

# Metamorphosis : Singapore's Alexandra Hospital in transition

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**METAMORPHOSIS:  
SINGAPORE'S ALEXANDRA HOSPITAL IN TRANSITION**

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*When Mr Liak Teng Lit officially assumed the post of CEO of Singapore Alexandra Hospital (AH) in February 2000, he perceived the general mood in AH to be somewhat pessimistic and lethargic. There were complaints in the press about poor services and worn-out physical infrastructure. This negative public perception of the hospital was a concern given a major reorganisation in 1999, of the public health delivery system in Singapore.*

*Liak was given the mandate to implement whatever was necessary to align healthcare delivery at Alexandra Hospital with the philosophy, policies, and objectives of the revamped public healthcare delivery system.*

*In the two years that followed, Liak instituted a series of organisational changes which transformed AH from a 'forgotten hospital' to one that won accolades.*

*However, in early 2003, reflecting on the many policies and initiatives that he had taken to turn around the hospital, Liak wondered if some of the changes could have been implemented differently to lessen the negative perceptions of the change among some employees. He felt that it was essential for AH to cull the lessons from the recent organisational changes so as to be able to prepare well for its future at a new location.*

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*The case is based on public sources and interviews with key personnel from Alexandra Hospital, Singapore. The authors would like to acknowledge the support from Ms Wong Li Ching for her assistance in arranging interviews and data collection. As the case is not intended to illustrate either effective or ineffective practices or policies, the information presented reflects the authors' interpretation of events and serves merely to provide opportunities for class discussion.*

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## ALEXANDRA HOSPITAL - FEBRUARY 2000

When Mr Liak Teng Lit officially assumed the post of CEO of Alexandra Hospital (AH) in February 2000, he perceived the general mood at AH to be somewhat pessimistic and lethargic. Much to his astonishment and disbelief, he saw stray cats running through the hospital premises, wooden structures infested with termites and birds colonising a kitchen roof on the verge of collapse.

His initial assessment that the medical staff working in such conditions must be suffering from low morale was confirmed after he talked to the staff at various levels in the hospital.

For a long time AH was in the shadow of two larger public hospitals in Singapore - the National University Hospital of Singapore and the Singapore General Hospital. The future of the hospital was uncertain, as a proposed comprehensive hospital in the western part of Singapore was expected to replace it in 2006.<sup>1</sup> A patient survey conducted in 1999 showed that 39 percent of the patients who visited the hospital would not recommend it to their family members, relatives or friends.

There were press complaints about the poor services and the physical infrastructure was in a state of disrepair.<sup>2</sup> The negative public perception was a concern for AH, but the hospital, prior to restructuring (see page 62 on Restructuring of Healthcare Services in Singapore), operated under a different set of parameters with a limited budget and various civil service constraints.<sup>3</sup> Under the old premise, the hospital's existence was not dependent on its profitability or the number of patients' visits. Most of the hospital staff were on the civil service payroll.

Immediately prior to restructuring, AH was making a loss of S\$2 million a month (See **Exhibit 1**), and the workload of the medical staff had been declining. It desperately needed a remedy to bail itself out of this critical financial condition.<sup>4</sup> For a long time, AH had the reputation of being a one-star hospital for

the old and the poor. At a time when rising medical costs were a major concern for most Singaporeans, closing AH and transferring about 200 patients to another hospital was then not a politically acceptable option.

Liak described the situation:

*I am flying a plane with torn fuselage and possible engine failure. The situation warranted an immediate landing but I only had the option of keeping it flying.*

Entrusted with the mission to restructure the hospital, the CEO observed and assessed the situation for six months. Ultimately, he and his management team had to consider the question of how a limited facility hospital should compete with comprehensive service hospitals such as the National University Hospital and the Singapore General Hospital which had similar hospital charges. What would be the role of AH from then until the eventual move to the new hospital?

## THE BIG SHAKE-UP

The government of Singapore announced in November 1999 the plan to restructure AH and formally introduced Mr Liak Teng Lit, former CEO of Changi General Hospital, to spearhead the change.

A veteran in hospital management, Liak had the experience of restructuring six government hospitals to his credit. When faced with the choice of joining the new Tan Tock Seng Hospital or AH, he chose the latter as he found it more challenging. He thought that he could make a greater impact on AH than on the more established Tan Tock Seng Hospital.

Dr C. Rajasoorya, then a consultant at AH, recognised the government announcement as a turning point for the hospital.

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- 1 The Ministry of Health had announced that a new regional hospital in the western part of the island would replace Alexandra Hospital in 2006. The S\$400 million, 650-room Jurong General Hospital would have 2,000 employees, of which 10 percent would be doctors. The AH staff were expected to transfer there once it was ready.
  - 2 Low, S. (1995, June 16). Alexandra Hospital - no more a poor cousin? - bring medical students slap up against reality. *The Straits Times*, Singapore.
  - 3 From 1990 to 1999, AH's annual inpatient admission decreased by 26 percent. Bed occupancy was low at 73 percent and 53 percent for B2 and C wards respectively. AH's market share for inpatients in the public sector had shrunk from 8 percent in 1990 to 5 percent in 1999. (Source: Mrs Chew Kwee Tiang, Chief Operating Officer, AH)
  - 4 The special funding for restructuring was S\$2 million a month for six months starting from the start of restructuring. After the agreed six-month period, the funding was reduced.

*For a long time, people working here had this feeling of uncertainty about their future; many liked the cosy atmosphere unique to AH but nevertheless left for greener pastures because of career considerations. The announcement had set direction for AH but it also introduced the element of change and, ironically, change was worrisome for many.*

The AH staff were initially apprehensive about Liak's appointment as he had a reputation of being a "tough, demanding, fast-paced and results-oriented leader". On the other hand, Dr Lim Swee Lian, a veteran who then headed the Department of Orthopaedic Surgery, was less disturbed by the change as he had witnessed 10 changes of AH chiefs in the past three decades. With a different philosophy on life, he had been satisfied with any change as long as it did not interfere with his clinical duty. He noticed that Liak was a pharmacist by training, unlike the previous heads who were all doctors. He also realised that although Liak had a more aggressive approach to instituting changes, nonetheless, he networked well with organisations outside the hospital.

Liak believed key team members needed common goals and a vision to achieve synergy. His first task was "getting the right people on the bus before deciding on the bus direction". The hospital staff were briefed about their career prospects at AH. Most were given the choice of staying, transferring or receiving a sum of money for early retirement.

Forty percent of the original staff took up the early retirement offer for various reasons. The compensation package was one month of the last drawn salary for every year of service and the payouts were borne by the government. Some staff members were near retirement age and felt it was financially better for them to receive the lump sum payment based on their length of service. Others were apprehensive about the hospital's future and felt they would be better off working in other more established hospitals. Some left for reasons other than financial or career considerations.

Liak felt that his reputation worked for and against him. There were those who were looking for new challenges, who might have interpreted his management style as opportunities for change. There were yet others who left because they were worried that the shake-up would upset their established routines that is an incursion into their comfort zones. Many of these left.

Inspired by Liak's vision and impressed with his experience in managing public hospital restructuring exercises at Changi General Hospital and at the Kandang Kerbau Women's and Children's Hospital (KK Hospital), many key staff who joined AH at the onset of restructuring were instrumental in making the transformations later on.

The exodus was mitigated by a massive recruitment exercise. The transition was hardly smooth as Ms Cheong Choy Fong, Director of Human Resource Development, recalled:

*We had a tough working relationship with the original administrative team...it was very difficult to implement new measures as this required their consensus and cooperation.*

Staff morale was adversely affected during the transition. A poison pen letter was circulated in the hospital and sent to the Ministry of Health citing the newly appointed CEO as the source of the chaos and confusion.

Ms Low Beng Hoi, Director of Nursing, summarised the sentiment then:

*Initially there was much apprehension about the new leadership. His management style and thinking were difficult for many to understand, let alone to follow. Suddenly, many fast changes were taking place simultaneously. It was a struggle for some staff at the hospital to keep up with the pace of change. Those who fell behind or struggled with keeping in tandem with the changes felt frustrated and demoralised.*

Some staff saw this as a necessary growing pain and persevered. Dr Rajasoorya observed:

*There were some who were resistant to change. There were others who wanted everything changed. There were some who [inherently] did not take to change easily and spoke negatively of the new management. On the other hand, there were some of the 'new' who perceived and propagated everything negative about the 'old'. So we had [a] wide spectrum amongst the old and the new management. Conflicts were inevitable and did cause discomfort to the staff who sometimes felt helpless*

*and confused on alignment, with each blaming the other for new problems that arose. The majority, however, old or new worked in unison and wanted to see the hospital improve and progress to a better image and reputation.*

After assembling a team of like-minded staff, the CEO sat down with his key staff to map out strategic plans for the newly restructured AH. He was satisfied that the 'people on board' could work together towards a shared vision.

*Since then there were more interaction sessions between management and staff. It is quite obvious that remarkable improvements have taken place.*

*Low Beng Hoi*  
*Director of Nursing*

The new AH administrative team was put in place. (See **Exhibit 2**.) Although the path ahead was uncertain, it was teemed with exciting possibilities. The task force had to set the priorities and direction required for future development. The CEO needed the support of the various heads of departments in the hospital for an impactful and lasting change. For those who were apprehensive, he had to convince them of his vision for the hospital.

## **DEFINING VALUE AND VISION - CREATING A PATIENT-CENTRED HOSPITAL**

To prepare employees for the future, the new management team spoke about AH as a 'hospital-in-transition' as a motivation for the big change.

Subscribing to the idea that small wins were necessary stepping-stones towards the ultimate victory, Liak and his new management team had to channel their energy towards the new vision. The early questions were:

- What would the public image of the hospital be in five years' time?
- What could the hospital offer to the public?

- What were the values of the hospital and how can these values be delivered in a most efficient and cost-effective way?

Before embarking on the major changes, the hospital arranged a few sessions to meet ex-patients who defined what they perceived as 'value' for the hospital management. Their complaints and suggestions gathered from various feedback channels were documented and processed, and many suggestions by the patients were later adopted and institutionalised. (See **Exhibit 3**.)

To inculcate a new set of service-oriented values in the staff, the management team stipulated 20 behavioural guidelines regarding appearance, language and attitude. (See **Exhibit 4**.) Liak's vision was to create a hospital that "centred around the needs of the patients and is good enough for our loved ones". He constantly encouraged and motivated his staff to act with passion, going beyond the call of duty.

The hospital set its vision in line with the National Healthcare Group (NHG) as:

Adding years of healthy life to the people of Singapore (See **Exhibit 5**).

## **A BRIEF HISTORY OF THE HOSPITAL FROM ITS INCEPTION TO THE LATE 1990S<sup>5</sup>**

Alexandra Hospital was opened in 1940. Originally called the Military Hospital Alexandra, it had 400 beds, with a capacity for expansion to 600 beds, catering to the officers and troops of British forces in Singapore and the Far East.

Closed during the Japanese occupation from 1942 to 1945, the hospital reopened after the Japanese defeat in 1945 as the British Military Hospital (BMH), and continued to serve the military.

In 1968, British troops withdrew from the Far East and the Singapore government took over a number of British properties including the BMH.<sup>6</sup>

The hospital started operations again on 15 September 1971. Specialists in Internal Medicine,

<sup>5</sup> Official website of Singapore National Heritage Board. Retrieved December 19, 2003, from <http://www.heritagehub.com.sg>

<sup>6</sup> There was initial possibility of converting BMH into a paediatric hospital but it was eventually decided to retain it as an acute general hospital for the western sector of Singapore. This was before Kent Ridge Hospital or National University Hospital was conceived.

General Surgery, Obstetrics and Gynaecology, Paediatrics, Orthopaedics, and Accident and Emergency services were provided. There was also a diagnostic radiology department and a dental clinic. In 1991, a S\$18 million project was undertaken to upgrade the wards and introduce new services and facilities. A one-stop Geriatric Centre was opened in November 1994.

In subsequent years, the Ministry of Health assigned the management of AH to the National University of Singapore (NUS). With this development, AH became the Alexandra campus of the NUS medical school and there was professional collaboration between the specialists of National University Hospital and AH.

After the revamp of the more established hospitals like the nearby National University Hospital and Singapore General Hospital, the Obstetrics and Gynaecology Department of AH was closed and transferred to KK Hospital in April 1990. Six years later, the Paediatric Department was closed and transferred to KK Hospital too. The range of medical services offered at AH declined and the hospital fell out of favour with the general public. By the late 1990s, Liak felt that the hospital was out of step with new trends emerging in hospital and health care.

## **AN OVERVIEW OF SINGAPORE'S HEALTHCARE SYSTEM**

In 1999, Singapore had four million residents, with only 11 percent of the population above 60 years of age. But this age group was projected to increase to 27 percent by 2030, making it one of the fastest ageing populations in Asia.

Health services for the country were provided by the public and private sectors with the government as the dominant healthcare provider. (See **Exhibit 6.**)

The Ministry of Health (MOH) was responsible for providing preventive, curative and rehabilitative health services in Singapore. MOH formulated national health policies, coordinated the planning and development of the private and public health sectors as well as regulated health standards.

Healthcare delivery in Singapore was a combination of the government-managed public system and a private sector comprising the private hospitals and general practitioners. Primary healthcare was mainly provided by private medical clinics and the government outpatient polyclinics. Both secondary and tertiary specialist care were available from private and public hospitals. For primary healthcare, private practitioners provided about 80 percent and the government (public) polyclinics the remaining 20 percent. For the more costly hospital care, the public sector provided 80 percent and the private sector the remaining 20 percent.

## **THE RESTRUCTURING OF HEALTHCARE SERVICES IN SINGAPORE**

In the mid-1980s, the Singapore government announced its plan to restructure the public healthcare system. By 2002, the government had restructured all its hospitals and specialist institutes. AH was one of the last two government hospitals to be restructured.

The primary objective of the restructuring plan was primarily to grant more autonomy to the government hospitals and to free them from civil service constraints. The restructured hospitals thus had the management autonomy and flexibility to respond more promptly to the needs of the patients. However, they were subjected to broad policy guidance by the Government through the MOH.

In the process of restructuring, commercial accounting systems were introduced, providing a more accurate picture of the operating costs and instilling greater financial discipline and accountability. Hospital funding was based on output rather than the submitted budget. The funding principle was later modified to Casemix<sup>7</sup> in 1998 to strengthen the mechanism further. Each hospital had its own Casemix depending on the type of the specialties offered, and the types of patients served. With the new funding system, all hospitals received the same amount of subsidy for the same conditions to encourage them to seek the most cost-effective treatment while maintaining a high level of medical service.

<sup>7</sup> Casemix was a system which the Singapore Ministry of Health used to determine the amount of subsidies public hospitals would get according to the type and difficulty of the medical conditions, and the number of patients treated for each condition. The system had already been adopted in several developed countries such as the US in the 1980s. It was widely believed that the Casemix funding system led to more efficient and accurate funding of the public healthcare system.

Previously, funding for public hospitals in Singapore was based on the number of days a patient stayed in the hospital.<sup>8</sup> With Casemix, funding was set according to the type and difficulty of the medical conditions, and the number of patients treated for each condition.

The public healthcare delivery system was reorganised in 1999 into two vertically integrated delivery networks - National Healthcare Group (NHG) and the Singapore Health Services (SHS) - to effect more integrated and better quality healthcare services through greater cooperation and collaboration among public sector healthcare providers. Each cluster comprised polyclinics and hospitals that provided different levels of services. Patients were free to choose among the providers within the dual healthcare delivery system. Following the restructuring, AH became a division of NHG. (See **Exhibit 7**.)

The NHG launched the Direct Access Scheme in late 2000 to streamline and integrate healthcare services provided by the polyclinics and hospitals under its umbrella. A patient referred to the hospital for healthcare by the polyclinics (which provided more basic healthcare services) needed to register only once and his/her medical records would be tracked and updated within the healthcare system in an integrated healthcare data system.

## CHOOSING WHICH BATTLE

Liak was concerned about the thrust of the hospital. The questions the new management team had to ask themselves were:

- How should the hospital distinguish itself from the other hospitals in Singapore, particularly the full-service hospitals?
- To which areas of services should the hospital devote its resources?
- What do patients expect from a medium-sized neighbourhood hospital?

Many in top management had had working experience in other large hospitals, and understood the strength and limitations. In mapping out AH's

directions, the management realised that AH had to strengthen areas of services that large hospitals could not offer.

Liak spoke from his experience:

*Some hospitals seem to have forgotten that hospitals exist for the benefit of the patients, not of the staff. More often than not, rules and regulations, processes and procedures, practices and services were designed for the convenience of the hospital...how many people had to wait for long in the hospitals?....Everybody seems to have accepted this as a necessary evil to recovery...AH [was] determined to change that.*

Before embarking on an overhaul of the services, the management had to examine the mission of the hospital in the context of healthcare philosophy and the needs of Singaporeans for medical services over the next five to 10 years.

The management was aware that the hospital lacked specialists and medical equipment for certain types of tertiary care, and therefore decided it would not compete with Singapore General Hospital and National University Hospital in highly specialised areas such as Cardiac, Thoracic & Vascular Surgery, Obstetrics and Gynaecology, and Haematology/Oncology. (See **Exhibit 8**.)

Given its resource constraint, the hospital's best option was to concentrate on more personalised preventive and rehabilitative care in addition to treating illnesses. This was in line with the philosophy of 'prevention is better than cure', and the fact that hospitals in Singapore were expected to provide more comprehensive gerontological care as the demographic profile of Singapore changed.

Dedicated to the vision of 'adding years of healthy life to the people of Singapore', AH became proactive in introducing new services and ideas to address the issues related to Singapore's ageing population. An innovation in the hospital in 2001, the first in Singapore, was the setting up of a demonstration studio showing how an older person could live independently and safely at home.

Besides improving existing medical services, the hospital management introduced diabetes centres and psychological and addiction medicine services (PAMS) in 2001. Providing an extension of the services by the former Alcohol Treatment Centre, PAMS provided professional assessment, and consultative and treatment services for recovering adults and family members of those experiencing emotional, behavioural and relationship problems resulting from substance abuse. The services were provided in both residential programmes and outpatient services with an emphasis on providing a holistic approach involving the mind, body and spirit.

Dental services were re-introduced in July 2001 with Dr Wu Loo Cheng joining the hospital to start up the department. Staff members were excited about the department but they were a little apprehensive about its long-term viability. The initial apprehension dissipated when the number of dental patients exceeded expectations. The dental services were publicised mainly by word of mouth and, owing to their popularity, clinic hours were subsequently extended beyond normal office hours.

## TRANSFORMATION OF THE PHYSICAL ENVIRONMENT

*How [does one] instill in the staff's minds the new vision of the hospital and convince them to work for the future of the hospital?*

*Liak Teng Lit*  
CEO

One of the most daunting tasks of the transformation was overcoming the staff's inertia and apprehension. The CEO recalled:

*When the new management team took over, the hospital was struggling with low patient demand, high operating cost, poor public image and lack of focus on patients' care. The hospital desperately needed a motivated work force before effecting any change.*

The management was aware that physical environment was the most visible part of the hospital

operations. Dramatic changes in the physical environment would demonstrate the management's commitment to raising the standard of service to be on par with that of other restructured hospitals.

From the beginning, the new management team had the vision of creating a healing environment with lush greenery, featuring a natural habitat and eco-friendly maintenance. AH had been blessed with a 12-hectare garden. However, it had been barren, apparently due to lack of interest.

An environmentalist, Ms Rosalind Tan, who headed the Occupational Therapy Department, volunteered to transform the grounds. Besides her hectic daily schedule, Ms Tan found time to design, build and maintain the garden with the help of her retired architect husband and other hospital staff.

*The landscape is an extension of the hospital, hence it is important for the hospital grounds to be restorative and therapeutic. As a therapist, I am convinced that a peaceful environment will help to restore our patients' body and mind.*

*Rosalind Tan*  
Chief Occupational Therapist cum  
Chief Volunteer Gardener

Colourful shrubs and tall trees soon lined the hospital walkways and driveway. Cold, concrete structures of the building were softened and masked by lush plants. Painstaking care was taken to create a healing environment. Tan even went to the extent of creating a natural habitat in the hospital grounds to attract different species of butterflies. In just one year, AH transformed its grounds into a soothing oasis, complete with resident squirrels, birds and butterflies. Species of plants that attracted the right kinds of caterpillars were carefully selected and planted in strategic areas to provide the intended therapeutic effect for patients, staff and visitors. To complement its greening effort, the hospital engaged in recycling activities to encourage waste reduction.<sup>9</sup>

## BENCHMARKING AGAINST THE TOP LEAGUES

An avid learner himself, Liak benchmarked the hospital services against the best hospitals in the

<sup>9</sup> In November, 2002, AH won a national eco-award for its solar-powered lights and environmentally friendly ways of cooling its wards with rainwater. It also won the Environmental Achievement Award in the same year.

world and against other outstanding organisations. The three hospitals which inspired him were Kameda Medical Center in Japan, Mayo Clinic in the United States and Children's Hospital in Australia. The CEO and AH staff also visited these organisations to learn from the best and to nurture a culture of creativity.

For consistency in service delivery, the hospital benchmarked itself against McDonald's fast-food chain. For hospitality service, the benchmark was the Ritz-Carlton. The CEO attended its in-house training sessions so as to better understand the level of care and service provided by one of the most prestigious hotels in Singapore. The nature-inspired, open concept hospital washroom closely resembled the washrooms in the Singapore Zoological Garden. For food delivery to the wards, the hospital completely revamped the catering facility and recruited Mr Ho Shok Fong who had much experience in hotel, hospital and ocean cruiser catering services.

Ho, the executive chef of the hospital's catering department, was given the autonomy and the support to redesign the kitchen based on catering standards in the hotel industry. Besides designing the menu for the warded patients, he was strategically involved in the reconfiguration of the hospital catering facilities and food delivery processes to ensure high dietary and hygiene standards.

In this manner, AH paid special attention to details. Many patient-friendly services were started as employees' initiatives. Inspired by the vision of managing a hospital 'good enough for our loved ones', Ms Yen Tan, the AH operations manager, took the initiative to pick up, chaperone and send home a few elderly patients who would otherwise skip their medical appointments if unaccompanied. Under its WOW initiative,<sup>10</sup> 'cupboards of delights' complete with instant noodles, coffee, slippers, toothbrushes and other personal items were set up in the wards for those who were admitted to the hospital unexpectedly.

*We were taught in the hospital to treat our patients the way we would treat our loved ones. If this was my mother, I thought, I would like someone to do it for her. So I just did it.*

Yen Tan  
Operations Manager

As a result of Liak's discovery of her initiative, the hospital collaborated with a taxi company and came up with a system of picking up, accompanying and sending home elderly patients with appointments at the hospital. The service became a hit with many working adults with elderly patients.

The staff at the hospital were also encouraged to adopt a 'Just-Do-It' mindset. Whenever and wherever anybody saw the need to take the initiative to improve patients' welfare, the individual would exercise his/her discretion to go beyond the call of duty without seeking prior approval unless there were specific prohibitions.

A milestone for AH's service quality was reached when the hospital became a member of Singapore Quality Class (SQC) on 24 July 2002. Launched in 1997, SQC was a scheme to recognise organisations that had performed commendably to achieve world-class standards of excellence. Membership in SQC was determined by the organisation's level of performance measured against the Service Quality Award (SQA) model.<sup>11</sup>

Ms Cheong Choy Fong, Director of Human Resource Development, highlighted the importance of benchmarking the service standard against the best in the industries.

Getting an SQC is an indication that the staff and management are speaking the same language and moving in the same direction - [that of] improving our services...Now that we are a member of SQC, we know how we measure up, and we are energised to further enhance our quality of care and services for our patients.

<sup>10</sup> The WOW initiative was aimed at surprising the patients by delivering a level of service that went far beyond the call of duty.

<sup>11</sup> The SQA business excellence framework was a set of categories that encompassed leadership, planning, information, people, processes, customers and results, all of which were rated based on a point system. Organisations which had continuously improved to become world-class organisations were invited to apply for SQA. Based on this model, AH's performance in seven categories met the admission criteria for SQC.

## HUMAN RESOURCE (HR) MANAGEMENT

*A hospital is as good as its ensemble of staff.*

Liak Teng Lit  
CEO

Hardware in the hospital is only as good as the people who operate and utilise it to the advantage of the patients. To deliver quality healthcare service, AH needed a team of medical staff who could relate to and empathise with the patients.

Liak felt that good HR management started at the recruitment. The management adopted the philosophy of hiring new recruits on the basis of their attitudes and training them to develop the necessary skills. When evaluating an applicant, the recruiters looked for evidence of achievements, self-improvement and more importantly, consideration for others.

Many new employees were recommended by the staff of AH. Liak stressed the importance of observing the candidates before and after the interview:

*Those who took reading materials from the shelf and put things back after use while waiting for the job interview demonstrate a sense of responsibility and consideration for others...It is much easier to train people for skills than to train them for attitude, gentleness and sensitivity.*

The vision of establishing a patient-centred hospital and the possibilities for implementing exciting changes attracted some staff from other hospitals. One of them was Dr Francis Lee Chun Yue who headed the Department of Emergency Medicine. When he first joined AH in 2000, he was excited about building an Accident and Emergency Department that centred on the patients.

*A&E may be one of the more overlooked departments in the hospital. Patients don't stay here for long...they are admitted, treated and then transferred to other departments...Many emergency departments of hospitals operate like a production line. With the new management's commitment to holistic healing by giving back the*

*patients dignity and privacy, I am very enthusiastic about the direction AH is taking.*

Dr Francis Lee Chun Yue  
Department of Emergency Medicine

Liak was especially aware of the need to motivate and encourage staff at management level as they were instrumental in effecting changes. The hospital would reward staff who exceeded the performance appraisal benchmarks by fulfilling their requests for more support to do their jobs better. This was of course accompanied by giving them more responsibility and greater scope for their jobs. Many staff in the new management felt empowered and trusted by the CEO. Cheong, a nurse by training, was given the authority and resources to head AH's Human Resource Development Department based on her substantial experience in the hospital service and track records.

Despite the drastic measures he implemented within a few months, the CEO was able to convince many subordinates of his commitment to the new vision. Many employees in the hospital were able to bear witness to the fact that the CEO was the one 'who walked the talk'.

Dr Rajasoorya was originally a medical consultant with AH. After his promotion to the chairman of the Medical Board, he had to apportion his time among administrative, teaching and clinical responsibilities. After the restructuring, he noticed that the number of doctors' job applications to AH had increased, a far cry from the days when AH lost trained doctors and medical staff to other more established hospitals. He was relieved to see that the talent drain from AH had reversed and there were more qualified staff to address the clinical issues in the hospital.

In 2002, the 10 days of training per year for each hospital staff was increased to 14. Four percent of total labour cost was allocated to training in 2002. In line with the extension of training days, this percentage would be increased to five percent. Career and training schemes were available to all departments of the hospitals; staff members were responsible for monitoring their own training and upgrading needs for career advancement.

To be able to offer monetary incentives, the hospital allocated 60 cents of every dollar earned to attracting and keeping capable doctors and nurses and especially skilled radiologists and senior

consultants.<sup>12</sup> The hospital also allocated a third of the annual surplus (if any) to the future development of the hospital, another one-third to overseas training for staff with outstanding performance and the remaining to annual bonuses.<sup>13</sup>

## INSTITUTIONALISING THE CHANGE

The massive restructuring exercise entailed cost cutting, and the streamlining of processes in every aspect of the hospital operations. The management installed a corporate measurement system that built upon a set of standards representing common performance attributes from different operation perspectives.

AH was awarded two ISO certifications - the ISO 9001:2000 and ISO 14001 - on 19 October 2001.<sup>14</sup> With the mission of providing “accessible, seamless, comprehensive, appropriate and cost-effective quality healthcare service”, the hospital adopted the Six Sigma methodology<sup>15</sup> in March 2001.

Liak explained the rationale for adopting quantifiable measures to raise the standard of service in the hospital:

*We need to critically examine our processes for delivering medical services to optimise the use of our resources...for example, when the hospital took steps to cut down patients' waiting time, we first needed to convince the doctors with statistics that they had an important role to play by being punctual in arriving at the clinics.*

The Six Sigma methodology was applied to the specialist outpatient clinics as a response to the problem of long turnaround time for patients. Patients coming for medical follow-ups with their specialists expected to spend less than an hour at

the clinic, but this was often not met. Therefore, the management re-examined the old workflow and streamlined the process to meet the 60 minute target.

The hospital collected monthly data relating to turnaround time over a fixed period, analysed the process, and identified bottlenecks in order to eliminate them. To reduce the number of patients who inadvertently missed their appointments, the hospital introduced the usage of Short Message Service (SMS) to remind them of their medical appointments one day earlier.

The adoption of Six Sigma methodology cut down patients' turnaround time at the hospital's 10 specialist outpatient clinics. In July 2002, 53 percent of the patients visiting AH's specialist clinics left within an hour, compared with 36 percent in January 2001. This result was achieved despite the increase in patients from 5,334 to 8,165 during the period.<sup>16</sup>

Despite these successes, AH's management could see that there were inherent constraints in the Six Sigma methodology and limited its application to eight key areas of hospital administration, complementing it with other measures for continuous quality improvement. These included individual or group initiatives, staff suggestion schemes, quality circles and task forces to recommend and introduce new services. The hospital also adopted the Balanced Scorecard approach to monitor and evaluate its performance in key operations relating to financial, service and clinical quality and work performance.

## MAKING A PRESENCE FELT BEFORE THE BIG MOVE

To pave the way for a smooth transition to the new hospital, the hospital's management cultivated

<sup>12</sup> Cutting cost - every cent counts. (2002, September 13). *The Straits Times*.

<sup>13</sup> Jiang Yun. A discussion on the experiences of hospital management in Singapore. (2002) *Chinese Hospitals*, 6.

<sup>14</sup> The ISO 9001:2000 certification focused on the processes the organisation had in place to deliver consistently good service and provided a framework to make systematic and timely improvements. The ISO:14001 certification was awarded to organisations with sound management systems to ensure consistency and commitment to environmentally-friendly business practices.

<sup>15</sup> The Six Sigma methodology was a structured approach emphasising the application of statistical tools and techniques to critical business processes so as to lead to breakthrough improvements with measurable impact. The application of Six Sigma involved the identification of the causes of defect or variability, making the improvements and sustaining them. It was usually applied to manufacturing settings with the aim of reducing defects, meeting desirable targets and setting measurable criteria for analysis to improve and control the process.

<sup>16</sup> Along with 30 other public service organisations, AH was the only hospital in Singapore to receive the Public Service Award for organisational excellence in 2002.

relationships with the residents in the western and other parts of Singapore via health screenings, counselling and talks. In anticipation of its future, this community involvement would benefit the residents as well as the staff by keeping up their morale.

Liak emphasised the importance of engaging the future community at the new hospital and related this to what he had observed at Mayo Clinic in the USA:

*Mayo Clinic is very much a part of its community....the residents identify themselves with the hospital as much as with the community, therefore the hospital has been getting strong support (from its community)...Similarly, the best way to prepare for Jurong Hospital would be to make our presence felt in their community before we are actually there. I hope the people would eagerly wait for us. At the moment, the best way forward is to build relationships by working closely with South West Community Development Council and other organisations in the [western parts of Singapore].*

In making its presence felt, the hospital participated with other healthcare institutions in the health fairs organised by a community service group, the South West Community Development Council, and provided immunisation programmes, health-screening tests and health talks. These community activities tied in with the hospital's emphasis on preventive care and the cultivation of goodwill towards the hospital.

Dr Wee Wei Keong, who was in charge of a public screening initiative, spoke of health screening as a tool to reach out to the community. In 2001, AH conducted 7,000 health screenings for members of the public, and in 2002, another 6,000. The staff involved in this community outreach programme contributed their time and effort with the hospital's support.

An unexpected outcome of this community outreach initiative was that AH attracted more enquiries on health screening from corporate clients.

## LOOKING TO THE FUTURE

By early 2003, AH had shed its image as a second-class public hospital. There were more positive press reports about patient-centred services - a far cry from the days when AH was often referred to as 'the one-star hospital for the poor'. Costs were contained and staff satisfaction compared favorably with the NHG overall norm and the Singapore national norm. (See **Exhibits 9 and 10.**) The Severe Acute Respiratory Syndrome (SARS) outbreak in Asia put AH's system to the test and it emerged as the only public hospital in Singapore without a single case of SARS during the period mid-March to 31 May 2003. (See **Exhibit 11.**)

To the CEO, the transformation of AH was tangible and dramatic, but he felt the hospital still had a long way to go in many aspects of its operations. The transition had been painful and some staff still felt very emotional about the upheavals and dramatic measures undertaken by the new team led by him. Liak felt that AH had its own hits and misses. For example, the psychiatric ward, launched in 2001 at a cost S\$900,000, closed within two years due to poor demand.

Dr Rajasoorya pointed out that the new AH administrative team was mainly made up of staff who had only administrative but no clinical experience. This would create tension between the clinical and the administrative sides, especially in the course of instituting drastic measures to replace the original system.

*Many doctors like me are motivated by clinical passion. In the pursuit of clinical excellence, sometimes cost-efficiency and operational effectiveness will have to take a back seat. If there has to be a trade-off, the doctors will always know their stand.*

*Dr C. Rajasoorya  
Chairman of the Medical Board*

Looking back over the past two years, the CEO had his share of regrets. On hindsight, his results-oriented and fast-paced style of management might have driven away some good staff who might have otherwise stayed. Had the management handled the

volatile situations differently, would they have been able to persuade those staff who were then still undecided to stay on? After all, it was easier to retain the existing valued staff than to attract new talents. At the time AH was losing its staff, the clinical standards must have been affected. A lingering question on his mind was, "Could I have done this differently?"

Apart from the issue of management style, there were questions of sustainability. Could the quality of service and medical care be maintained long after the enthusiasm had subsided? What more could be done to institutionalise these changes?

**EXHIBIT 1**

**OPERATING DEFICIT FOR ALEXANDRA HOSPITAL  
AS PROJECTED BY ERNST & YOUNG IN 2000  
(in Singapore dollars)**

<b>\$ million</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
<i>Yearly</i>	12.4	23.7	23.0	22.2	20.9	19.4
<i>Cumulative</i>	12.4	36.1	59.1	81.3	102.2	121.6

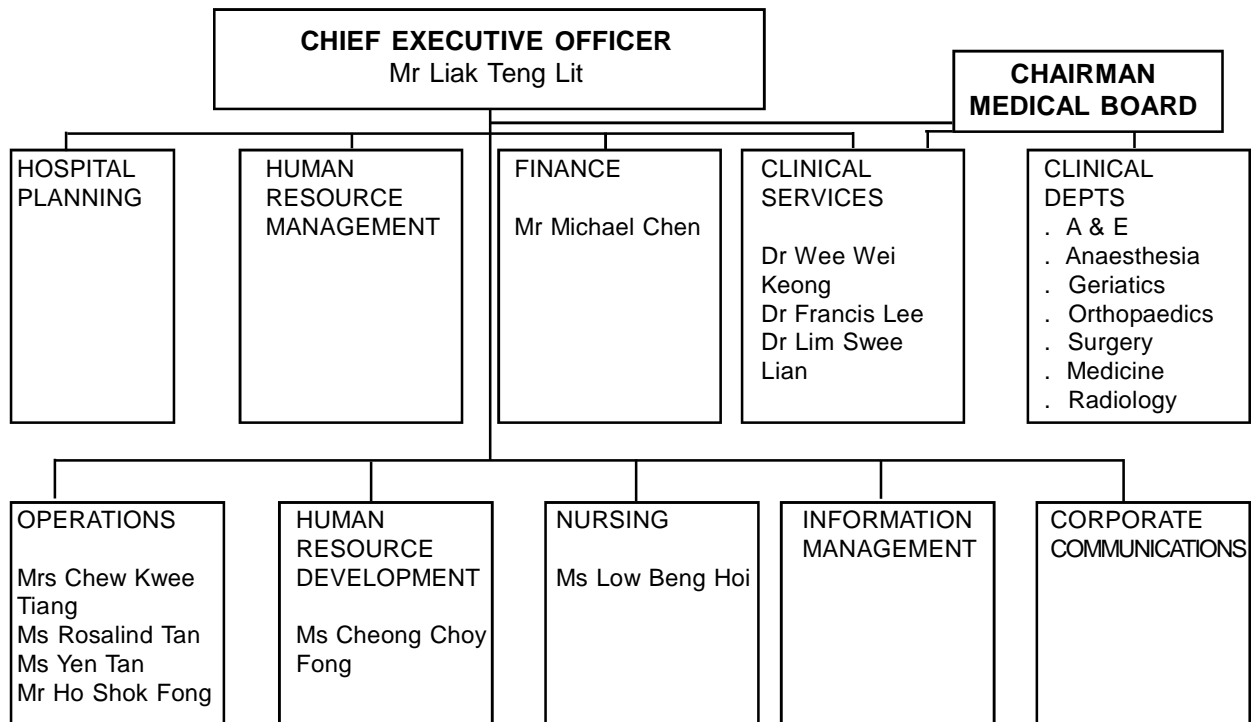
**MANPOWER COST PER DISCHARGE IN 1999  
(in Singapore dollars)**

Alexandra Hospital	\$2,123
Changi General Hospital	\$1,227
National University Hospital	\$1,493
Tan Tock Seng Hospital	\$1,786

Source: Alexandra Hospital. August 22, 2003.

**EXHIBIT 2**

**ALEXANDRA HOSPITAL ORGANISATION CHART AUG 2003**



Source: Alexandra Hospital. August 22, 2003.

### EXHIBIT 3

#### **AH PATIENTS' DEFINITION OF A GOOD HOSPITAL (as per AH survey in 2000)**

- Respect patient's dignity
- Provide information
- Facilitate access to integrated care and services
- Deliver consistent, good quality care and services
- Provide cost-effective care

### EXHIBIT 4

#### **AH SERVICE WAYS (as set out in AH staff booklet)**

##### **Responsiveness**

Being prompt, proactive, flexible, spontaneous and taking initiative.

##### **Empathy**

Being helpful, caring, co-operative, culturally sensitive and patient.

##### **Assurance**

Being professional, assertive, credible, clear, communicative and informative.

##### **Reliability**

Being accurate, quality-oriented, consistent, efficient and committed.

##### **Outcome**

Begin with the end in mind. Anticipate the result, the answer, the conclusion and execute the action plan.

Source: Alexandra Hospital Staff Booklet (August 2003).

**EXHIBIT 4  
(CONTINUED)**

**AH BASICS**

1. NHG Vision, Mission and Values will be known, owned and energised by all employees.
2. All employees will treat our customers (patients, visitors and employees) the way we treat our loved ones. Practise the AH service ways in our service delivery.
3. Practise teamwork and 'lateral service' to create a positive work environment.
4. Each employee will understand his Departmental Action Plan (DAP) and achieve the goals established.
5. All employees will know the needs of their customers so that we may deliver the care and services they expect. Use the customer's preference list to record specific needs.
6. All employees will continuously identify areas for improvement throughout the Hospital.
7. Each employee will continuously identify defects and ensure follow-through throughout the Hospital.
8. Uncompromising levels of cleanliness and tidiness are the responsibility of every employee.
9. Any employee who receives a customer complaint 'owns' the complaint.
10. Instant customer pacification will be ensured by all. React quickly to correct the problem immediately. Follow up within twenty minutes to verify the problem has been resolved to the customer's satisfaction. Do everything you possibly can to never lose a customer.
11. Customer incident action forms are used to record and communicate every incident of customer dissatisfaction. Every employee is empowered to resolve the problem and to prevent a repeat occurrence.
12. Be approachable. Always maintain positive eye contact. Use the proper vocabulary with our customers. (Use words like - "Good morning", "Certainly, let me take care of it", "My pleasure", "Have a good day" and etc).
13. Be an ambassador of your Hospital in and outside of the workplace. Always talk positively. No negative comments.
14. Escort customers whenever possible rather than point out directions to another area of the Hospital.
15. Know all services offered by the Hospital and recommend appropriately when attending to customer's enquiries.
16. Use proper telephone etiquette. Answer within three rings and with a 'smile'. When necessary, ask the caller, "May I place you on hold?". Eliminate call transfers when possible.
17. Uniforms are to be immaculate. Wear proper, clean and safe footwear and correct name tag. Take pride and care in your personal appearance by adhering to the grooming standards.
18. Ensure all employees know their roles during emergency situations and are aware of fire and life safety response processes.
19. Notify your supervisors immediately of hazards, injuries, equipment or assistance that you need. Practise energy and water conservation, proper maintenance and repair of Hospital property and equipment.
20. Protecting the assets of Alexandra Hospital is the responsibility of every employee.

Source: Alexandra Hospital Staff Booklet (August 2003).

## **EXHIBIT 5**

### **AH MISSION**

We will improve health and reduce illness through patient-centred quality healthcare that is :

- Accessible and seamless
- Comprehensive, appropriate and cost-effective

in an environment of continuous learning and relevant research.

Source: Alexandra Hospital. August 22, 2003.

### **AH VALUES**

#### **Integrity**

We are committed to the highest standards of ethical conduct.

#### **Compassion**

Our paramount concern is the welfare and well-being of our fellow human beings. We sympathise with those struck by illness and suffering and will do our best to help alleviate their condition.

#### **Professionalism**

We are committed to being the best in what we do, and to achieving the best possible outcome for our patients.

#### **Respect**

We treat everyone with honesty, decency and fairness.

#### **Social Responsibility**

We contribute positively to the well-being and welfare of the community.

Source: Alexandra Hospital Staff Booklet (August 2003).

## EXHIBIT 6

### SUMMARY OF HEALTHCARE PHILOSOPHY OF THE SINGAPORE GOVERNMENT IN 2003

The Singapore healthcare philosophy has always emphasised preventive healthcare and the promotion of healthy living. All private hospitals, medical clinics, clinical laboratories and nursing homes are required to maintain a good standard of medical services through licensing by the Ministry of Health. The government ensures that good and affordable basic medical services are available to all by heavily subsidising these at the public hospitals and government clinics. However, non-essential or cosmetic services, experimental drugs and procedures of unproven value are excluded.

Individual financial responsibility coupled with government subsidies help to keep basic health care affordable. Patients bear part of the medical cost. The principle of co-payment applies even to the most heavily subsidised wards to avoid wasteful consumption of 'free' medical services. For those who choose very basic medical services in the public hospitals, their hospitalisation expenses are subsidised up to 80 percent by the government.

People with Central Provident Funds (CPF) all have their own Medisave<sup>1</sup> accounts - a compulsory saving plan to meet the cost of large medical bills. A fixed percentage of individual's monthly CPF contributions will be allocated to the Medisave account. The usage of Medisave accounts is subject to rules and regulations stipulated under the scheme. Medishield<sup>2</sup> was introduced as a co-insurance scheme to complement Medisave and is designed to help individuals meet the medical expenses of major or prolonged illnesses.

Almost all working Singaporeans and some foreigners working in Singapore have Central Provident Fund (CPF) saving (similar to pension schemes in the West). The Medisave fund can be used to pay for the hospitalisation expenses incurred by the individual or the individuals' immediate family members subject to rule and regulations. Medifund<sup>3</sup> was set up in 1993 as a safety net of last resort for those who are truly indigent. Therefore, no Singaporean will be denied access to the healthcare system or turned away by the public hospitals because of the inability to pay. Nevertheless, individuals are encouraged to take responsibility for their own health costs through savings or insurance.

As of 2002, there were a total of about 11,798 hospital beds in the 26 hospitals and specialist centres in Singapore, giving a ratio of 3.7 beds per 1,000 resident population. Eight-four percent of the beds were in the eight public hospitals and five specialist centres with the number of beds between 180 and 3,110. The 13 private hospitals tend to be smaller, providing 25 to 500 beds each. The government controls the number of hospital beds, the introduction of new medicine, and sets the rate of cost increases in the public sector which in turn sets the fee benchmarks for the private healthcare providers.

Of the eight public hospitals, five are acute general hospitals, two hospitals specialise in obstetrics & gynaecology and psychiatry and one is a community hospital. The general hospitals provide multi-disciplinary acute inpatient and specialist outpatient services and 24-hour accident & emergency services. Tertiary specialist care concerning cardiology, renal medicine, haematology, neurology, oncology, radiotherapy, plastic and reconstructive surgery, paediatric surgery, neurosurgery, cardiothoracic surgery and transplant surgery are centralised in two of the larger general hospitals, the Singapore General Hospital and the National University Hospital. The private hospitals have similar specialist disciplines and comparable facilities.

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1 Extracted from <http://app.moh.gov.sg/you/you02.asp> (January 5, 2003)

2 Extracted from <http://app.moh.gov.sg/you/you03.asp> (January 5, 2003)

3 Extracted from <http://app.moh.gov.sg/you/you04.asp> (January 5, 2003)

## EXHIBIT 7

### CORPORATE PROFILE OF NATIONAL HEALTHCARE GROUP OF SINGAPORE

Incorporated in 2000, the National Healthcare Group (NHG) is a leading public sector healthcare service provider, managing a cluster of 4 Hospitals, 2 National Centres, 9 Polyclinics, 3 Speciality Institutes and 4 Operating Divisions with about 9500 staff and \$1 billion in annual revenues.

#### List of Members

- Alexandra Hospital
- National University Hospital
- Tan Tock Seng Hospital
- Institute of Mental Health/ Woodbridge Hospital
- Johns Hopkins- NUH International Medical
- National Neuroscience Institute
- National Skin Centre
- NHG Polyclinics
- The Eye Institute
- The Cancer Institute
- The Heart Institute
- NHG College
- NHG Diagnostics
- NHG Pharmacy
- Netcare Internet Services

The group accounts for half of the public sector healthcare volume and offers the entire range of specialities such as Cardiology, Diagnostics Imaging, Geriatric Medicine, Laboratory Medicine, Neonatology, Neurology, Obstetrics & Gynaecology, Oncology, Ophthalmology, Orthopaedic Surgery, Otolaryngology, Paediatric Medicine & Surgery, Pathology and other specialties. Geographically, it is spread over two-thirds of Singapore, encompassing the new residential towns like Choa Chu Kang, Jurong, and Woodlands. The NHG cluster of institutions sees about 3 million outpatients annually. About 120,000 patients are admitted to or operated on per year.

Source: Official website of National Healthcare Group [www.nhgp.com.sg](http://www.nhgp.com.sg) (retrieved 01, May, 2003).

## EXHIBIT 8

**COMPARISON OF THE THREE HOSPITALS IN TERMS OF  
FACILITIES AND SIZE**

<b>National University Hospital (Singapore)</b>	<b>Alexandra Hospital</b>	<b>Singapore General Hospital</b>
<i><a href="http://www.nuh.com.sg">http://www.nuh.com.sg</a></i>	<i><a href="http://www.alexhosp.com.sg">http://www.alexhosp.com.sg</a></i>	<i><a href="http://www.sgh.com.sg">http://www.sgh.com.sg</a></i>
<p>National University Hospital, (NUH) is a teaching hospital.</p> <p>Established in June 1985, NUH is Singapore's only University hospital, NUH supports clinical teaching for undergraduate medical students and postgraduate training for specialist doctors.</p> <p>It serves as a clinical and research base for the medical and dental faculties of the National University of Singapore.</p> <p>NUH is a 935-bed, acute care, tertiary hospital. Inpatient facilities comprise 33 wards, six intensive care units, 19 operating theatres, and one delivery suite with eight delivery rooms and a four-bed first stage room.</p> <p>NUH also offers a comprehensive range of services through 21 clinical, three dental and six paramedical departments.</p>	<p>Alexandra Hospital (AH) is a 400-bed general, acute care hospital located in western Singapore.</p> <p>The restructuring of the hospital in October 2000 was a springboard for a major overhaul - in both its image and its services.</p> <p>After restructuring, the hospital introduced new services to cater to the growing needs of its patients. These are the Diabetes Centre, Specialist Outpatient Clinics, Bone Mineral Densitometry Scan, Mammography, Alexandra Centre for Exercise and Sports Medicine, Dental Services and an artificial limb centre. The hospital has also expanded its range of services. These are Ear, Nose &amp; Throat, Urology, Eye, Neurology/Movement Disorder Clinic and Speech and Language Therapy.</p>	<p>Singapore General Hospital (SGH) is the public sector's flagship hospital with about 1,400 beds and a pool of about 450 specialists. Established in 1821, SGH is Singapore's oldest and largest acute tertiary hospital and national referral centre. A multi-disciplinary approach to medical care affords patients ready access to a wide range of specialties and support services.</p> <p>SGH accounts for about one third of the total acute hospital beds in the public sector and about a quarter of acute beds nationwide. Annually, about 60,000 patients are admitted to the wards and another 600,000 are attended to at specialist outpatient clinics.</p> <p>Following a major reorganisation of the public healthcare services initiated by the Ministry of Health, SGH came under the management of Singapore Health Services Pte Ltd, or SingHealth, when the company was incorporated on 31 March 2000. The SingHealth Group is positioned to serve the eastern sector of Singapore through a cluster of three hospitals, four specialty centres and seven polyclinics.</p>

Sources: Extracted and summarised from official websites of the respective hospitals (August, 2003)

**EXHIBIT 9**

**AVERAGE BILL SIZES (4TH QUARTER 2002)**  
(in Singapore dollars)

Type of Wards	A	B1	C
Alexandra Hospital	\$3,213	\$2,078	\$820
National University Hospital	\$3,720	\$3,164	\$1,029
Singapore General Hospital	\$4,215	\$3,220	\$1,274
Tan Tock Seng Hospital	\$3,563	\$2,761	\$927
Mt Elizabeth Hospital (Private)	\$7,604	\$7,227	-
Gleneagles Hospital (Private)	\$5,966	\$5,430	-

Source: Alexandra Hospital. August 22, 2003.

**EXHIBIT 10**

**INCOME AND EXPENDITURE ACCOUNT**  
(in thousand Singapore dollars)

	FY 2000	FY 2001	FY 2002
<b>Revenue</b>	\$40,165	\$79,708	\$99,026
Other operating income	\$209	\$1,227	\$3,533
	<b>\$40,374</b>	<b>\$80,935</b>	<b>\$102,559</b>
Personnel and related cost	(\$29,330)	(\$52,059)	(\$63,242)
Supplies and consumables	(\$4,679)	(\$10,781)	(\$13,583)
Depreciation & Amortisation	(\$1,389)	(\$3,970)	(\$5,813)
Repairs & maintenance	(\$2,076)	(\$7,216)	(\$6,968)
Other operating expenses	(\$7,653)	(\$9,349)	(\$15,041)
	(\$45,127)	(\$83,375)	(\$104,647)
<b>Surplus/Deficit from operations</b>	<b>(\$4,753)</b>	<b>(\$2,440)</b>	<b>(\$2,088)</b>
Finance Costs	\$0	(\$55)	0
<b>Net Surplus/Deficit for the period</b>	<b>(\$4,753)</b>	<b>(\$2,495)</b>	<b>(\$2,088)</b>

Source: Alexandra Hospital. August 22, 2003.

## EXHIBIT 11

### FIGHTING SARS - ALEXANDRA HOSPITAL IN ACTION (2003)

As of 15 May 2003, AH managed to keep SARS at bay for 75 days, maintaining the record of being the only SARS-free government hospital throughout the period the deadly virus wrecked havoc in Singapore.

Turning back the clock to 14 March 2003, Dr Francis Lee, head of AH's Department of Emergency Medicine (DEM), was catching up with emergency department colleagues at the Tan Tock Seng Hospital (TTSH) dinner and dance when conversation turned to a deadly flu bug in Hong Kong's Prince of Wales Hospital. Similar cases were found in Singapore. Worried, he alerted hospital management. AH went into immediate preparations the next day. A SARS Committee was set up on 18 March 2003. As the bug hospital-hopped, the committee met twice a day and on weekends to get policies ready for the 1,200-strong staff.

In the following week all routine training activities were suspended. Courses on precautionary measures and infection control were revived. This was followed by audits to ensure that all infection control practices were properly implemented.

"We were functioning at almost the same level of protection at TTSH by 25 March. But we had to go back to basics first and conduct refresher courses in hygienic practices for our healthcare workers," says Mrs Chew Kwee Tiang, chief operating officer at AH and chairperson of the SARS Committee.

The task of distributing a daily supply of 700 N-95 masks proved to be a daunting task for the Materials Management Department when there was a worldwide shortage, especially of the S-size ones more suitable for the Asians.

Special monitoring wards were designated for febrile patients, and the staff there were kept on high alert. A tent was erected overnight outside the Department of Emergency Medicine (DEM) to screen the patients with fever. For staff who did not wish to go home to minimise the risk of infection, a disused building was converted into a temporary hostel.

By 4 May 2003, AH made contact tracing less tedious by issuing radio frequency identification devices with help from DSTA (Defence Science and Technology Agency) to track visitor movements - another first among the government hospitals in Singapore .

A virtual visit scheme was implemented to allow hospital visits through the television or computer screen. AH even gave headphones sponsored by StarHub, a local telecommunication firm, to patients.

As part of AH's community involvement, seven AH doctors and nurses were sent to TTSH to help out. AH nurse educators also conducted free training courses on infection control for general practitioners, nursing homes, various centres and community clubs.

Summarised from: Alexandra Hospital Newsletter, Issue No. 2, Mar / April 2003.