

## Reduce Patient Wait Times

### Executive Summary

#### Customer Name

Alexandra Hospital  
Singapore

#### Industry

Healthcare

#### Challenge

- Usage of pagers and desk phone as the primary means between ward staff and hospital admissions desk resulted in lack of coordination
- Current communications system only allowed healthcare staff to 'pull' information on patients, instead of having information 'pushed' directly to them
- Slow response created long waiting times for patients

#### ConnexAll® Solution

- Bed Management
- Fujitsu Asia as Systems Integrator
- Cisco Clinical Connection Suite, with Cisco IP Phones

#### About Alexandra Hospital

Alexandra Hospital was established in 1938, originally built to serve the British military just before World War II. Up to the 1970s, it remained one of the most modern hospitals in Singapore. Today, Alexandra Hospital has more than 500 medical and nursing staff, seeing more than 250,000 patients a year. In the year 2004 and 2005, patients ranked Alexandra Hospital the highest in the Ministry of Health's Patient Satisfaction Survey.

#### Challenge

In 2000, Alexandra Hospital underwent a major restructuring initiative to create a hospital with highly efficient, service oriented patient care. "We bench-marked ourselves against examples of other successful medical facilities from around the world, most notably the Mayo Clinic in the US. In addition, we looked outside the medical industry as well, borrowing from organizations such as "Just-in-time" practices from manufacturing, and service practices from retail and banking," said Dr. Paul Wang, Director, Projects Operations, Alexandra Hospital. "We wanted to alter patients' perception of the hospital as a historical site that offered budget healthcare services."

The goal was to create a "Hassle-Free Hospital" that could provide efficient and competent patient care within, and indeed even beyond the hospital wards. At the outset, the hospital wanted to address the limitations of their existing communications infrastructure, in particular bed management. When a new patient arrives at the hospital to be warded, the admissions desk began a phone-call intensive process to find available (or soon-to-be available) beds. Updates to patient care arrangements could not be communicated to nurses and orderly staff on-the-fly.

To achieve their objectives, the hospital realized that they had to begin by first creating an advanced, robust, and efficient technical infrastructure from which other medical applications could run on. As Dr. Wang explains, "We wanted to avoid introducing more and more isolated systems that would meet our immediate needs, but ignoring the bigger picture of creating an integrated healthcare environment. That's where ConnexAll comes in. They were the first step needed to ensure that current and future systems would work well together to meet all our requirements."

#### The ConnexALL Solution

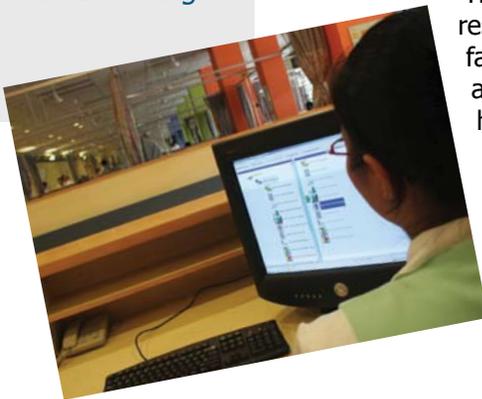
Alexandra Hospital were impressed by the benefits of ConnexAll's system as an advanced set of clinical solutions that directs, locates, and prioritizes information for clinicians and patients. Comprising three solution components, Alexandra now uses a converged IP network to deliver wireless connectivity, collaborative care, and integrated patient monitoring, allowing medical staff to deliver quality care efficiently.



*"What we liked best about ConnexAll was that it wasn't limited to simply setting up advanced equipment.*

*Their vision of Connected Health aligned well with our belief that integrated healthcare involves connecting with other locations, such as pharmacies, research institutes, and even the patient's homes as well.*

*We chose Cisco because we were confident that their solution roadmap was applicable to our needs, now and in the future," said Dr. Wang.*



The ConnexALL software, provided an up-to-date display of occupied and available hospital beds, as well as the current status of each one. From this display, staff could tell from a glance whether the bed was booked, ready, or being prepared. They could also tell whether the patient in that bed was soon-to-be discharged, had already vacated, or was being transferred. The system facilitates the coordination between the various departments, such as housekeeping and bed management, automatically matching empty beds to new patients. By providing staff members with desktop IP phones, and wireless IP handsets connected via a Cisco wireless network infrastructure, the phone and pager systems were effectively combined into one.

Through a combination of custom-built and standard ConnexALL applications and databases, Alexandra Hospital turned the initial high-level workflow concepts into a fully functional and robustly tested workflow solution. The new Bed Management Unit at Alexandra Hospital has provided immediate benefits to both patients and staff. "Without using ConnexAll, the hospital's patients were waiting about 20 to 60 minutes depending on the level of occupancy", said Alexandra Hospital's Chief Operating Officer Mrs. Chew Kwee Tiang. "On the whole, waiting times for patients have been cut by 30 percent."

Scheduled tasks can now be communicated to all devices, wirelessly. All nurses are updated on any changes on-the-fly, and can be kept informed wherever they are in the hospital. "The system will also be able to reduce the time nurses spend on coordination activities with respect to assigning beds to new patients," said Dr. Wang.

The bed management system enables a doctor to admit a patient and have the information automatically sent to service staff such as the nurses, housekeepers and porters via their handheld devices. The service staff can then prepare the bed for the patient in advance.

In the same way, the discharge of a patient will also trigger off a workflow to prepare the bed being readied for the next patient. This greatly reduces the manual coordination effort required amongst the healthcare staff. A clean, icon based UI provides easy operability and configurability. Extensive management reporting, using data collected in the background, gives an overview on the response efficiency, and allows Alexandra hospital identify bottlenecks and potential issues early.

"The introduction of the new system was initially met with some resistance from staff members. Now that they have had some time to familiarise themselves with it, it has become indispensable. Nurses are able to concentrate more of their time to patient care, instead of handling time consuming bed assignment tasks," said Dr. Wang.

"The new system reduces a lot of hassles for us so we can concentrate on patients," said Nursing Officer Ms. Shirley Heng. "We do not have to worry about whether the other departments have received our messages and whether beds have been cleaned," she added.

## Tavasys

101 Toro Rd, Unit #28  
Toronto, Ontario, M3J 2Z1  
Tel: 1-866-508-6865  
Email: [clientsupport@tavasys.com](mailto:clientsupport@tavasys.com)

©2008. Tavasys All rights reserved.

