is a world-class eye care institution. However (or perhaps because of this), they still want to improve patient satisfaction. But what is there to improve if you are already number one? If your name has become synonymous with a certain top-quality attitude, approach and style or working? In the following case study Franzen/ partners attempts to find an answer to this question.

Aravind Eye Hospital is the largest eye care system in the world, with locations in Pondicherry, Coimbatore, Madurai, Theni and Tirunelveli (Tamil Nadu, South India). It is the most productive hospital, with world-class outcome rates.[1]

AEH's goal is to eliminate needless blindness in India. AEH strives for 100% patient satisfaction, focusing on the most disadvantaged people in both rural and urban India (See Appendix 1 – Aravind Eye Hospital Patient Statistics 2008-2009). The statement *'Once Aravind, always Aravind',* supported by the whole staff of AEH, reflects this mission and partly validates the business model of Aravind Eye Care System. This model aims to make eye care available to all, regardless of income. A sense of compassion and commitment, dedication to quality and cost control[2] and strong leadership are key elements in the success of this innovative health care model. 'Alumni' of this institution are recognizable all over the country in their attitudes and ways of working.

The following case study (Pondicherry India, August 2009) was a collaborative undertaking to examine quality issues. Its purpose was to learn and to share the knowledge. It was a challenging journey for all concerned.

2. Context Case Study

In the experience of Franzen/partners, innovation and change are closely allied to one another, and are major steps towards productive evolution processes within countries, organizations and within individual human beings. Innovation comes from imagining something you have never seen before. Change comes from implementing this innovation and permeates all layers of society.

Studying changing paradigms and social innovation processes is currently very popular in societies and in organizations all over the world. In our work, we have found that by focusing on change, people realize that enough space can be created for innovation. Change processes and innovation are, in fact, two faces of the same coin.

[1] Prahalad, C.K. 2003
[2] Janat Shah, L.S. Muty, IIMB Management Review, September 2004

India's rapid economic growth is stimulated by continuous innovation. Growth (7% in 2009) not only affects India's economy but also Indian society. Today, in India, change – and innovation - is present everywhere. The speed of these development processes is creating immense challenges. Managing change processes is a necessary skill for today's Indian leaders, especially in health care services. During our journey with Aravind Eye Hospital Pondicherry, we became intimately acquainted with these challenges.

In the words of Mahatma Gandhi: 'You must be the change you want to see in the world'. At AEH, they do more than just talk about change.

India is a spiritual country. Many people visit India to find answers to spiritual questions. This spirituality has a role in change-management which it is unwise to deny.

As a result of all this innovation, does the world change or is it you? If so, how much? The question can be posed by individuals, but also by organizations that want to change into effective for-profit players on an international stage. India has adapted rapidly to the rules of global business. India's ambition is to sustain its current position as a 'winner' in the global economy. Similarly, at AEH, their ambition is to sustain their goal: to eliminate all needless blindness in India.

As we try to do in all our work, Franzen/partners has approached this case study as much as possible by looking at the situation through local, i.e. Indian, eyes. We also immersed ourselves in AEH's corporate culture to look for the unwritten rules that determine the speed of its individual and organizational developments.

During our journey with a client, we feel challenged to share knowledge and to build bridges with and between a number of Indian organizations on topics like innovation, change processes and implementation management. Our work is above all practical. We develop case studies in a socially responsible way, a major core value for us. We see the collaboration with AEH Pondicherry as an important pillar for all future bridges to be built with Indian leaders and their organizations.

3. Development Case Study

Our definition of a case study is 'a phenomenon of some sort occurring in a bounded context'. The case is the unit of analysis. In this study the case is related to the issue 'Quality Improvement Patient/(medical) Staff Relationship' within the context of Aravind Eye Hospital, Pondicherry.

The title comes from AEH itself, and refers to the reputation AEH has within India. Employees of AEH are always recognizable: they share a commitment to quality patient care that stays with them wherever they go.

Inspired by Aravind's mission and its way of doing business, we started our journey with the eye hospital in the beginning of 2009.
In February 2009, an informal meeting between Franzen/partners and Dr. Badrinath Talwar, Medical Officer at Aravind Eye Hospital Pondicherry, took place during an international conference in Pondicherry: *'Integrating Spirituality and Organizational Leadership'.* An inspiring conversation followed with topics such as Aravind's mission, vision and core values, leadership, spirituality, change management, business ethics and social responsibility. This meeting launched an inspiring collaboration. Aravind's ambition to improve further the quality of patients' satisfaction, and through that its learning processes in change and implementation, led the way to the first step.

Franzen/partners' goal is twofold: to initiate collaboration with AEH Pondicherry and to develop a successful case study. A review of the current state of patient satisfaction became the outline of the case study with the focus on the medical staff.

Win-win
For both parties – Franzen/partners and Aravind Eye Hospital – the process of the development of this case study is a win-win situation. On the one hand, AEH is challenged to improve its existing quality, based on an improved understanding of the how-to processes. On the other hand, Franzen/partners gains a better understanding of how and why AEH is successful in global eye care services.

Additional motivation for Franzen/partners was to strengthen our insights into the workings of an open-minded global organization with a focus on Corporate Social Responsibility (CSR).

Focus case study
For Aravind one of the challenges was to take a closer look at itself on quality issues, and to answer the question: 'How do we increase the quality of staff/patient interactions?' Another, even bigger, challenge was how to implement sustainable quality improvement.

We began by investigating how the medical staff of AEH Pondicherry perceives the current quality of staff/patient interaction, and what are the challenges for AEH Pondicherry to maintain its current quality level?'

We asked: 'What are current elements in these processes? And, from the perspective of doctors, nurses and administrative staff, 'What improvements and changes are required within these processes?' Another relevant question was: 'What are the constraints or pitfalls on the road to improvement?' The fact, that AEH's management found the above-mentioned questions very important to their daily eye care services, proves its commitment to sustaining its mission. Improvements are simply part of the hospital's primary processes.

4. Approach and Methodology

General approach

To realize applied research, the general methodology in our case studies (action research) starts by asking questions such as these: When you can't continue or manage the natural stages of development in your organization or in your existing business, what are you going to do? Do you have the courage to take a major step back to consider how you can move on? Should you create new paradigms or can you continue with the existing one? Are you asking yourself these questions because everything seems to be stuck? Have you become overwhelmed by the feeling of a lack of space to innovate and to take time to reflect current processes?

Franzen/partners tries to find answers to the above-mentioned questions together with the case owner and case study participants. A change in habits and culture is an opportunity to switch to another paradigm. A major part of the core values of Aravind leaders and their employees is an openness to change. They realize that changes to their culture are not the last step in creating a solution, but the first. Besides our general approach we also try to find answers to the questions according to the specific 'phenomenon' within the 'bounded context'.

Paradigms

Implementing change is a process of dynamic interaction amongst a variety of actors like leaders, staff, professionals, stake- (or share-) holders and members of social communities. The primary focus of our applied research is on the behavioral patterns of these interactions and their meaning for the actors involved, since persistent patterns – paradigms – often stall implementation processes. Institutions, organizations and networks are fluid affairs. To be change catalysts it is important to experience the phenomena personally and regularly in order to interpret the gathered data of case studies effectively. We try to see the participants' concerns as they see them. In addition, we always distinguish the 'what' from the 'how' in any organization, in the same way that each of us integrates 'what' and 'how' in our daily lives.

What and how

The what of change is closely related to the core business of an organization and written down in annual plans and discussed in shareholder meetings. These thoroughly discussed directions and targets can be substantiated with budgets, new project structures, and the allocation of temporary managers to enable taskforces to achieve the written ambitions. The what part of the business and any changes that happen can easily be documented and measured.

The how part is usually more vague: the word 'change' is not often included in written plans – nor are changing paradigms. How do you break through vicious patterns of corporate culture, initiate new learning programs, and change leadership behavior?
Annual reports with notes and ambitions for the next five years show only one part of the business.

However, the how of change, like quality improvement can – and must – be measured, albeit using different tools. When the focus of research is on change and the how part of the business, one has to describe in detail how the research was done. This is a major factor in the validity of qualitative research.
While developing case studies Franzen/partners focuses on both aspects as well as on the awareness of change, behaviors and company cultures. Aravind's 2008 – 2009 activity plan enabled us to analyze their 'what's and how's' at a glance.

Specific approach Aravind Eye Hospital Pondicherry
To gather information and specific data in answering questions on quality improvement, we proposed the utilization of small group discussions and a questionnaire (See appendix 2, Questionnaire Franzen/Partners August 2009).
However, before starting a dialogue, the researcher required a deeper insight into AEH.
For this, Dr. R.D. Ravindran, Chief Medical Officer and Joint Director AEH, invited Franzen/partners to join an 'eye camp' in Panruti (Tamil Nadu, India). Every Sunday, these mobile units, are organized in local villages across Tamil Nadu. Furthermore we attended two operations within the hospital (retina and cataract surgery) to give us insights into the procedures before, during and after a surgery (See appendix 3 Aravind Eye Hospital Surgery Process 10-steps). Our goal was to discover the secret behind this incredibly effective eye care system.

The coordinator/translator, Ms. K. Barani, illustrated AEH's seven-step system and its procedures (See appendix 4 Aravind Eye Hospital 7-steps Patient Approach). To collect further data, we collaborated with Ms. K. Barani and Ms. Swetha (HR – manager) for the group discussions with nurses and doctors. Because the majority of the participants' level of English was limited Ms. K. Barani joined the group discussions to ensure high quality answers for the case study. Doing applied research in collaboration with relevant organizations is called 'participative research', making us temporarily part of the system we were studying, and part of the unit of analysis within the bounded context of Aravind.
Dr. Ravindran devoted an exceptional amount of his time to participate in the development of the case study. Can this bounded context also be applied to Indian society? We think so, and Dr. Ravindran clearly agrees. (See Preface, A Visionary Approach to Healthcare).

Group discussions
Our objective for group discussions was 65 participants in 20 groups, including doctors, nurses at different levels, managers and professionals on the administrative staff (both senior and junior employees). Our understanding of their personal visions, their experiences in change processes, and their knowledge was extremely important to gather high qualitative data.
Our open dialogue proved to be an interesting formula to discover hidden talents, to open up communication about quality improvement, and to share personal views about the current state of quality within the hospital. Via small group discussions lasting 45 minutes, participants learned from and inspired each other. Quality awareness increased after the group discussions among participants.

Afterwards a presentation on the outcome of the group discussions was organized for AEH top management. Their feedback and comments on the findings were used to continue the case study. A presentation for all participants was organized to confront them with their own thoughts, to create more quality awareness, and to check the data analysis made from the researcher's perspective.

5. Aravind Eye Hospital - Organization

As Dr. G. Venkataswamy, founder of Aravind Eye Hospitals, said in an interview in 2003 at the age of 83: *'You don't feel that you are a superior being; you are an instrument in the hands of a higher force and it is in that spirit that we meet our day-to-day struggles and successes'.*

Dr. G. Venkataswamy's goal was to eliminate needless blindness in India. He believed this could be done by combining modern technology and management practices with a measure of compassionate spirituality, an awareness beyond the matter-of-fact. In 1976 he established the GOVEL trust to initiate eye-care work. This encompasses more than an eye-care hospital.

It is a social organization committed to the goal of elimination of needless blindness through comprehensive eye-care services, and includes an international training centre for ophthalmic professionals and trainees who come from within India and around the world to teach or to learn, to offer their skills and to acquire new ones. It has an institute for research that contributes to the development of eye care and an institute to train health-related and managerial personnel in the development and implementation of efficient and sustainable eye-care programs. Separate, but under the management of AEH, it is a manufacturer of world-class ophthalmic products available at affordable costs.

The present chairman of the AEH services is Dr P. Namperumalsamy. Most of the blindness in India is needless and curable. Aravind wants to increase the awareness of the causes of blindness and the need for early treatment. They focus on increasing the volume of patients, via a systematic approach involving techniques and training which enables doctors to be at their productive best. The organization is financially self-supporting in its hospital services, its research activities, and its technology innovations.
As Dr. Venkataswamy once said: we feel it is important to preserve our financial self-sufficiency. Also there is a limit to the rate at which we can grow actively without compromising on the basic values of the organization.

Initiatives like Aravind Center for Women Children and Community Health (ACMCCH), started in 1984, were aimed at reducing nutrition-related blindness in children through programs of preventive health care. The Rotary Aravind International Eye Bank (RAIEB) is a community organization dedicated to restoring vision to those blinded by corneal diseases.

RAIEB's aim is to provide quality corneal tissues to needy patients irrespective of the caste, creed or religion, or their ability to pay, and also to enhance the level of awareness about eye donations to the general public, hospitals and voluntary organizations.

Community Outreach Programs (Eye Camps)
An integral part of Aravind is its community outreach - programs like eye camps, school eye health programs, and village volunteer programs. These are all different tactics for taking eye care services to the community. They provide curative, preventive and rehabilitative care to the community along with IEC (Information, Education and Communication). Around 2,000 camps are conducted per year. A lot of effort goes into follow-up of camp patients (around 90%).

Fellowship Programs in Eye Hospital Management
Aravind has been successful by systematizing the activities in management as well as clinical areas. In fact, it is this system that enables the individuals to work so efficiently through the optimum utilization of the available resources. The system continues to work efficiently because of the vision and determination of the people in top management positions. AEH has a Fellowship Program as well. Fellows are those who already have a degree but who want to specialize in a particular branch. Fellowships usually last 18 months. On completion of the training, Fellows are employed as Managers.

For those managing clinical areas, their primary responsibilities are to increase the patient load, manage the increased patient flow, reduce waiting times, ensure high patient satisfaction, help senior personnel in the ongoing activities like training programs, project management, research projects, day-to-day operations, and manage and generate statistical information for decision making and planning.
Aravind is partnering with more than 200 hospitals through teaching, training and consultancy. Requests have been coming from partners in all parts of the world to either supply managers or to take charge of the administration. AEH has also recently decided to take on hospital management, with a hospital at Kolkatta being the first experiment. Now there are four hospitals under a new system called Aravind Managed Eye Care System (AMECS).

Quality and culture of AEH
The key factors in achieving high quality are organization design, appropriate staffing, training, and good systems. Aravind pays close attention to all these aspects by means of a scorecard for doctors; a very specific outcome-monitoring system, especially for cataract surgery where, on discharge, every case sheet is fed into the computer and then analyzed; and a constant open discussion of issues in weekly and monthly meetings. Measuring, reviewing and changing if necessary are Aravind's management philosophy.
Aravind's cost is much lower than a private practitioner's, and is much more efficient compared to the private sector.[3]

[3] IIMB Management Review, September 2004

6. Aravind Business Model Health Care Services

The Aravind model – cost-effective, high-volume, high-quality surgery – has caught the interest of other countries. Aravind works with institutions in various countries and it is a constant challenge to be better trainers. Aravind leadership is responsible for making the system work in the way it should. Aravind's goal to eliminate needless blindness is supported by the use of information technology to achieve its goals: 'the barriers between the rich and poor will go, and then in ten year's time we can raise the level of health to that of the developed countries…'

For instance, *'We are training African hospitals to have a sustained management capacity and we are working with Rotary hospitals, Lions hospitals, and mission hospitals; and wherever there is strong leadership it is working well. Today there are 40 to 50 hospitals which have exceeded 5,000 surgeries; some of them have even achieved 10,000 surgeries all the while retaining their doctors. We want these hospitals to develop into institutions of excellence in each area, and in turn to train people, not only in the technical aspects, but also the management aspects'*.[4]

Blending traditional hospitality with state-of-the-art ophthalmic care, Aravind offers comprehensive eye care in the most systematic way, attracting patients from all around the world. At the same time, they remain eager to learn how to improve their quality.
AEH recruits nurses from rural areas in Southern India, selects them on their potential, competency and attitude and trains them with the focus on 'learning by doing' for two years. Commitment, faith and trust as key elements. It is clear that one has to fit in Aravind's system and philosophy.

7. Results of Case Study

Climate dialogue

During the group discussions, participants were curious and eager to support the development of the case study on quality improvement. The participants' enthusiasm outweighed their initial insecurity and shyness. In general, the climate was warm, open - even fun. Everyone felt comfortable and was willing to share his or her personal experiences on patient satisfaction. The participants were encouraged to be frank, and to share their personal opinion on AEH's quality.

Junior and senior nurses were able to express their views on the term 'quality' in general. They seemed committed to their jobs, work long hours, and are well aware of AEH's logistics and procedures. Furthermore both the junior and senior nurses gave clear examples of the technical part of their jobs as well as required social skills. But not only work-related issues were put forward. Personal feelings and experiences also came up, as well as opinions on the quality of interaction in and between departments. Nurses were capable of indicating required

[4] IIMB Management Review, September 2004

improvements in this field. They could reflect on the company's unwritten rules and knew how to act within AEH's culture.

Junior and senior nurses
The junior nurses were open, enthusiastic and eager to talk about quality. The senior nurses were more diplomatic and more experienced, and were able to express their personal thoughts on quality more clearly. Many of the senior nurses demonstrated leadership potential. We wondered how to create awareness of this potential amongst the nurses. Moreover we asked ourselves how to stimulate their own development.
For the nurses to express their personal opinions was considered difficult, especially when asked to give examples of less-than-excellent quality within AEH. The questions of how to overcome miscommunication and leadership issues, and how to reflect on your own progress, were not easy to answer. These questions were understood, but sometimes individuals were at a loss how to find answers deep within themselves.

Business contract – Psychological agreement
Within AEH there are four business contracts and one psychological agreement. There are two business contracts for medical staff: one with AEH and one with their patients. Both are based on responsibility and trust. But there are also two other business contracts, one between colleagues and one between staff and external companies. Furthermore, there is a psychological agreement between staff and AEH based on shared values, commitment, trust, faith and inspiration, as a consequence of AEH's philosophy and its way of working.
'Quality in my profession means anything you do in your job that is useful and satisfying for somebody else'.

7.1 Results Module I *'Review of the current quality level'*

Word of mouth
The goal of Module I was to review the current quality level of AEH from the medical staff's perspective. The meaning and importance of quality and examples of excellent and less-than-excellent quality within AEH were issues that passed in review during the group discussions. Interesting is that all departments consider patient satisfaction the main condition for quality in general. Whenever patient satisfaction is reached, AEH achieves its reason for being. Patient satisfaction is mainly communicated by word of mouth: patients tell their families, friends and neighbors about AEH's quality (as they will others) and so the number of patients increases each year.

Interestingly, according to some participants, quality does not always relate to the patient being cured. Quality is also perceived as relief from symptoms. To make patients aware of this is considered to be important. AEH shows its transparency to the patients through proper communication and providing correct information. AEH's motto is: *'we treat all patients equally, like they're our family'.*

Unique selling proposition

Other key elements of quality are silence, cleanliness, safety, security, prevention of infections and complications, good surgery preparations and a short waiting time. Quality also means awareness of eye-care for the next generation and human-resource-related aspects, such as on-time salary payment, fair leave management and a smooth functioning between departments.

In the participants' eyes, quality is AEH's unique selling proposition. AEH takes care of the entire society, reaching most of the population. This is what sets AEH apart from other health care institutions. Through eye camps, vision centers, community centers and collaborations with other hospitals, AEH wins over any competition in its field.

Excellent and less-than-excellent

It was easy for the participants to give examples of excellent quality: salary and leave management, hospitality and transparency, extra checks of K-sheets (patient's personal medical card), cases and files, pre-planning, waste management, surgery preparations and eye measurements. What stood out were the innovative recycling of waste, patient care, weekly meetings and the quality of surgeries.

Examples of less-than-excellent quality, however, were not so easily given. What elements need to be improved? Pest control, deficient and un-coded K-sheets, miscommunication with colleagues and/or departments, pre- and postoperative waiting times, wrong GP-prescriptions, wrong spectacle delivery and payments of insurance companies. Also the patients' reviews were considered to be of less-than-excellent quality. Patients don't always show up at the agreed date and time due to marriages or festivals. According to the participants, the internal logistics system also needed improvement of the existing system in order to track a patient inside the hospital.

7.2 Results Module II *'Taking stock of the desired quality level'*

In Module II we took stock of the desired quality from the participants' point of view in order to improve the current quality level with a special focus on the word 'why'. In this module we refer to the given examples of excellent quality in Module I. Why do these examples refer to excellent quality and why is excellent quality important for AEH? Participants had to dig deeper into their minds and hearts to find an answer to these questions. 'Why' forces one to develop an opinion; it triggers thoughts, personal memories and assumptions.

Excellent quality is achieved when patients are satisfied. Up to now, AEH has received mainly positive feedback, resulting in a patient increase of 7% a year. Their excellent quality sets AEH apart from other hospitals. For example, compared to other institutions, AEH respects patient privacy and counsels patients before surgery or those with complications. Patients are made to feel comfortable from the moment they enter hospital. Extra attention, personal contact and encouragement towards the patients who are having their eyes treated are considered important at AEH.

For example, personal guidance is available from the nurses when patients are sent to special clinics within AEH. The Aravind Eye Care System benefits AEH as well. The system allows AEH to do more surgeries in a day than any other hospital.

Image
Excellent quality is important for AEH to stay ahead of competitors. Indian society has huge expectations for AEH. It takes only one major mistake to damage AEH's image. A dissatisfied patient can prevent ten new patients from coming to AEH. To maintain its current position in the eye-care market, AEH has to run faster than it already does. Excellent quality is not just one of the conditions for success - it is the major one. Aware of all this, AEH is constantly hungry for feedback, suggestions and ideas for improvements. Possible threats to its commitment to eliminate needless blindness drives AEH towards personal development in the areas of research, innovation, change and training facilities.

7.3 Results Module III *'Required actions for quality improvement'*

Awareness
In this module the actions required to improve already excellent quality are investigated as well as personal added-value and contributions from participants. Different actions were mentioned during group discussions, varying from improvements on a personal level to improvements within AEH's organizational system.

Frequently mentioned actions were: more daily or weekly meetings, better control of K-sheets, files and cases, and extra education in several areas, including pest control and 'blocking' (anesthesia). Also participants agreed that providing relevant information to the right patient, at the right time and at the right place must be improved. Providing brochures with specific information about diseases may also improve quality. Better awareness programs for rural areas were often mentioned by participants. Participants felt that more exhibitions and experience centers for patients should be provided on a regular basis. Participants also felt that more feedback from patients was needed through feedback forms or suggestion notes. More feedback was also required from colleagues.

Self-reflection
Personal actions, such as a flexible or more critical attitude, or more time for self-reflection, passed in review. At a departmental level, more time was required to let all experiences 'sink in' and to reflect on oneself in order to improve crowd management, observation techniques of juniors, and a - 'help each other in busy times' – attitude. Also considered important to increase communication between departments was the thought: do we know exactly what the effect of the activities of each department is on total patient satisfaction.
Interesting, too, were 'innovative' suggestions, such as a luggage room for out-of-town patients and a library facility for patients in waiting rooms.

Personal commitment

Defining one's own personal added-value and contribution to achieve excellent quality was less obvious during the dialogues. However, participants did succeed in finding inspiring answers. For example *'Involve yourself in your job with full interest and self confidence'* followed by *'Treat all patients, rich and poor, with respect'.*

And *'Loving your job is an investment in your personal development'.* Other ideas that were touched on were managing cultural programs and decreasing hierarchy.

8. Summary

Participants reviewed the current level of quality in the area of patient satisfaction from a technical, job level perspective, as well as from a personal, commitment level perspective. Everyone mentioned 'word of mouth' as a powerful marketing instrument to increase the volume of patients. All the participants mentioned AEH's unique selling proposition. The participants gave examples of excellence and less-than-excellence in the hospital's health care services. All the participants explicitly or implicitly showed their commitment to increasing the current quality level within their daily responsibilities in the eye care business.

One of the medical officers interviewed made this observation: *'The only way to maintain our current global position is to stick to our mission statement, to increase the quality of our leadership and to invest constantly in the personal development of our employees. This is the way to deliver added-value in health care in a global society. The constraints we might face are lack of time to reflect and set priorities. We must also sustain a synchronicity between the developments of global society, the development of our people, the much-needed awareness among our patients of how to prevent needless blindness. We also need strong leaders. Continuous improvement of quality in patient satisfaction is needed to remain number one in a global society'.* At AEH, everyone is personally involved. (See Appendix 5 Detailed Reports of Dialogues Departments August 2009).

Appendix 1 Aravind Eye Hospital Patient Statistics 2008-2009

Aravind Eye Hospitals **April 2008 - March 2009**

(includes Aravind Managed Eye Care Services - AMECS)*

	Madurai	Theni	Tirunelveli	Coimbatore	Puducherry	AMECS*	Total
HOSPITAL OUT-PATIENT VISITS							
Paying (New & Review)	437,906	68,564	201,082	286,624	187,961	188,892	1,371,029
Free (Direct walk-in)	137,486	19,803	63,218	97,357	55,778	-	373,642
OUTREACH							
Comprehensive Free Eye Camps	100,767	24,049	45,362	73,927	55,818	83,686	383,609
Diabetic Retinopathy Camps	9,857	4,449	13,456	21,824	2,833	-	52,419
Refraction Camps	8,242	5,805	7,530	14,686	8,351	12,280	56,894
School Eye Screening - Base Hospitals	68,160	15,831	38,182	33,600	46,956	7,410	210,139
School Eye Screening - Vision Centres	11,275	50,962	2,650	2,350	-	-	67,237
Paediatric Eye Screening	1,311	-	334	260	498	-	2,403
Mobile Van DR Screening Camps	-	355	1,985	5,057	-	-	7,397
Vision Centres	36,637	31,105	26,192	13,436	15,828	-	123,198
Community Eye Clinics	35,165	13,770	25,934	25,380	-	-	100,249
TOTAL OP EXAMINA-TIONS	846,806	234,693	425,925	574,501	374,023	292,268	2,748,216
SURGERIES							
Paying	57,484	4,541	19,556	33,112	16,602	14,911	146,206
Free (Direct & Camp)	54,152	4,772	20,450	39,663	19,245	24,527	162,809
TOTAL SURGERIES	111,636	9,313	40,006	72,775	35,847	39,438	309,015

Appendix 2 Questionnaire Case Study Aravind Eye Hospital (AEH) Pondicherry

Introduction

We would like to invite the medical staff: the sisters, doctors and administrative staff to share their vision, experience and opinions with us in small group interviews, consisting of three employees of each department. Each interview will take approximately 45 minutes. These personal points of view will be of great value to us. At the end of this in-company research, the findings will be sent to all participants and discussed with the coordinator/translator Ms. K. Barani, HR – manager Ms. Swetha V., Manager Out Patient Service Mr. Renjith Krishnan, Medical Officer Dr. Badrinath Talwar, the Deputy Chief Medical Officer Dr. Venkatesh and the Joint Director Dr. R.D. Ravindran.

Structure group discussion

The structure of the groups discussion consists of three modules, each module will take 15 minutes. Each module consists of three questions. The aim of module I is to inventorise the present situation regarding the issue 'quality' within a department of AEH.

Module I :

1. What does quality mean in your profession from your personal point of view?
2. Why do you think quality is important for AEH?
3. Could you give an example of excellent and less-than-excellent quality within your department?

The aim of Module II is to inventorise the desired situation in order to improve the present level of quality.

Module II:

1. What do you consider as excellent quality in your department?
2. Why do you consider this as excellent quality?
3. Why is excellent quality important for AEH?

The aim of Module III is to inventorise actions which are necessary to improve quality in a specific department.

Module III:

1. What actions are required to achieve excellent quality?
2. What could be your added value to achieve excellent quality?
3. How do you want to contribute to achieve excellent quality?

Thank you very much for participating in developing a successful case study of AEH.

Appendix 3 Aravind Eye Hospital Surgery Process 10-steps

1. Whenever a patient has to undergo surgery, the patient is meant to be in the hospital by 7 - 7:30 am. Patients wait in the waiting room on the first floor.
2. Between 7:30 - 8 am senior doctors provide classes for junior doctors and from 8 am onwards they start their surgeries. Retina-surgeries typically take two-and-a-half hours and start at 7:30 am. In any one day, a maximum of only four Retina surgeries can take place.
3. Patients are called to a waiting room on the second floor (surgery floor) before they get 'blocked' (anesthesia). Blocking takes two minutes. Patients then wait for 5 - 10 minutes for a small eye massage and afterwards the eye is cleaned for one minute just before the surgery starts. There is one 'blocking' doctor (most of the time a junior) who practices his/her blocking methods and also checks the work of blocking sisters.
4. A cataract surgery takes approximately 10 minutes per patient.
5. Cataract surgery starts at 8 am. While the first patient undergoes surgery the second patient is guided to the second bed next to the patient undergoing surgery. The sisters prepare the instruments, machinery and whatever else is needed so that the doctor only has to turn his or her chair, change instruments and start to treat the second patient. While the second patient is being treated, the previous patient is cleaned up, receives an eye pad, and is guided to the recovery room (maximum one hour depending on complications) while a third patient waiting in front of the operating room now enters.
6. How is this all possible? How can everyone be aware of each patient, when surgery is finished, and when the next patient is ready for anesthesia or surgery? The answer: for each operating room there are usually two running sisters and two scrubbing sisters. The running sisters function as the OT/doctors 'personal assistants'. They run up and down between OT's to guide and transfer patients; during surgeries they do whatever is required by the doctor, and inform the other sisters (blocking sisters and scrubbing sisters) when a next step can be taken or another patient can be delivered. It's a very effective assembly line system.
7. OT's can have as many as six tables in one room. The doctors only have to use their hands and machines and the sisters take care of the rest.
8. At least one day in advance the hospital is aware of the next day's load of surgeries. The day before, at 5:30 pm, the running and scrubbing sisters prepare the instruments, sterilize them, etc. Normally, it takes an hour to an hour and a half to clean all instruments. The next morning nurses start at 6:30 am to prepare the OT's, instruments, etc. before the doctors arrive. The doctors arrive between 7:15 - 8 am.
9. During surgery, there is a sign on the wall with the name, age, and eye problem of the specific patient to be operated on. For cataract surgeries, for example, the sisters clean the sign every ten minutes and write down the new patient's information.
10. Depending on the case load, doctors are usually finished with surgeries between noon and 2 pm. Then, they are transferred to units where help is needed or they can finish their own work.

Appendix 4 Aravind Eye Hospital 7-steps Patient Approach

1. The moment a patient enters the hospital, he or she goes straight to Inquiry where his or her name, address, and other relevant information are taken down. The sisters check whether this is a patient's first visit or a follow-up visit. Subsequently the patient is sent to either registration or registration review.
2. Registration of the patient takes place.
3. Depending upon the patient unit, every patient is given a preliminary vision check-up in a small room next to the registration area. Patients with spectacles take approximately five minutes and patients without spectacles take one to two minutes. This step is done by the Refraction sisters.
4. The next step is Refraction. But before Refraction, the patient's K-sheet is checked by the MRD sister present in each unit/clinic. MRD sisters also note the in-time of the patient to determine how long the patient had to wait. This is done by a computer program, so patients who have been waiting for more than two hours are automatically flagged so that immediate action can be taken. Refraction takes approximately 10-15 minutes depending on the patient. There is one waiting room for Preliminary Vision, Refraction and Out-Patient.
5. After Refraction the patient goes to the Out-Patient department. Here, sisters check tension and blood pressure. Drops are put into the patient's eyes to check for diseases and retina dysfunction. Every patient above 48 years old receives a urine test for diabetes. The OP-sisters accompany the urine to the lab and return with test results. In this same department doctors check the preliminary vision results and discuss with the patient whether surgery is necessary or spectacles are required. This whole process can take one to one-and-a half hours, in one waiting room divided into three units.
6. When surgery is required, Ward sisters take over. These sisters check patients all over again, study their K-sheets and measurements and help them prepare for the surgery.
7. The last step before surgery is Counseling. The Counseling sister informs patients about the process. She also informs diabetic patients about their illness and any help/information that may be required. Counseling takes approximately 10 minutes.

Appendix 5 - Detailed Reports of Dialogues Departments August 2009

1. Medical Record Department (MRD) ***'We are curious to meet new patients every day'***
This department is responsible for the first of the seven steps the patients go through before surgery or receiving spectacles. The MRD sisters are the first connection with the patients and both parties must feel comfortable to start the 7-step process.
According to the MRD sisters, increased patient satisfaction requires some change to the registration system, with clean and safe files. The registration area should be neat, silent and peaceful in order to register the patients in a proper manner. Patients should feel comfortable from the moment they enter hospital. *'We are curious to meet new patients every day'*

Pre-planning is a big issue in this department. As long as the sisters are able to anticipate the number of patients and any bottlenecks in the 7-step process, things will run smoothly. Transparency and hospitality are key elements in this process and, in the view of the sisters, should be of outstanding quality. This includes checking cases, files, so called K-sheets (the patient's personal medical card) and codes.

Their answers to the question, 'Could you give an example of less-than-excellent quality?' included the following: the deficiency of K-sheets, which includes un-coded K-sheets and wrong files. A serious matter of less-than-excellent quality is proper communication between departments required for a smooth and flexible patient system. Distractions and time should be reduced to keep the current level of quality in AEH.

First, to improve the current quality level, all departments should communicate properly with each other but also understand each other's roles in the particular.
Secondly, files, cases and K-sheets should be checked daily followed by more meetings per week and a numerical registration system. An internal logistics system is needed, whereby medical staff can track patients inside the hospital. A software system can provide pin codes automatically when entering the patient's address. An innovative idea from one of the participants was to create a luggage room for out-of-town patients in order to keep waiting areas neat. These contributions to achieve excellent quality cannot be done without the interest, motivation, skills, and personal involvement of the MRD sisters.

2. Housekeeping Department ***'Through our job we learned to respect others'***
The housekeeping sisters stand for safety and security through cleanliness. Clean and safe water and pest control are, in their opinion, key elements of quality. However, quality also means a pleasant environment for both the patient and employee and teamwork with all departments.

Quality is required to reduce the chance of infections after surgery. From their point of view waste management, conference arrangements, flower decoration in- and outside the hospital are of excellent quality as well as the quality of cleaning and the water.

These examples are considered of excellent quality, and at the same time decrease the number of infections, cost and disease. An interesting element is the innovations within recycling. The sisters make artistic and innovative products out of waste materials.

The sisters also mentioned a few elements of less-than- excellent quality in the system. These included pest control, laundry management, complaints about light and water, and the loss of patients' personal belongings. To improve these elements, the sisters mentioned that education in pest control should be provided, more light and water checks should be done, and immediate action taken in laundry management to reduce the number of stains in linen. They also want to be able to do their jobs without disturbing the patients.
Their contribution and added-value to achieve excellent quality is teamwork, creativity and accepting others' suggestions and feedback. *'Through our job we learned to respect others'*

3. Ward Department *'We are responsible for their vision'*
For the Ward sisters quality means transparency, patient satisfaction and equal treatment for all. The Ward sisters check everything a second time and provide the patients with information. Receiving positive feedback is, from their point of view, a quality indicator for AEH. Quality is important because AEH depends upon 'word of mouth'. As long as the patients are satisfied, they will come back and bring new patients. *'We are responsible for their vision'.*

The Ward sisters are more than satisfied with the weekly meetings, the increasing number of patients and day-care-patients each year, the quality of K-sheets and the respect for patients' privacy. Also the patients' time between entering and leaving the hospital as compared with other hospitals is considered to be of excellent quality.

According to Ward sisters, by maintaining the current level of quality patients will remain satisfied, and will lead to new patients. An eye, as an important part of the human body, provides vision and helps people to live their lives in a comfortable way. Therefore awareness of eye-care issues in villages and rural areas is required.

However, in the opinion of the Ward sisters, patients should be given more warning about a delayed operation. And informing the patient about the required recovery time after a surgery should be done at an earlier stage. These two elements are of less-than-excellent quality.
One possible action to achieve excellent quality is to give additional relevant information to patients, but also to check blood pressure (BP) before surgery at an earlier stage. Another is to create more awareness in rural India about how to eliminate needless blindness. By being more respectful and informative to their patients, they feel better about their work. *'We feel at home in AEH'.* One of their recommendations is to create a library for patients to make their waiting time more enjoyable.

4. **Administrative Staff *'The departments are our clients'***
The administrative staff and their activities are varied. The HR-manager, the accountant but also an eye-camp organizer and a coordinator are all part of the administrative staff. They acknowledge that all departments in the hospital are in fact their clients. *'The departments are our clients'.* In their opinion quality stands for a proper service to the public and also paying salaries on time. Fair leave management improves AEH's quality, but so does proper communication with patients.

Salary and leave management are two elements of excellent quality within AEH. The quality of its hospitality and its clinical services satisfy AEH patients. Quality is important because a small mistake can damage AEH's image. *'One unsatisfied patient will stop ten patients coming to AEH'.* But we should not only satisfy patients. Perhaps it is more important to satisfy our employees. For instance to develop cultural programs for employees to trigger teamwork, teambuilding and decrease hierarchy.

It was discovered that insurance companies can improve their cooperation with AEH. Communication and punctuality within AEH are also two important elements to be improved. The provident fund facilities meant for employees with a salary below INR 6.500 per month is ripe for discussion. From the administration's perspective, more meetings should take place and more suggestions should be presented to management to achieve excellent quality. The process of receiving feedback and immediate action should be faster.
'Being ourselves results in excellent quality!'

5. Out-Patient (OP) Department *'To treat the patients with a smiling face'*
The OP sisters do their job with quality and this represents 'quality' from their perspective. But quality is also patient satisfaction and patient care. One suggestion is that the current waiting time should be reduced. Patients' word-of -mouth is powerful and therefore quality has to be taken seriously. Patients should have confidence in a hospital, tell their families and neighbors about AEH's quality, and come back. That is the goal.

The OP sisters measure the tension and blood pressure and guide patients to other units or special clinics. This is of excellent quality. Before examination the patients are kept informed by audio and video. This creates awareness and is perceived as an effective system. The extra care for elderly patients is also considered as excellent.

A less-than-excellent element of quality is the patients' review. Not all the patients come back at the agreed date and time because of sudden marriages or festivals. Patient follow-up is stimulated by providing free medications and by sending the patients mobile messages and letters to remind them of their appointments. Awareness of other departments when patients are being guided to other units should also be improved.

In the opinion of OP sisters, quality is important for AEH because Indian society has huge expectations of AEH. As a known and outstanding hospital, the society expects a minimum level of quality. They have to maintain the current level because of 'word of mouth'.

To achieve excellent quality, there should be less noise in the waiting rooms. Brochures with detailed information about diseases, and suggestion forms for patients, are other ideas mentioned to achieve excellent quality.
Most important is, *'To treat the patients with a smiling face'.*

6. Refraction Department *'From refraction until injection, we do our best'*
The sisters of the Refraction department are responsible for the measurement of the eye tension and blood pressure, and collecting patient symptoms. They consider quality as *'doing your job utmost best'.* Correct refraction and glass measurement are also part of their definition of quality. Eventually the purpose of quality is patient satisfaction, according to the sisters. *'From refraction until injection, we do our best'* Patients should not only come back to AEH for a review, but also after many years when other problems occur.

The quality of K-sheets, the weekly meetings and the double-check of each patient before and after being issued spectacles are examples of excellent quality. During their weekly meetings sisters give feedback to juniors to improve their skills and to express problems or misunderstandings.

According to them, excellent quality is important for AEH because out of 100 patients, only 89 patients will buy their spectacles in the hospital. The rest will buy their spectacles in their hometown or familiar optical stores. For Refraction sisters, excellent quality means that all 100 patients buy their spectacles in the hospital. *'Quality is the backbone of AEH'.*
In their opinion, A-scan measurements and the number of wrong GP-prescriptions can be reduced. These are examples of less-than-excellent quality.

Required actions to improve the quality are more feedback to colleagues to control the quality level, more information provided to patients, feedback collection forms from patients, and a reduction in the number of wrong GP-prescriptions. Equal treatment to both patients and colleagues is important.

AEH, however, does not always mean work. AEH organizes extracurricular activities such as quiz programs to integrate juniors and seniors, to make their jobs more enjoyable, and to teach while they have fun.

7. Counseling Department *'Aravind gives no importance to money but to the vision of patients'*

In the eyes of the Counseling sisters, quality means creating awareness in the next generation of society - awareness about eye-care, diseases and treatment, because still too many people remain unaware. Counseling sisters are responsible for giving proper instructions to patients and motivating patients to come back for reviews. The sisters measure their performance by good quality results in more patients and greater patient satisfaction. It is their job to explain AEH's system to patients, which is at the same time marketing for AEH. But they don't only explain procedures. These sisters also face patients' personal problems and are, in fact, the ears of Aravind. Sisters also fill the gap between doctors and patients: for instance, when a doctor speaks only Hindi and a patient speaks only Tamil.

The following areas are considered to be of excellent quality: audio counseling and yet-to-be-implemented video counseling, lasik surgery, zyopthics and group counseling after surgery. Every sister treats her patients as she would her own relative. Last but not least, sisters are aware of the required technology and people skills for this job. Both are of excellent quality.

An example of less-than-excellent quality is the patients' missed reviews due to marriages or festivals. Out of 100 patients 56 of them will come back within one day for review. Thirty patients will come back within one week and the last 14 patients will come back for review within one month. They want to reduce the lead-time for review.

Excellent quality is important to AEH in order to compete with other hospitals. Many hospitals don't have counselors.
By conducting more exhibitions and organizing experience centers for patients, the current quality level will improve. But creating awareness and teamwork are key elements for the Counselors. *'Aravind gives no importance to money but to the vision of patients'*

8. Optical Department *'Aravind = Quality'*

The sisters of the Optical department deliver glasses, frames and spectacles to AEH patients. In their opinion, a main condition is that the quality of all three aspects should satisfy patients. Also important is proper measurement of eyes before glasses and frames are being ordered. Good quality is important because society and patients trust AEH. They have to maintain the standard quality level to keep all partners satisfied.

The glasses and frames are of excellent quality as well as AEH's guarantee whenever spectacles get damaged within the first few weeks. All glasses and frames are checked after delivery from different companies before using. That is how patient confidence is maintained. *'Aravind = Quality'.*

However, miscommunication can take place between seniors and juniors. The number of wrong spectacle deliveries must be reduced. To improve these examples of less-than-excellent quality more trainings should be provided and employees should be encouraged to help each other when things get too busy. Moreover the glass- and frame companies should become more involved in patient interaction and should be better able to better visualize patients' needs.

9. Operation Theatre (OT) Department *'Work hard and get involved with your job!'*

The OT sisters take care of the patients and doctors before and during surgeries. From their perspective quality means proper help to patient and doctor. Preventing infections and complications, proper sterilization and providing good vision are other quality elements. They also help patients tackle their fear of surgery. These sisters receive much positive feedback from patients for taking good care.

Pre-planning is a key element in their work. Through proper and effective planning many surgeries can take place in one day and doctors are able to focus only on the surgery itself. It is necessary to be constantly alert, careful and to have knowledge of all possible eye diseases. Also important is to be a good assistant to the doctors. Nurses have to anticipate each step during surgery – this often means anticipating a certain doctor's way of working.
Examples of excellent quality are using drops for anesthesia, sterilization, pre-planning and infection control. All this is learned by doing!

An example that needs improvement is complications during anesthesia, also called 'blocking'. The solutions, given by the OT sisters, to improve current quality are providing extra 'blocking' classes, reducing complications, organizing extra meetings and improving juniors' observations. Furthermore crowd management is required to improve quality and efficiency. As their contribution to achieving excellent quality, the OT sisters suggest working hard and getting involved with your job!

10. Doctors *'The sisters are the back bone of AEH'*

Two junior doctors and one senior doctor were invited to express their opinions of quality in general and of AEH's quality in particular. In their eyes quality stands for patient satisfaction and symptom relief, because quality doesn't necessarily always mean 'cure'. Therefore patients must be made aware of treatment limitations. Patients also have a choice: they can opt for a variety of treatments. The hospital has to take care of society and good quality is required. *'Without quality, no patients and without patients, no right to exist'.*

AEH is known for its high quality cataract surgery. According to the doctors, meetings within the hospital are of excellent quality. AEH reaches out to the broadest spectrum of the population through eye camps, vision centers and community centers. These examples set AEH apart from other institutions. AEH consists of teamwork, with the sisters 'in charge'. *'The sisters are the back bone of AEH'.*

However the current waiting time of two hours causes frustrations and must be reduced. Furthermore final patient examinations should be finished by 10 am, which isn't always the case. Both examples need improvement.

What actions are required to achieve excellent quality? The in/out time of patients must be analyzed, and patient's locations must be tracked through a computer system. Doctors share the opinion that a critical attitude but also flexibility is required to improve quality.

Important is to reduce frustration on Saturdays and Mondays and to go back to work 'recharged'. Therefore doctors need more time to reflect on themselves by sharing experiences, expressing their feelings and just by letting their work 'sink' into their minds.
'Aravind's system and philosophy shall remain.'

List with participants Case Study

TOP MANAGEMENT
Dr. R.D. Ravindran, *Joint Director - Aravind Eye Care System / Chief Medical Officer*
Dr. R. Venkatesh, *Deputy Chief Medical Officer*
Dr. Badrinath Talwar, *Medical Officer*

Ms. K. Barani, *Coordinator / Translator*
Ms. Swetha, *HR - Manager Madurai*
Ms. Suganthi, *HR - Manager Pondicherry*

MEDICAL RECORD DEPARTMENT
Seniors
Sr. Kavitha, Sr. Gurulakshmi, Sr. Kalaivani
Juniors
Sr. Narayani, Sr. Santhi, Sr. Renuka

HOUSEKEEPING DEPARTMENT
Seniors
Sr. Kalaiselvi, Sr. Kalpana, Sr. Prema
Juniors
Sr. Deepa, Sr. Rajesree, Sr. Shenbakam

WARD DEPARTMENT
Seniors
Sr. Kavitha, Sr. Suganthi, Sr. Thenmozhi
Juniors
Sr. Karthiga, Sr. Poomari, Sr. Lakshmi

ADMINISTRATIVE STAFF
Mr. Renjith, Mr. Palaniraj, Sr. Solaimuthu
Ms. Vani, Ms. Swetha, Ms. Reka

OUT PATIENT
Seniors
Sr. Gurumani, Sr. Aarthiga, Sr. Varalakshmi
Juniors
Sr. Suriya, Sr. Prasanalakshmi

REFRACTION
Seniors
Sr. Muthulakshmi, Sr. Thangamuthu, Sr. Sindhu
Juniors
Sr. Niranjana, Sr. Jayalakshmi, Sr. Jeyakrishnaveni

COUNSELING
Seniors
Sr. Nithya, Sr. Kowsaliya, Sr. Subha
Juniors
Sr. Sangeetha, Sr. Muthurakku, Sr. S. R. Sublakshmi

OPTICAL
Seniors
Sr. Chitra, Sr. K.P. Rajalakshmi, Sr. R. P. Vijayalakshmi

OPERATION THEATER
Seniors
Sr. Usha, Sr. Suganya, Sr. Nagalakshmi
Juniors
Sr. Rajalakshmi, Sr. Lalitha, Sr. Ramalakshmi

DOCTORS
Dr. Sudha, Dr. Seema, Dr. Sanjeevani

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