Dedicated to our patients
Melius Medicus Scientius
The Better Doctor is the Learned One
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THE PRINCIPALS OF MEDICINE
The Principals of Medicine pays tribute to the many SingHealth professionals who make learning and teaching a way of life. They have made their mark in their chosen profession because they are always looking for a better way forward. Because they teach, they are continuously learning and improving. Their success is defined not only by their own achievements but by the impact they make on future generations of healthcare talent. Their spirit of inquiry and generosity in sharing experiences make a real difference in the care each patient receives.

At SingHealth, we are proud to have many dedicated teachers. In these pages, you will read about what fuels their passion in shaping the future of medicine.
The past year has been a significant one for SingHealth. In 2010, we saw the graduation of the first batch of Duke-NUS students, and our education programmes achieved accreditation standards. These are key milestone achievements. As a Group we have pushed the frontiers in all respects, in the areas of clinical breakthroughs, medical education and research.

But foremost in all our endeavours, is to provide quality, affordable healthcare to Singaporeans. This is a very simple statement to make but it comes with important outcome measurements to ensure that we are on track in achieving this fundamental mission. In order to deliver quality healthcare, we need to have a good team – doctors, nurses, allied health professionals and administrators – strong leadership, and a culture of learning, mentorship and teaching. We need an environment where everyone feels that they are able to learn, others are motivated by the opportunity to conduct research and yet others are motivated by the opportunity to teach and impart their knowledge.

We need this culture and this passion to drive the organisation forward and to motivate people. If there is one thing we have a lot of in SingHealth,
“The word ‘doctor’ comes from the root word *Docere* which means ‘teacher’. Our primary function as a doctor is therefore, to educate and to teach.”

Prof Foo Keong Tatt
Emeritus Consultant, Urology, SGH
Therefore, one of our top priorities for delivering good healthcare continues to be talent retention and development. We have structured career tracks and we do everything to make it attractive for the best people to work for us. There are ample learning and job rotation opportunities, and our extensive links with partner institutions overseas to provide myriad training experiences for our staff.

This is also critical to the development of good leadership in our healthcare institutions. When you have strong leadership, you have a basis for building good teams who can provide the quality of service and care that you seek.

I believe we must also continually push to strengthen our processing systems and infrastructure. I see the necessity of a much wider and more integrated use of Information Technology in all our institutions as we continue to standardise our protocols system-wide. It can only help in our mandate to deliver consistent, seamless and quality care to our patients.

I also see the need for our five national specialty centres to continually strive to be the best that they can be in terms of providing specialty care and breaking new ground in research.

We have seen this with Singapore National Eye Centre which last year pioneered and debuted a procedure known as the Refractive Lenticule Extraction, giving myopia patients in Singapore a less painful, faster and more effective alternative to conventional LASIK therapy.

This year also saw the National Neuroscience Institute introduce the Tele-stroke System, allowing the NNI specialists to make remote diagnosis through video conferencing so that patients are given quality care in the shortest time possible.

The NHCS also successfully performed Southeast Asia’s first robotic-assisted lobectomy to remove tumours from early-stage lung cancer patients, putting it among about only 25 institutions in the world offering the landmark procedure.

The graduation of the first cohort of graduates from Duke-NUS will herald a new breed of doctors with a solid foundation in research who will hopefully contribute to moving the needle forward in our research efforts.

But how does all this translate to the second critical part of our fundamental mission – affordable healthcare? Greater excellence in medicine clinical research as well as greater operating efficiencies will enable us to address our mission of keeping the cost of healthcare affordable.

Singapore is a small country with no resources except its people and one of the fundamental duties of government to the people in this country is to keep them healthy. As the largest healthcare group, our hospitals have been attending to about 45% of patients in Singapore and we take this responsibility very seriously. It is especially critical as Singapore’s population ages.

In the years ahead, we will continue to forge ahead in areas such as clinical and translational research, Academic Medicine and the harnessing of technology in our institutions but we will stay focused on our primary mission: To provide quality healthcare, access to our services and to keep things affordable. It is our fundamental duty to every Singaporean.

Mr Peter Seah
Chairman
As we enter a new decade, we have reason to be optimistic. The quantum leaps made in medicine and biological sciences have great impact on our healthcare delivery, improving the lives of our patients. These advances in our understanding of human physiology, disease processes, genomics, proteomics, and so on, are valuable knowledge that we must retain, preserve and pass on to succeeding generations of healthcare professionals – doctors, nurses, allied health professionals and other staff.

Clinical acumen, wisdom and experience of senior staff are valuable sources of skills that must be taught to succeeding generations. In addition, good professional ethics, moral and social values, and compassion are critical attributes to also be imparted to them to ensure that we continue to produce future generations of excellent healthcare professionals that serve our people well.

Teaching is fundamental to medicine and is embedded in all our professional codes of ethics and practice such as in the Hippocratic Oath and the Nightingale Pledge. Training and education form a critical pillar of our mission. We must ensure that the next generation must be much better than ourselves; otherwise we would have failed in our responsibilities.
Core values of care, compassion, respect, collegiality, integrity, honesty and openness are absolutely important attributes which we must instil in all our staff. We must ensure that this is deeply entrenched and embedded into our culture and passed from generation to generation.

Just as we have made great advances in medical science, we must continue the search for new knowledge and directions, making breakthroughs to further improve care and outcomes for our patients. It is this spirit of inquiry and curiosity, constantly questioning and challenging conventional wisdom and beliefs, that will allow us to make progress. Building and strengthening our research in a relentless search of new knowledge, is a crucial part of our journey in Academic Medicine.

However, it must be stressed that the only objective of our pursuit of Academic Medicine is to ensure that we continuously seek to improve our care to our patients. To do this, we must work closely as a team, coming together as a force, pushing the frontiers of medicine. We must take our discoveries in our laboratories and translate them into treatments that are proven to be safe and effective through ‘first in man’ studies before finally applying them effectively to our patients by the bedside. This can only be done by well-trained, educated and innovative staff who understand and know the needs and concerns of our patients.

The pursuit of Academic Medicine will have greater chances of success if we work very closely and in great partnership with Duke-NUS Graduate Medical School, synergising our strengths and leveraging on our resources for the greater good – the whole is greater than the sum of the parts.

Prof Tan Ser Kiat
Group CEO
OUR VISION
SingHealth’s partnership with Duke-NUS Graduate Medical School (Duke-NUS) will transform the Singapore General Hospital (SGH) and KK Women’s & Children’s Hospital (KKH) campuses into major centres of Academic Medicine in the region. This partnership marries the strength of SingHealth’s extensive case-mix, clinical excellence and strong faculty development with Duke-NUS’ biomedical research and medical education capabilities, to integrate clinical care, education and research.

Our pursuit of Academic Medicine is dedicated to one purpose – the improvement of our patients’ lives. It unifies our staff towards one vision by empowering them with the right knowledge and skills and by spurring the spirit of inquiry that sparks innovation and breakthroughs in medical research. We value and respect everyone’s role – doctors, medical students, nurses, allied health professionals and administrators in this important pursuit.

THE ALLIANCE
The seeds of the partnership were first sowed in 2005 when Duke University
signed a memorandum of understanding with the National University of Singapore (NUS) to start Singapore’s first graduate medical school.

This strategic alliance between SingHealth and Duke-NUS brings medical education in Singapore back to its historical birthplace on the campus at Outram.

In his opening speech at the SingHealth Duke-NUS Scientific Congress 2010, Prof Tan Ser Kiat, GCEO of SingHealth said, “As both SingHealth’s and Duke-NUS’ goal is the relentless pursuit of continuous improvement in the care we deliver to our patients, Academic Medicine must surely be the way to go.”

“Duke-NUS and SingHealth will collectively create a new model of Academic Medicine, founded on our combined strengths in clinical medicine, basic and translational research and education, anchored by a very strong collaborative spirit. Together, we will form an integrated working enterprise that guides and promotes the future of medicine,” added Prof Ranga Krishnan, Dean of Duke-NUS.

In August 2006, the school admitted its first graduate class of 26 students. The students come from diverse backgrounds. Many had earned their Bachelor’s, Master’s and PhD degrees in a variety of areas from the arts and humanities to science and engineering.

**DUKE’S TEACHING MODEL**

Duke-NUS’ four-year programme adopts a ‘bench-to-bedside’ approach, modelled after the well-established curriculum of Duke University, an academic powerhouse that is consistently ranked as one of the US’ top medical research and educational institutions.

Duke-NUS students receive intensive training in both medicine and research. They cover basic science in one year instead of two and devote an entire year to independent scholarship and research, something that is becoming increasingly important in medical science, especially in Asia.

“To teach is to learn twice.”

Prof Robert (K.) Kamei
Vice Dean, Education,
Duke-NUS
They are trailblazers at the forefront of SingHealth’s journey in Academic Medicine.

Prof Soo Khee Chee has long been an advocate for the advancement of biomedical research. Prof Ranga Krishnan is Dean of Duke-NUS, Singapore’s first-ever graduate-entry medical school, the institution charged with training clinician-researchers of tomorrow.

Together, both leaders represent the close collaboration between SingHealth and Duke-NUS in the pursuit of Academic Medicine, which integrates the three functions of medicine – clinical care, education and the development of new knowledge – to bring research closer to the patient. Prof Ranga describes this partnership as an “integrated working enterprise that guides and promotes the future of medicine,” by combining SingHealth’s clinical expertise and Duke-NUS’ biomedical research and education capabilities.

Indeed, this collaboration opens the doors to exciting possibilities. “By partnering Duke-NUS, we will be able to access a network of world-class research resources to help us advance medicine and achieve the best clinical outcomes for patients,” says Prof Soo.
Students are also embedded in clinical wards a year ahead of their peers in other US medical schools.

Throughout their four years, Duke-NUS students are mentored by some of Singapore’s best doctors and scientists who are part of the school’s faculty. The core teaching faculty is largely made up of clinician-educators and clinician-scientists from SingHealth institutions. One of the hallmarks of the Duke-NUS curriculum is its emphasis on research and the grooming of academic physicians. Leveraging on the research capabilities of Duke University in the US, Duke-NUS students have the benefit of access to a wide resource of research tools and the network of world-class researchers.

THE DUKE-NUS DIFFERENCE
Duke-NUS has established five signature research programmes. These are in the areas of emerging infectious diseases, cancer and stem cell biology, neuroscience and behavioral disorders, cardiovascular and metabolic disorders, and health services and systems research. These programmes aim to attract internationally renowned scientists as well as identify and develop a new generation of researchers in Singapore. More importantly, they address key healthcare concerns for Singapore.

Since it started, the school has embarked on research to tackle current health problems such as cancer, dengue and the H1N1 influenza A virus-diseases which pose a serious public health threats to Singaporeans.

Investigators in its neuroscience and behavioral disorders programme have made major discoveries in brain tumours while its researchers in the cancer and stem cell biology programme are deciphering abnormalities in genes that lead to the development of gastric cancer and leukaemia.

As of 31 March 2011, Duke-NUS research faculty have secured several prestigious national research awards, collectively garnering S$100 million cumulative in competitive grants from Singapore and overseas.

“The best doctors and teachers continue learning all the time.”

Dr Sandy Cook
Senior Associate Dean,
Curriculum Development, Duke-NUS
INAUGURAL JOINT SCIENTIFIC CONGRESS
The inaugural SingHealth Duke-NUS Scientific Congress took place in October 2010. The congress was a key milestone in the partnership and provided a shared platform to boost the exchange of knowledge and innovative ideas between clinicians and scientists. The event was driven by Prof David Matchar, Director for Health Services & Systems Research at Duke-NUS and A/Prof Teo Eng Kiong, Chief and Senior Consultant at Department of General Medicine at Changi General Hospital, the co-chairpersons of the organising committee.

It drew more than 2,100 multidisciplinary medical practitioners, academic scholars, researchers and overseas healthcare leaders, meeting to spark lively discussion and debate on pioneering research and emerging issues in the healthcare and biomedical sciences industry locally.

The highlights of the Congress include a keynote lecture on innovation in the care of people with complex and chronic diseases and a stem cell symposium that brought together medical experts such as Dr Alan Colman, Principal Investigator, and Dr Victor Nurcombe, Consultant at Singapore’s Institute of Medical Biology.

Over 600 presentations, abstracts and papers on healthcare breakthroughs were presented.

The programme included plenary and panel sessions as well as oral and poster presentations covering topical issues in healthcare and biomedical sciences such as challenges of combined organ transplantation, uses of umbilical cord blood, integrated genomics and molecular pathology, treatment of lung cancer and advancements in the field of cardiology. SingHealth Academy, the education arm of SingHealth, was the event secretariat for the Congress.

CELEBRATING SUCCESS
The graduation of the pioneer class of Duke-NUS in July 2011 affirmed and brought to fruition the dedicated efforts of multiple stakeholders over the years. Students received a joint M.D. degree from Duke University and NUS – the first such degree in the history of both universities.

“There are very few people who ever earn the privilege of being true ‘pioneers’ in their fields of endeavour, but there is no question that each of these students has achieved that distinction,” said Dr Victor J. Dzau, Chancellor for Health Affairs, Duke University and CEO, Duke University Health System. “These students have paved the way for future generations of clinician-scientists and leaders in medicine who will study and graduate from this outstanding institution.”

Ms Ong Li Ming was among those who graduated in Duke-NUS’ pioneer batch. A pharmacist prior to her medical studies, she said, “Four years in Duke-NUS has allowed me to find my desired career path. It also developed my reasoning and thinking skills, which are very useful in my career in medicine.”

From July 2011, Duke-NUS graduates continued their training as medical doctors in a structured residency programme run by SingHealth and the National Healthcare Group, in consultation with the Accreditation Council for Graduate Medical Education (ACGME), an American body responsible for the accreditation of post M.D. medical training programmes within the US.
Our mission is centred on the needs of our patients. This is our raison d’être. It unifies all our staff as we work together as a seamless whole, to deliver the highest quality care to our most important stakeholders – our patients.

CLINICAL GOVERNANCE AND QUALITY MANAGEMENT
At SingHealth, we work ceaselessly to improve what we do. For healthcare institutions, quality improvements can sometimes mean the difference between life and death.

In FY2010, we took a significant step in quality improvement with the launch of the EPIC programme which groups all our quality schemes and training under one umbrella for more integrated outcomes.

EPIC, which stands for Enhancing Performance, Improving Care, is a large-scale, three-year programme. It covers four levels of training, the EPIC Champion for heads of department, the EPIC Implementor which is a three-day workshop teaching staff to implement quality projects, the EPIC Professional which trains improvement professionals to be teaching faculty quality ambassadors and EPIC Residency Quality Improvement for Residents.
The systems and processes of the hospital impact patient experiences. EPIC will bring about large scale and impactful changes that will improve this system, and in turn the experience for our patients.

Within FY2010, a total of 11 workshops were held, 249 participants trained and 70 improvement projects initiated. These projects were aimed to define patient outcomes, patient safety and organisational excellence.

Clinical Governance and Quality Management (CGQM) also oversaw the publication of the EPIC Improvement Journal and the EPIC Improvement Tools Pocket Guide. The guide is meant to serve as a handy reminder of quality tools and techniques, while the Journal is designed to share improvement methodologies with all SingHealth employees.

The department also worked with SingHealth’s eight institutions to introduce a systematic approach to identify FY2011 clinical quality indicators. This was done by adopting a structured approach through the use of control charting, to improve and refine target setting and to better define thresholds, targets and stretch for the respective institutions. All the indicators selected were successfully approved by the respective chief executives and chairmen of medical boards.

**SERVICE QUALITY**

Good service touches the hearts of patients and those around them, thus we are committed to grooming staff to deliver highest service standards. Group Service Quality (GSQ) launched the inaugural Singapore Health Quality Service Award (SHQSA) in January, honouring 2,555 staff. The award is the first of its kind to recognise service champions in public healthcare. All winners were selected based on criteria such as the number of compliments and service awards received and contributions to team efforts in quality and service improvement.

For the second year running, SingHealth held the Inspirational Patient Award, which recognises patients who have inspired SingHealth staff and

“For the second year running, SingHealth held the Inspirational Patient Award, which recognises patients who have inspired SingHealth staff and bring comfort to my patients in their journey to recovery.”

Ms Tan Chor Kien
Nurse Clinician, Haematology, SGH
displayed outstanding positive behaviour and attitudes through painful and difficult situations. This year, SingHealth recognised 20 inspirational patients such as 62-year-old Seow Yoke Beng, who was diagnosed with Parkinson’s disease and 21-year-old Abdul Muhaimin Abdul Malik, who underwent physiotherapy after a road accident.

SingHealth also launched the inaugural Inspirational Caregiver Award, given in recognition of the courage and perseverance of caregivers in caring for their loved ones who are ill. This year, 17 inspirational caregivers were honoured.

An eCompliment System was also launched this year to encourage and reward staff who have delivered outstanding service to patients and colleagues. This initiative encourages and promotes a consistent service culture among staff, and aims to foster greater cohesion between the Corporate office and SingHealth’s institutions. The compliments received enable heads of departments to nominate staff for the You Shine Award, a bi-monthly award to recognise and affirm excellent service behaviour of staff. It also serves as a platform for heads to nominate staff for SHQSA and other awards on the national level.

INTEGRATION OF TRANSPLANT SERVICES
SingHealth held its inaugural Transplant Awareness Week in July 2010, which marked the start of the Group’s efforts to integrate and align all its transplant services within the Singapore General Hospital (SGH) Campus. All eight transplant programmes – kidney, liver, heart and lung, cornea, skin, cardiovascular homograft, bone marrow and cord blood, will come under the umbrella of SingHealth Transplant.

This integration of transplant services will lead to better patient outcomes and boost our efforts to raise awareness and educate the public about organ transplantation. As a collective voice, SingHealth will be better positioned to be advocates for transplants, to grow research efforts and further the science of transplantation.

The integration is broken down to three Phases. Phase One will bring together transplant support staff and services, enabling staff to become dedicated transplant experts. Phase Two will see the setting up of a specialist outpatient clinic for solid organ transplant patients by 2012. This includes kidney, liver, heart and lung transplant patients. Setting up a shared outpatient clinic will place transplant patients at the heart of our service by providing a one-stop facility. Phase Three will build on the shared outpatient clinic with the establishment of a dedicated solid organ transplant inpatient ward by 2015.

STRATEGIC SOURCING
SingHealth’s Group Procurement Office (GPO) continued to chalk up milestone savings with prudent and carefully strategised procurement practices in FY2010. GPO constantly engages both internal users as well as vendors to streamline buying and reduce costs, and these efforts are paying off.

In FY2010, GPO achieved savings of a hefty S$31.4 million and addressed total contract value of S$290 million. The bulk of the savings of S$25.1 million came from pharmaceutical supplies and another S$6.3 million was saved in the area of purchasing equipment, medical supplies and contract services.

GPO also embarked on a new journey to develop the vision for future growth beyond 2010. It will examine new ways to enhance efficiency by reviewing the entire supply chain structure across all SingHealth institutions.

In January 2011, GPO spearheaded the drive to explore how consolidation of the Material Management Departments (MMD) across all SingHealth institutions could transform our future supply chain to deliver better value.

To do so, GPO drew from knowledge gained from overseas visits to form several workgroups to address staff concerns, develop new organisation structure and career paths, review cost recovery models, potential areas for streamlining work processes, potential for new work-
They are partners in healing. She is a transplant coordinator who works with families of the recipients of organ transplants. He, a heart and lung surgeon, gives once-ailing patients a new lease on life.

Theirs are not easy jobs. Transplant Coordinator Ms Kerk Ka Lee recalls how she found her job was initially depressing as the close contact between her patients and their families, made it hard to accept the demise of her patients. Heart and lung surgeon Dr Lim talks about dealing with difficult people, in what must be fraught situations; when patients hover between life and death.

But both draw inspiration from the profound impact their work has on their patients’ lives.

“As cardiothoracic surgeons, we save lives and make an immediate change to the patient’s condition. By performing a successful operation, we transform a sick patient to a healthy one almost instantaneously,” says Dr Lim.

Ms Kerk says seeing patients regain their health and getting a second lease on life keeps her going in her “challenging, yet satisfying” job.
streams, and develop performance indicators. GPO targets to consolidate the MMD, by the second half of 2011.

GPO also continues to strengthen its education efforts by preparing for the launch of the 2nd SingHealth Supply Chain Management Congress in 2011 and production of a commemorative book to celebrate 10 years of achievement through group procurement.

Following the successful pilot run of the shared procurement project with Agency for Integrated Care and Voluntary Welfare Organisation (VWO) nursing homes like Sree Narayana Mission Home, Lions Home for the Elders (Toa Payoh), and Jamiyah Nursing Home, GPO has added more items like wet wipes, sterile dressing sets and sterile catheterisation sets to its list of contributions. It will also be expanding the scope of its corporate social responsibility efforts, to support the VWO’s acquisition of supplies and equipment in tandem with the completion of three to four new nursing homes by 2013.

INFORMATION TECHNOLOGY (IT)
FY2010 saw wide-ranging IT initiatives being implemented in areas such as TeleHealth, mobile phone applications for patients and the enhanced use of electronic medical records. The objective of these initiatives, whether involving retinal scanning, bar coding of drugs or computerising patient records was the same – to provide integrated, patient-centred care.

In July 2010, a service offering diabetic retinopathy screening was piloted at Bukit Merah, Outram and Pasir Ris Polyclinics. Eye images of diabetic patients are captured and sent electronically to Singapore Eye Research Institution’s (SERI) Ocular Imaging Centre (OIC) for assessment by a team of trained technicians and graded results are sent back to the polyclinics within an hour.

The system establishes a comprehensive screening programme based on real-time assessment of diabetic retinopathy from retinal photographs,
by a centralised team of trained and accredited technicians. This replaces the former practice whereby polyclinic doctors are deployed after office hours to grade retinal photographs which involved a three to four weeks turn-around time.

A second initiative was the introduction of the Tele-Stroke System, using tele-medicine technology. It was piloted in October 2010 by Changi General Hospital (CGH) and the National Neuroscience Institute (NNI). Tele-stroke allows the remote diagnosis and assessment of acute stroke patients through the use of video conferencing. Through this, NNI is able to give stroke patients the best possible care in the shortest time possible. Patients eligible for intravenous Tissue Plasminogen Activator (TPA) can now be treated with the help of a neurologist remotely, thus improving patient outcomes.

In October 2010, SGH introduced MobileCare@SGH, a mobile phone application that has a health diary for arthritis patients to enter medical information. This facilitates tracking of progress by doctors and patients themselves. The phone application collates data and generates charts for patients and doctors. It aims to improve rheumatoid arthritis patients’ adherence to their prescribed care regime.

The health diary will also give physicians more information on patients’ conditions between clinic visits, to facilitate better clinical decisions. The application enables better disease management and improved patient outcomes, without increasing hospitals’ or clinics’ operational costs.

The Mobile@SGH application gives hospital visitors and patients access to the SGH website on payment details, an Accident and Emergency queue viewer, amenities and the SGH street map, all via smart phones, to help visitors and patients get easy access to quick information on SGH and its amenities.

Several IT efforts introduced across the Group in FY2010 were aimed at the enhancement of patient safety.

Inpatient Pharmacy systems across the cluster came one step closer to standardisation with the introduction of the Cluster Inpatient Pharmacy System which went live at KK Women’s & Children’s Hospital (KKH) in November 2009 and SGH in March 2011. This system will standardise clinical pharmacy systems across the cluster, support inpatient medication ordering and administration, and facilitate inpatient medication review and dispensing by pharmacist in the inpatient setting.

KKH piloted the Knowledge-Based Medication Management (KBMM) in May 2010 and implemented it fully by January 2011. The system aims to reduce medication errors and enhance patient safety using barcoding to support the medication administration process of checking for the four ‘Rights’ (Right Patient, Right Drug, Right Dosage and Right Time). KBMM will be rolled out at SGH and CGH in the next two years.

September 2010 saw the roll out of the SingHealth Polyclinics’ Sunrise Clinical Manager Clinical Documentation service to all polyclinics. The system provides an electronic means to capture and store clinical notes by replacing manual paper notes so that patient’s clinical information can be shared and made available online. The notes captured include history-taking, physical examination, diagnostic notes, patient education and care plans.

December 2010 saw the implementation of the CDM-DOT (Delivering On Target) web-based system at the National Heart Centre Singapore and the SGH Diabetes Centre. The system facilitates efficient management and monitoring of patients who have been discharged from specialist outpatient clinics to the primary care such as GPs and Polyclinics.

In February 2011, the National Dental Centre Singapore (NDC) rolled out its Electronic Dental Records system. It enables NDC dentists to electronically chart all general and specialty dental records. The system also allows clinicians to document their diagnosis, findings and treatment notes.
SingHealth’s commitment to staff training and education sets us apart and positions us at the forefront of Academic Medicine. Education should be continuous, lifelong and ultimately translate to excellent patient care.

We have a strong teaching legacy, with medical education at Singapore General Hospital (SGH) dating back over a century. Building on this heritage, SingHealth continues to advance medical education through SingHealth Academy, SingHealth Residency Program, Alice Lee Institute of Advanced Nursing (IAN), SGH Postgraduate Allied Health Institute (PGAHI) and SGH Postgraduate Medical Institute (PGMI) as well as close partnership with Duke-NUS Graduate Medical School (Duke-NUS). Our other education institutes have also increased the adoption of e-learning and continue to gain recognition and accreditation for their education efforts.

SINGHEALTH RESIDENCY
The launch of SingHealth’s Residency Program in May 2010 marked an important chapter in graduate medical education (GME) in Singapore. This is in line with SingHealth’s pursuit of Academic Medicine excellence.
The Residency Program has led to significant shifts in curriculum and pedagogy. It has introduced a more structured framework based on a set of core competencies for the training and assessment of doctors, guided by the Accreditation Council for Graduate Medical Education-International (ACGME-I), as well as the use of a dedicated faculty comprising more than 400 established SingHealth clinician-educators.

From its initial offering of six programmes, SingHealth Residency has expanded to include 15 more specialties for its Phase Two and Three programmes and will progressively offer more specialties.

SingHealth Residency received its inaugural intake of 63 residents for six programmes in May 2010. These were in emergency medicine, general surgery, internal medicine, pathology, paediatrics and transitional year.

The SingHealth Residency curriculum, formulated on a set of six competencies under ACGME-I aims to develop well-rounded clinicians in six main domain areas of patient care, medical knowledge, interpersonal and communications skills, practice-based learning and improvement, systems-based practice and professionalism. A key component is the formal framework it offers for faculty development, where clinicians become better teachers. They undergo teaching competencies training and are given protected teaching time for training residents.

The quality of education depends largely on the educators imparting knowledge. To enhance the teaching competencies of our clinicians, SingHealth Residency initiated Faculty Development as SingHealth’s Star Competency, to supplement the ACGME-I six-competency framework of Residency Education. The Centre for Resident and Faculty Development (CRAFD) was set up by the Residency Program to equip clinician-educators with the skills and capabilities to become more effective educators, leaders and mentors, as well as help our residents be better teachers in the future.

“Our residents learn from the best in medicine, and benefit from the many experienced teaching faculty. The diverse patient case-mix that we offer gives

A/Prof Tan Eng King  
Senior Consultant, Neurology, NNI  
Director, Research, NNI

“Many of us are inspired and have benefited from great teachers. We in turn hope to pass the spark on to our younger generation by getting them more actively involved in learning.”  

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them the opportunity to gain exposure to the most complex clinical cases,” said A/Prof Lim Boon Leng, Associate Designated Institutional Official, SGH.

The SingHealth Residency Program reached its first milestone with the accreditation of six Phase One programmes by the ACGME-I in October 2010. SingHealth Residency will undergo the accreditation of seven Phase Two programmes in October 2011, these include anaesthesiology, diagnostic radiology, family medicine, obstetrics & gynaecology, ophthalmology, orthopaedics and otolaryngology.

With the successful accreditation of the Phase Two programmes, SingHealth Residency will offer the most comprehensive GME Residency in Singapore, of 13 ACGME-I accredited programmes, ensuring quality training of our future doctors. In building up our medical pipeline, patients will benefit from better care and medical outcomes as we transform GME.

“The journey ahead is exciting as SingHealth Residency continues its expansion, adding more specialties in the coming years to realise Singapore's medical healthcare excellence as we groom the next generation of doctors to deliver better patient care,” said Prof Colin Song, Designated Institutional Official, SingHealth Residency Program.

SINGHEALTH ACADEMY
SingHealth Academy plays an important role in equipping healthcare professionals with the necessary skills sets for work and personal development.

In FY2010, the Academy played in an instrumental role as the event secretariat for the inaugural SingHealth Duke-NUS Scientific Congress 2010.

The two-day event saw a successful turnout of more than 3,000 healthcare professionals. The distinguished line-up of international and local speakers put together a rich scientific programme that provided a stimulating environment for learning and sharing. A total of 689 abstracts were submitted for the congress. The Guest of Honour of the event was Deputy Prime Minister, Mr Teo Chee Hean, and the keynote lecture was delivered by

Prof The Lord Darzi of Denham, KBE. The congress was a significant milestone for both organisations in the strengthening of partnership in Academic Medicine.

September 2010 saw the graduation of the first batch of participants in the Singapore Management University (SMU)-SingHealth Graduate Diploma in Healthcare Management and Leadership programme. The intake of 27, comprising senior clinicians, nurses, allied health professionals (AHPs) and administrators, had taken a nine-month programme covering subjects spanning strategic healthcare issues, health economics and financial management to leadership and people management.

The graduate diploma, spearheaded by SingHealth Academy, is aimed at nurturing Singapore’s healthcare leaders. It provides healthcare professionals with business knowledge and critical skills in healthcare management and business leadership. The second cohort of 22 healthcare professionals began the course in May 2010.

SingHealth Academy also provides healthcare leaders with holistic training beyond clinical capabilities. To help new leaders assimilate into their appointments, SingHealth Academy offers three transition programmes: Emerging Leadership Programme, Performance Leadership Programme and the Organisational Leadership Programme. The programmes cater to the different levels of leadership roles that healthcare professionals have to take on. In 2010, more than 300 clinicians, nurses, AHPs and administrators benefited from the leadership transition programmes.

2010 also saw a tremendous growth in the adoption of e-learning users among SingHealth staff from 800 users in 2009 to 3,180 users in 2010. E-learning is the Academy’s way of bringing much-needed training to busy healthcare professionals by enabling them to access training resources anytime, anywhere.

Publications by the Academy play an essential role in furthering healthcare education for both healthcare professionals and the general public. The past
Her passion for teaching runs deep. Prof Chay has been nurturing learners for more than 20 years. And even before she started mentoring as a medical officer, she was a relief teacher with the Ministry of Education and a volunteer teacher at a Community Centre. Her current portfolio includes overseeing the Paediatric Program for Duke-NUS and as a teaching faculty of Yong Loo Lin School of Medicine and Duke-NUS.

She sees mentoring as an investment in the future as well as a necessity for maintaining healthcare standards. “Academic Medicine is about the relentless effort to improve patient care. Without research and education, there is no way to continuously strive to do better for the patients and to sustain a high standard of healthcare.”

Of the mentors who have inspired her, two were particularly influential. An English teacher in Primary One and a Physics teacher in junior college “recognised my weaknesses and was always giving me that extra encouragement to forge on,” Dr Chay says. “Without them, my life would be totally different today.”

She keeps the following principle in mind through the ups and downs of caring for patients. “We can’t save everyone, but we can journey with them through their most difficult times and be there to comfort always.”
financial year has seen the Academy expanding its catalogue of publications, issuing a range of literature on healthcare-related topics.


*Beautiful Inside Out: The SingHealth Guide to Women’s Health* – a personal guide to health and wellness for Asian women – was published as a collaboration between Reader’s Digest and SingHealth Marketing Communications and Partnership Development team. The Academy acted as the liaison between Reader’s Digest and more than 40 specialist doctors who shared their expertise on a range of medical issues, treatment options, tips for nutrition and healthy, active living.

In November 2010, SingHealth and SGH’s Department of Emergency Medicine hosted a two-day visit by a team from the First Affiliated Hospital of Xiamen University, led by its chief executive Prof Yang Shu-yu.

The two-day programme brought officials from SingHealth and the First Affiliated Hospital together to share their leadership and management experiences, especially in the area of emergency medicine which the First Affiliated Hospital hopes to further develop in Xiamen province, China.

**SGH POSTGRADUATE MEDICAL INSTITUTE (PGMI)**

Continuing its tradition in being Singapore’s first postgraduate teaching hospital and principal training ground for specialists, Postgraduate Medical Institute of the Singapore General Hospital (SGH-PGMI) had assisted various Medical Departments to run 16 continuing medical education events catering to 2,000 over General Practitioners around Singapore as well as five bi-annual one-day skills workshops to enhance the skills of our junior doctors and residents in the SingHealth Cluster in FY2010. These workshops would include enhancing the skills of our doctors in terms of basic surgical skills, basic ultrasound skills, O&G specialised ultrasound skills, training doctors in the techniques in airway and central venous line insertion management, as well as skills in Neonatal Resuscitation.

The Fellowship/Clinical Attachment Programmes coordinated by SGH-PGMI, offer foreign medical professionals attachments to undergo clinical training in more than 20 departments at SGH. These programmes provide a comprehensive range of medical, surgical and clinical support specialty training. Fellowship attachments either have hands-on patient contact or completely strictly observership hands-off training, with durations lasting from a month to a year.

In July 2010, SGH-PGMI worked with SGH Department of Ear, Nose and Throat (ENT) in organising their 5th ENT Instructional Course Week. The Instructional Course Week was anchored by the three main courses – Otology & Neuro-Otology, Functional Endoscopic Sinus Surgery and Head & Neck Surgery. A new workshop on Management of Dysphagia and Swallowing Disorders was also introduced this year. The courses were designed to cater to the needs of trainees as well as specialists who want to revise or improve their surgical skills through cadaveric dissections.

April and September 2010 saw the Departments of Hand Surgery, Plastic, Reconstructive & Aesthetic Surgery and SingHealth Experimental Medicine Centre working with SGH-PGMI to organise the 26th and 27th Basic Instructional Course in Microsurgery which provided opportunity for participants in acquiring basic skills of various microsurgical techniques from the adjustment of the operating microscope to the performance of a free flap transfer.

The 2nd Singapore Hyperbaric and Underwater Medicine Course was held in September 2010 where participants gained a strong grounding in the practice of diving and hyperbaric medicine and the necessary skills to perform the assessments for compressed air workers in accordance with the Ministry of Manpower’s requirements.
SGH-PGMI also organised the 19th Scientific Meeting Incorporating SGH Nuclear Update 2010 with the Singapore Radiological Society and College of Radiologists, Singapore. The four-day scientific programme was developed based on the theme of Imaging & Therapy in the Era of Molecular Medicine and addressed several Clinical and Basic Science Tracks.

SINGHEALTH ALICE LEE INSTITUTE OF ADVANCED NURSING
The IAN, which has trained over 1,000 healthcare support workers since 2005, was accredited as a Continuing Education and Training Centre (CET) in July 2010 by Singapore’s Workforce Development Agency (WDA). As the first CET Centre which is part of an acute hospital, IAN is able to tap on SGH for clinical placements, crucial to the training of healthcare support workers.

The institute is pivotal in efforts to train the next generation of Healthcare Support (HCS) workers to provide direct care of patients and take on responsibilities in the technical and administrative areas, thus playing a greater role in helping nursing and medical professionals in the provision of quality care. In collaboration between IAN, Ministry of Health and WDA, the nursing care specialist track of HSC framework under the WSQ has been revised.

The IAN is looking to train 680 HCS workers over the next three years. The training provided will be skills-based and industry-focused, targeted at job-seekers interested in joining the healthcare industry as well as existing HCS workers.

“We are proud that the IAN has played a significant role in promoting WSQ training programmes for HSC staff in the industry. With the relevant skills and competencies, the HSC workers can be trained to become healthcare assistants, patient service clerks and patient care assistants, delivering safe and quality care to patients,” said A/Prof Lim Swee Hia, Group Director of Nursing, SingHealth, and Director of Nursing for SGH and the National Heart Centre Singapore (NHCS).

In keeping with its goal to continually enhance nursing skills and to promote lifelong learning among nurses, the IAN launched an inaugural renal transplant nursing course for Registered Nurses which ran in October 2010. The course provided nurses with knowledge and skills to manage patients undergoing kidney transplantation and help them through post-transplant stages. A total of 37 registered nurses were trained.

Also introduced in the year was a new Senior Enrolled Nurse (SEN) training programme, which ran from October to November 2010 and January to February 2011, designed to provide SENs with the essential clinical skills and knowledge to deliver holistic and quality nursing care to patients.

The programme aims to equip the SENs with higher-level knowledge and skills to perform the expanded roles such as assisting in emergency care intubation, air-way management, defibrillation and managing resuscitation procedures. A total of 48 SENs have attended the programme.

In collaboration with the Ministry of Foreign Affairs, IAN organised a 10-day Obstetric and Neonatal Nursing course for 18 nurses who received the Singapore Cooperation Programme Training Award and those from the Small Island Developing States Technical Cooperation Programme. The participants came from various countries around the world, including Afghanistan, Azerbaijan, Bulgaria, Barbados, China, Fiji Island, Ghana, Jordan, Lesotho, Malta, Malawi, Mauritius and Myanmar.

In November 2010, IAN also organised a 10-day Critical and Emergency Preparedness Nursing Course for 20 experienced nurses from Egypt, Jordan, Bhutan, several African nations, Kiribati, the Cook Islands, Sri Lanka, China, Philippines, Laos, Thailand and Brunei.

Three nurse educators from SGH, Chen Xiao Rong, Eileen Yee and Lee Min, participated in a poster presentation with their project: Nurse Educators’ and Clinical Instructors’ Opinions and Experiences on
Simulation Teaching in a Large Tertiary Hospital in Singapore at the Nurse Education in Training and Nurse Education Practice 2010 3rd International Nurse Education conference in Sydney, Australia. This prestigious conference was held in association with two leading education journals Nurse Education Today and Nurse Education in Practice. It provided an international platform for educators, students, practitioners and researchers to disseminate and discuss evidence of education research, development and innovation in health professional education.

SGH POSTGRADUATE ALLIED HEALTH INSTITUTE (PGAHI)

PGAHI continues to deliver on its mission to upgrade the advanced clinical skills of AHPs throughout SingHealth and beyond, keeping them at the forefront of patient care.

In FY2010, PGAHI offered 62 workshops, five postgraduate certification programmes and 54 attachments across a comprehensive range of allied health specialties and provided close to 2,410 training places. PGAHI achieved an overall participants’ satisfaction rating of 97%, which exceeded the target of 95%. Of the 67 workshops and postgraduate certification programmes, 30 were predominantly developed and taught by SingHealth’s AHPs – mostly members of PGAHI’s strong teaching faculty made up of 26 clinicians.

The efforts of PGAHI’s teaching faculty and students were celebrated at PGAHI’s inaugural graduation ceremony, which saw graduates from PGAHI’s three key postgraduate certification programmes, namely Infectious Disease Pharmacy Residency, the Advanced Certificate in Physiotherapy (ACP) and the Advanced Diploma in Physiotherapy (ADP). These programmes aim to elevate the standard of knowledge and practical skills among pharmacists and foreign-trained physiotherapists respectively.

The Institute recognises the importance of faculty development and has organised the first-ever Advanced Course in Educational Planning, conducted by trainers from NUS-Medical Education Unit (MEU), to further groom a pool of allied health educators in medical pedagogy. A basic course was started in 2009.

To expand its portfolio of programmes, PGAHI leveraged on its collaborative relationships fostered with the SGH Allied Health Departments, such as the Department of Podiatry and Department of Speech Therapy to bring in new programmes taught by overseas specialist trainers.

Highlights included an Applied Biomechanics course for Podiatrists, Total Laryngectomy Voice Rehabilitation course, LSVT® LOUD Training and Certification workshop Lessac-Madsen Resonant Voice Therapy workshop and the Lidcombe Programme of Early Stuttering Intervention workshop, designed for speech-language pathologists.

PGAHI actively forges strategic partnerships with many overseas universities and institutions to offer postgraduate and undergraduate training in the form of internationally recognised certification programmes and clinical placement opportunities.

Notable examples of joint-certification programmes with international institutions include the ongoing postgraduate programmes in Clinical Rehabilitation offered by Flinders University of South Australia and Bachelor of Occupational Therapy offered by La Trobe University, Australia. To date, PGAHI has signed nine memorandums of understanding and 11 agreements to better offer AHPs a richer choice of opportunities to meet their diverse learning needs.

Moving forward, PGAHI is set to expand on its portfolio to cater for the training needs of AHPs on the clinician-researcher and clinician-educator tracks and supporting the profession through provision of opportunities that encourage greater personal and inter-professional development within a multidisciplinary environment.
SingHealth is committed to serving the needs of Singaporeans by pushing the frontiers of medicine. We aim to be pacesetters in the field of translational and clinical research and raise the bar of clinical outcomes to benefit patients today and generations to come. In the end, it is not just about breakthroughs but about giving our patients better treatment outcomes.

Tapping on the strong research capabilities of our partner in Academic Medicine, Duke-NUS Graduate Medical School (Duke-NUS), SingHealth’s research efforts are further boosted by greater collaborations between researchers and clinicians. Combining the collective strengths of SingHealth’s clinical expertise and Duke-NUS’ world-class biomedical research capabilities, this collaboration model will help bring research closer to the patient. Such that research is not an end in itself, but dedicated to improve patient care.

In July 2010, the launch of the S$20 million SingHealth Investigational Medicine Unit (IMU) represented a big step forward for medical research in Singapore.

The IMU is the largest early phase clinical unit in Singapore with a 32-bed facility, which includes two state-of-the-art chronobiology suites.
As of March 2011, it had 22 ongoing trials with seven already completed and nine more scheduled to start. With over 40 medical disciplines and high patient numbers across SingHealth, the IMU has access to a robust support framework for conducting clinical studies.

But numbers aside, the IMU is important as it allows for synergy between patient care, research and innovation. Patients who have not responded to other forms of treatment can access trial treatments or new treatments that have emerged from clinical trials.

Doctors at hospitals taking part in clinical trials are at the forefront of their medical specialty. Of the slate of clinical trials at the IMU, 40% of them were investigator-initiated and led by clinician investigators. The IMU currently has 1,000 healthy volunteers in its database. As at March 2011, there were 19 principal investigators conducting trials at the IMU.

Clinical trials currently hosted by the IMU are in the areas of haematology, oncology, gastroenterology, cardiology, psychiatry, circadian ‘sleep-wake’ cycles and studies involving medical devices for nephrology and interventional radiology.

SingHealth Tissue Repository (STR) is one of the largest human tissue and serum repositories in Singapore. It has more than 9,500 patient tissue samples and 96,837 biospecimens as of May 2011, a collection that could be accessed through collaborative research. The tissue samples are certified by qualified pathologists and strict standard operating procedures on tissue processing and storage are enforced to ensure that they are of best quality. Hence, STR is a very valuable and important resource for research collaboration purposes.

“If we can collect sufficient tissues from patients, researchers can identify specific genes that trigger a condition, which means better screening, earlier diagnosis and more effective treatment,” said A/Prof Tan Soo Yong, Director of the STR.

““In our delivery of preventive healthcare, we must constantly innovate to solve today’s problems with passion, discipline, responsibility, focus and foresight.”

A/Prof Ivan Ng
Head and Senior Consultant,
Neurosurgery, SGH & NNI
The Centre for Health Services Research (CHSR) conducts health outcomes research and health technology assessments and uses these findings to provide up-to-date analysis on healthcare policy and practice issues. The Centralised Institutional Review Board (CIRB), on the other hand, consolidates all the existing SingHealth institutional review boards to ensure that human research is conducted ethically. With the formation of CIRB, SingHealth clinicians now have a common approval process for multi-centred trials under one approved protocol. Lastly, as part of SingHealth’s core research infrastructure, the SingHealth Experimental Medicine Centre (SEMC) provides research support services for pre-clinical research projects.

Another key research milestone was the setting up of a new translational research hub with Roche in Singapore to create the Roche-Singapore Translational Medicine Hub. The new centre will help in the translation of scientific advances from pre-clinical research into practice for patients. The Hub for Translational Medicine will focus on expanding knowledge of disease biology to develop new personalised treatment approaches.

With an investment of 100 million Swiss francs (approximately S$1.4 million), the Hub will initially employ around 30 leading scientists. A joint steering committee comprising members from Roche and other Singapore institutes involved in the project, such as Agency for Science, Technology and Research (A*STAR), the National University of Singapore, the National University Hospital, Nanyang Technological University and the National Healthcare Group, will define the strategic direction of the alliance and oversee its research projects.

FY2010 also saw SingHealth teaming up with Bayer Healthcare and other Singapore institutions in five research and development projects worth an estimated S$14.5 million. The five new projects investigate novel approaches to diagnose and treat cancers.

In affirmation of the high standards of clinical research at SingHealth, our staff received a brace of prestigious accolades for efforts in areas ranging from medical education and perinatal health to cutting-edge research in cancer and medical imaging technology. These included awards from the Ministry of Health’s annual National Medical Excellence Awards (NMEA), the President’s Science and Technology Award as well as awards from the National Medical Research Council (NMRC).

The 2010 NMEA National Outstanding Clinician Scientist award went to Prof Wong Tien Yin, Director of the Singapore Eye Research Institute (SERI) while A/Prof Tan Kok Hian, Chairman of KK Women’s & Children’s Hospital (KKH) Division of Obstetrics and Gynaecology, was conferred the inaugural National Outstanding Clinical Quality Activist award.

Four medical staff from SingHealth also received funding support for translational and clinical research under the auspices of the NMRC’s Clinician Scientists’ Award (CSA). Prof Pierce Chow, Senior Consultant, General Surgery, Singapore General Hospital (SGH) was conferred the CSA Senior Investigator Award. CSA-Investigator Award recipients include Dr Charles Chuah, Senior Consultant, Haematology, SGH, A/Prof Marcus Ong, Senior Consultant and Director of Research at SGH’s Department of Emergency Medicine and Dr Tina Wong, Consultant at the Singapore National Eye Centre (SNEC) and Head of the Ocular Drug Delivery Research Group at SERI.

Prof Chow is conducting a multi-centred Phase Three clinical trial to compare the outcomes of two known therapies for primary liver cancer. The clinical data from the study will be used to determine which therapy is more beneficial for patients.

Prof Wong Tien Yin was also conferred the prestigious President’s Science and Technology Award in FY2010 which is given in recognition to outstanding scientists for their world-class research and development.

Prof Wong pioneered a novel way to detect early risk of a variety of diseases such as heart disease and diabetes by a simple, non-invasive eye scan.
Dr Deidre Anne De Silva’s career in research started with a degree of curiosity, an observation and a question.

“In my first year of neurology registrar training, I asked my mentor about ethnic differences we were observing in our stroke patients. He challenged me to find out whether these were true and if so, why they existed. This resulted in my first stroke research project, an observational study comparing stroke patterns between Chinese and Indian patients,” she said.

Dr De Silva went on to study the unique patterns of stroke among Asian stroke patients. Her efforts have given the medical profession insights into how to more accurately predict prognoses for Asian stroke patients in order to optimise their treatment. Her other areas of clinical research include acute stroke thrombolysis and novel stroke risk markers.

A medical research fellow of National Medical Research Council, Dr De Silva says that clinical research is always a collaborative effort. “It spans medical disciplines and involves various team members including nurses, doctors, trial coordinators, pharmacists, therapists, radiographers and basic scientists.”
This has great public health significance for Singapore and other countries where cardiovascular disease and diabetes are the leading causes of death and morbidity.

With the expected opening of the Academia, a 13-storey twin-tower building, in 2013, there will be additional room to house SGH’s Pathology Services, as well as SingHealth’s research labs and state-of-the-art core facilities. The new research infrastructure will complement existing research facilities at Duke-NUS and leverage on the School’s basic research capabilities to support translational medicine and clinical trials on SGH campus. The building will also have simulated environments such as wet surgical skills labs to encourage team-based learning.

“‘Bench-to-bedside and back’ is the new research paradigm where clinicians and scientists work closely together to translate scientific discoveries into advances that directly benefit patients.”

Dr Iain Tan
Associate Consultant, Medical Oncology, NCCS
Millions of patients trust us with their lives every year. Behind each patient’s story of improved quality of life is a multidisciplinary team of health professionals, working together to deliver the best care possible. These professionals, our staff, are our most valuable assets.

GROOMING TALENT
SingHealth has long believed in the need to plan and act early in grooming the next generation of healthcare talent. A new scholarship for outstanding first-year medical students who want to serve in public healthcare was launched in FY2010. Through these scholarships, SingHealth aims to groom outstanding medical talent for the public sector in Singapore.

Starting with the current Academic Year 2010/2011, the SingHealth Medicine Scholarship will grant up to four scholarships annually to first-year students of Duke-NUS Graduate Medical School (Duke-NUS) and the NUS Yong Loo Lin School of Medicine (YLLSoM). They are awarded to students with excellent academic results and proven leadership achievements, who have a strong desire to serve in public healthcare, and demonstrate a passion for community service.
For nursing and allied health development, Health Science and Nursing Scholarships are given to promising ‘A’ level, Diploma and undergraduate students to study locally or overseas. In addition, various SingHealth institutions also offer separate scholarships and sponsorships to local undergraduates and polytechnic students.

To continue attracting talent, SingHealth introduced a series of profession-focused recruitment advertisements. These advertisements are aimed at raising the profile of healthcare professionals and positioning the Group as a choice employer in healthcare. The advertisements feature outstanding staff leaders in their respective fields, who share inspiring success stories. The series also provides more information on the nurturing environment and many learning opportunities SingHealth has to offer.

SingHealth also actively reaches out to school-leavers to promote healthcare as a career. Together with other public healthcare institutions in the Joint Publicity Committee on Nursing and Allied Health Careers, various outreach programmes were organised, targeted at school-leavers and their influencers. One such programme was a scholarship fair at S’cape, a venue familiar to youths, to promote nursing and allied health careers. Healthcare professionals from SingHealth institutions were onsite to share their experience and address queries from participants.

STAFF EXCELLENCE

At SingHealth, we believe in empowering our staff and in recognising their efforts to rank among the best in healthcare. For their contributions, SingHealth staff continue to garner recognition and awards from the health industry and outside it, testament to their commitment to making a difference in their patients’ lives.

The inaugural SingHealth Excellence Awards were presented in March 2011. This is our Group’s highest honour, recognising leaders and talents who epitomise excellence across the Group and serve as role models.

“An open mind, an enduring spirit and the ability to work as a team are important attributes in our quest to better tomorrow’s healthcare.”

Dr Celia Tan
Group Director, Allied Health, SingHealth
Director, SGH-Postgraduate Allied Health Institute
There are eight categories of awards to recognise distinguished leaders on a Group level. Among these are the Distinguished Leader Award Series with categories recognising leaders with vision and champions of change, as well as Distinguished Awards for educators, researchers and mentors.

The winners of these prestigious awards were Prof Donald Tan, Medical Director of the Singapore National Eye Centre (SNEC) who received the Visionary Leader award; Ms Charity Wai, Chief Operating Officer of SNEC who received the Champion Of Change award; and Ms Lee Heng Pheng, Advisor, Nursing Management, KK Women’s & Children’s Hospital (KKH) who won the People Leader award.

The event included the presentation of the well-established GCEO Excellence Award for clinicians, nurses and allied health, ancillary and administrative staff of all SingHealth’s institutions.

The Singapore Health Quality Service Awards (SHQSA) was also launched for the first time in FY2010. It aims to encourage healthcare professionals to improve service standards by recognising and rewarding those who have demonstrated exemplary service delivery.

More than 2,500 healthcare staff from SingHealth institutions and partner organisations such as Bright Vision Hospital and St Andrew’s Community Hospital received awards for their contributions in service excellence.

The top recipients were Superstar Award winners, Dr Chua Sze Yuen, Irene, Consultant, Minimally Invasive Surgery, KKH; Ms Tan Chor Kien, Nurse Clinician, Haematology, Singapore General Hospital (SGH) (Nursing); Ms Ong Bee Keow, Christine, Chief Dietitian, KKH (Allied Health); Mdm Porckodi d/o Lallayah, Patient Service Assistant, SGH (Ancillary).

“The large number of healthcare staff who received the awards is something to be proud of. This shows that our staff takes pride in what they do which then translates to the quality of services rendered to patient care. These awards are but a small gesture of our appreciation to our unsung heroes and heroines,” said SingHealth GCEO, Prof Tan Ser Kiat.

To celebrate and recognise the significant roles and contributions of our allied health professionals (AHPs) in providing quality healthcare for Singaporeans, SingHealth held the inaugural SingHealth Allied Health Community Day in January 2011.

The role of AHPs has expanded in recent years, as medical conditions can no longer be treated in isolation and patients seek better quality healthcare. More AHPs are required to cater to the challenging needs and demands of patients today and the ageing population.

In recognition of the increasing role that innovation and research play in healthcare today, three teams of AHPs received the SingHealth Innovative Practice Award 2010.

The award-winning innovative projects include a new and improved spring-loaded ankle foot orthosis that provides stability for neurological patients with foot drop to achieve a safe and normal walking pattern without restricting ankle joint movement, and an innovation in process that transfers urinalysis for the patient ward to the central laboratory, thus improving accuracy and freeing up the time of nurses to perform other core nursing duties.

A highlight of the event was the launch of the book Many Talents, One Passion – In Praise of Healthcare Heroes. Published by SingHealth Academy, the Group’s dedicated publishing arm. The book is the first local publication about AHPs with more than 100 heartwarming stories of Singapore’s AHPs who share their passion for what they do and their aspirations for the future of healthcare.

The book provides insight into the work of staff from 17 allied health professions from various public hospitals and national centres, and relates inspiring patient encounters that touched the lives of these professionals during the course of their work. It also aims to encourage school-leavers to consider these professions as a fulfilling career choice.

SingHealth’s leaders also kept the flag of the Group flying high with several proud achievements.
Applying IT in healthcare, says Mr Benedict Tan, is like the marriage of Yin and Yang.

“Medical team members provide their inputs from a data needs and process perspective, and the IT department will source or develop the IT systems that fit their requirements,” says Mr Tan.

“An effective healthcare information system translates to better care and clinical outcomes for the patient,” says A/Prof Low Cheng Ooi, “With timely and accurate information at their fingertips, clinicians have more support in making clinical decisions and delivering evidence-based care.”

Both men have helped drive the partnership that has brought IT to new levels at SingHealth. In 2011, SGH and KKH were among the first four public hospitals in the region to achieve the HIMSS Stage 6 Electronic Medical Records Adoption Model Award, which recognises superior IT capabilities in delivering patient-centric care. This is just one stage away from Stage 7, the pinnacle of the seven-stage model.

Committed to the same vision of improving patient care, the IT team and medical staff are committed to continue making innovations a reality. Says A/Prof Low, “Close collaboration facilitates innovation and solutions for many unique problems in healthcare.”
At the 8th Human Resource Management (HRM) Award Ceremony, SingHealth GCEO Prof Tan Ser Kiat was conferred the Hudson Award for Champion of Human Resource (HR) in recognition of his contributions to the HR field.

The annual HRM Awards are widely regarded as the gold standard of HR excellence. Winners are selected by an independent judging panel, made up of HR experts from both the public and private sectors. The 18 judges in this year’s panel represented organisations that included the Ministry of Manpower, National Trades Union Congress, Tripartite Alliance for Fair Employment Practices and Towers Watson.

Mrs Sylvia Mun, Chief Medical Social Worker, KKH, was honoured with the Outstanding Social Worker Award by the President of Singapore for her outstanding contributions to social work in November. She initiated programmes such as the Single Mother’s Support Group, and in 2007, she and her team established a Crisis Team specialising in Child Abuse and Trauma.

In recognition of his leadership in research, Prof Ho Lai Yun, Senior Consultant, Neonatal & Developmental Medicine, SGH was conferred the National Outstanding Clinician Mentor Award, in the 2010 National Medical Excellence Awards (NMEA).

The NMEA is a national level award given out by the Ministry of Health. It recognises exceptional individuals and teams who have shown outstanding achievements and excellence in medicine, clinical research, clinical quality, training and mentorship.

Prof Ho, who is also Senior Consultant at the Department of Child Development at KKH and Associate Dean at YLLSoM was cited as “the pioneering force behind Singapore’s many nationwide perinatal health programmes and child development programmes.”

In July, two SingHealth nurses were accorded the President’s Award for Nurses, the nation’s highest accolade for their outstanding contributions to the nursing profession. Ms Lim Suh Fen, Assistant Director of Nursing, National Heart Centre Singapore (NHCS) and Mr Nidu Maran, Advanced Practice Nurse (APN), SGH, earned this recognition for their commitment, professionalism and dedication to excellent nursing care.

Ms Lim has, among her achievements, 35 years of nursing experience. She set up the Singapore Heart Centre Ambulatory Service and oversees the re-configuration of usage and workflow designs of the new National Heart Centre facility presently under construction.

Mr Nidu, who was one of the first orthopaedic APNs in Singapore, has already won a few awards for the close rapport built with patients. He is also vice chair of SGH’s Nurse Research Council and has conducted research studies which have won him accolades at national and international meetings.

In November 2010, Ms Ang Eng Hong, Principal Enrolled Nurse, SGH and Ms Rokiah Bte Sulaiman, Principal Enrolled Nurse, NHCS, received the Tan Chin Tuan Nursing Award.
At SingHealth, we have always embraced the opportunity to give back to those around us. To contribute to the health and well-being of the larger community in Singapore and to lend a hand beyond our shores. As a Group, we play an active part in several community efforts including fundraising, humanitarian relief, community education and health programmes.

Our community engagement efforts are also not just about giving time, effort and manpower but about empowering those in the larger community, whether patients, members of the public or overseas beneficiaries to support themselves.

SINGHEALTH HUMANITARIAN RELIEF PROGRAMME
The SingHealth Humanitarian Relief Programme (SHRP) was launched in July 2009 to recruit, train and prepare SingHealth teams to provide humanitarian relief in disaster stricken areas in the region.

Since then, SHRP with her non-government organisation (NGO) partners has helped in relief missions in Myanmar, Philippines, Indonesia and more recently in Pakistan.
In October 2010, two medical missions were launched with Mercy Relief to help in Pakistan after heavy floods devastated the country in June, killing thousands and leaving millions homeless. Medical teams of one doctor and four nurses saw an average of 150 patients a day during the three weeks of deployment at the Pakistan Flood Mission 2010.

At present, SHRP has a strength of 129 staff volunteers. Of these, 17 are doctors, 77 nurses, 4 allied health professionals and 31 non-medical volunteers. More volunteers are expected to come onboard.

To help in logistics preparations when medical team members are called on for disasters, SHRP launched the SHRP small group project bringing together two doctors, four nurses and two support staff to develop a medical packing list needed for future SHRP missions. This will help to facilitate procurements, packing and forwarding of medical supplies to the disaster zone.

SHRP also aims to continually update its volunteers on its humanitarian relief work with the ongoing SHRP Education Series. In the first talk of the series, Dr Tiah Ling, Consultant, A&E, Changi General Hospital (CGH) shared her experience working with renowned international NGOs during her Health Manpower Development Plan (HMDP) on international emergency medicine and public health. The second series, held in March 2011, saw Mercy Relief staff and SingHealth volunteers from the Pakistan Flood Mission share their experiences with current and potential volunteers.

SINGHEALTH FOUNDATION
Established in 2002, the SingHealth Foundation, an institution of Public Character is a not-for-profit grant making organisation which makes grants, raises and facilitates donations and manages financial contributions.

In FY2010, the Foundation received $83.87 million in donations and disbursed 233 new grants for healthcare related research, continuing
engage both staff and the community through fun and meaningful events every year.

In celebration of the 10th anniversary of SingHealth, in 2010 the theme for President’s Challenge was We Are One Family. Led by SingHealth Polyclinics, it aimed to bring families and the community closer together.

The programme kicked off with a charity movie screening where some 800 SingHealth staff and their families, together with 105 children and youth from Jamiyah Children’s Home and Gracehaven, were treated to the movie Prince of Persia at Golden Village Vivocity.

SingHealth Corporate Office adopted Beyond Social Services as its beneficiary in 2010 and engaged disadvantaged youths through dance workshops, leading up to a performance at the Istana before the President. Staff volunteers also imparted life skills through a series of weekend self-discovery sessions.

Institutions across the cluster also embraced the President’s Challenge fund-raising activities, each going the extra mile through its own blend of outreach activities.

Singapore General Hospital (SGH) took members of the Society of the Physically Disabled for a trip to the Singapore Flyer and KK Women’s & Children’s Hospital (KKH) held a story-telling session by its CEO, Prof Ivy Ng, and a funfair for children from the Casa Raudha Women’s Home and Marine Parade Family Service Centre.

The National Heart Centre Singapore (NHCS) brought youths from Children-at-Risk Empowerment Association (CARE) to a team-building and fun day of water activities at SAFRA Mt Faber. NHCS also held a charity food bazaar and a book sale with books donated by its staff.

The National Dental Centre Singapore (NDC) hosted a tea party for children from the Down Syndrome Association (Singapore) while staff from the National Neuroscience Institute spent quality time and organised activities for residents from St Luke’s Eldercare.

Funding for research is a major focus for the Foundation. The annual foundation grant call provides seed money to nurture a pool of budding researchers and inspire them towards competing for national funding. Other research grants include those relating to translational, health services and clinical research that could potentially improve healthcare and save lives.

Driven by the belief that training is fundamental to building a skilled pool of professionals to meet Singapore’s healthcare needs, the Foundation co-funds the HMDP awards with the Ministry of Health every year. The awards encourage staff to acquire new skills and knowledge from the best training centres overseas. In addition, sponsorship and scholarship grants for administrative and healthcare professionals are being awarded to build SingHealth’s executive, strategic and professional capabilities.

Enhancing the quality of patient experience is another area of focus for the Foundation. Besides ensuring that the patient’s medical needs are met, the Foundation goes further in supporting the patient’s emotional, mental and financial needs. Grants are given for initiatives that fill the gaps in the continuum of patient care so that patients may enjoy optimal quality of life.

The Singapore Cord Blood Bank has received Foundation’s support since it started operations in September 2005. It has successfully banked over 7,000 cord blood units, not far from its banked target of 10,000 cord blood units from Asians of various ethnic backgrounds within the next three to five years.

PRESIDENT’S CHALLENGE

Since 2004, SingHealth has been actively involved in organising fund-raising and community outreach projects in support of the President’s Challenge.

As a Group, SingHealth has raised more than S$2 million for countless beneficiaries over the years and continually challenge ourselves to
If Peggy Cheng ever needs a reminder of the value of nurse volunteering, she just has to recall a home visit she made to an elderly cancer patient who had tracheostomy. His wife, his main caregiver, was on the verge of a breakdown as she juggled caregiver responsibilities and medical and household bills.

“I can still remember distinctly the day we delivered milk feeds and diapers to his home,” says Ms Cheng. “The patient’s wife was moved to tears and she nearly went down on her knees to express her gratitude. That moment made me realise how this programme can greatly impact on a patient’s life!”

Ms Cheng, who coordinates the SingHealth Nurse Volunteer Programme for the west zone, has been visiting patients on an ad hoc basis since 2005. The programme, which aims to lower hospital readmittance rates, sees SingHealth nurses making home visits to needy patients, provide caregiver training and helping to purchase daily necessities as well as rehabilitative aids for patients.

Ms Cheng says that the challenges of the programme include establishing rapport with patients and family members and managing their expectations of how much volunteers can do. But, she adds, “a sense of fulfilment and the satisfaction of being able to make a difference to patients upon discharge” spurs her to continue volunteering.
At Singapore National Eye Centre (SNEC), young doctors raised funds by brewing specialty coffee and preparing tasty treats for sale. SNEC also organised an eye screening for the Movement of the Intellectually Disabled of Singapore.

SingHealth Polyclinics invited disadvantaged families from the New Hope Community Services for a day out at Jurong Bird Park, followed by a movie treat.

PROMOTING HEALTH EDUCATION AND LITERACY

_Singapore Health_, SingHealth's bilingual patient newspaper, is the first of its kind in the local healthcare scene, aimed at advancing health literacy among Singaporeans. It is partially funded by SGH Integrated Fund and SingHealth Foundation.

Within just over one year from its inception, the newspaper received accolades including a Gold for Best Editorial – New Publication at the 2010 Magnum Opus Awards, a Silver for Best Overall Editorial in 2011 and an Award of Excellence at APEX Awards for Publication Excellence 2011.

Produced by SingHealth Group Communications and SGH Communications, the newspaper saw an extension of reach when a special Malay section was created in the November/December 2011 issue to commemorate its first anniversary. A print compilation of Chinese articles from previous issues of _Singapore Health_ was distributed as browsing copies at SingHealth institutions' outpatient clinics and to GP clinics around Singapore in June 2011.

SingHealth launched a health and lifestyle portal called _Health Xchange_ in January 2010 and since then, the portal has received almost 600,000 page views and some 4,000 members of the public have signed up as registered members. Over 300 questions and answers were posted in its inaugural year.

Driven by SingHealth’s Marketing Communication and Partnership Development team, _Health Xchange_ has provided an invaluable interactive platform connecting the public to a panel of medical specialists from SingHealth who gives advice on topics ranging from men’s and women’s health issues to discussions on specific diseases and injuries.

Additionally, the portal has also been used by support groups set up by SingHealth, enabling patients, care givers and their family members to share and exchange information.

The Marketing Communication and Partnership Development team also rolled out several other initiatives such as a woman's health book and the Wellness TV project.

SingHealth also partnered _Reader's Digest_ in 2010 to develop _Beautiful Inside Out_, a health book for women. The book is targeted at Asian women from the age of 20 and up, and covers a broad range of health and medical matters covering topics including as bones and joints, cancer, reproductive and sexual health concerns and chronic ailments.

Over 40 specialists across the SingHealth group were roped in to contribute their medical expertise for the 264-page book which was made available to women online as well as in bookshops.

SingHealth debuted the Wellness TV project in 2010. The project combines entertainment and education, featuring programmes covering specially developed health videos, interspersed with general lifestyle videos plus the daily news.

The programmes are screened on over 200 dedicated television screens across SingHealth's institutions, largely in high traffic areas such as the Specialist Outpatient Clinics and pharmacies. On average, some 200,000 viewers watch SingHealth Wellness TV every month.

The impetus for this service came from SingHealth patients, who gave feedback that they wanted to watch more health-related programmes on television while waiting for their appointments and treatments. To date, SingHealth has produced more than 100 videos featuring the group's doctors, therapists, nurses and patients.
At Singapore General Hospital (SGH), we recognise the importance of harnessing leading edge technology to transform the way we deliver safer, quality patient care. We were the first healthcare institution to complete the roll out of the Electronic Medication Management, Computerised Physician Order Entry and Electronic Nurse Charting, moving us closer to the vision of one patient, one record. Our efforts were affirmed with the achievement of Stage 6 in a seven-step scale of the HIMSS Analytics EMR Adoption Model for our IT implementation. Less than 5% of top hospitals in the US attain Stage 7.

SGH was successfully re-accredited by the Joint Commission International in August 2011. This affirms our professional commitment, dedication and efforts hospital-wide to ensure continuous and systematic improvements in the outcomes of patient care.

We welcomed our first batch of Residents and received accreditation for the Residency Programs of Emergency Medicine, General Surgery, Internal Medicine, Pathology and Paediatrics from Accreditation Council for Graduate Medical Education-International. The SingHealth Alice Lee
Institute of Advanced Nursing became the first hospital-based training institute to be appointed a Continuing Education and Training Centre for Healthcare Support workers by the Workforce Development Agency.

We continue to strengthen care integration by developing partnerships with community hospitals and community care providers including nursing homes, general practitioners and home caregivers.

SGH remains steadfast in our commitment to put Patients. At the Heart of All We Do. We will continue in our relentless pursuit of Academic Medicine, which undergirds an integrated healthcare delivery and spans the entire continuum of care. Working closely with our specialist national centres on SGH Campus, and in collaboration with academic partners such as Duke-NUS Graduate Medical School (Duke-NUS), we continue to advance our services, nurture the next generation of healthcare professionals and innovate through research to improve patient lives.

Prof Ang Chong Lye
Chief Executive Officer, Singapore General Hospital
Deputy Chief Executive Officer, Clinical Services & Informatics, SingHealth

PATIENT CARE
SGH raised the bar in a series of wide-ranging patient care initiatives, including the use of Information Technology to enhance patient care, allowing for seamless workflow integration for doctors, nurses and pharmacists. Physical facilities were upgraded in several departments in the Hospital’s move to increase capacity to better meet expanding patient needs. SGH nurses also introduced safety measures to better care for elderly patients.

In keeping with patient care and safety, the Electronic Medication Management, Computerised Physician Order Entry (CPOE) and Electronic Nurse Charting systems were implemented hospital-wide as at March 2011.

“We have the responsibility to push ourselves a little more, and to train new doctors that will surpass the current generation.”

A/Prof Loo Chian Min
Head and Senior Consultant, Respiratory & Critical Care Medicine
The Electronic Medication Management system enables a common view of inpatients’ medication information and improves workflow for dispensing, validating and administering medication. It enhances patient safety with online alert checks, reduces transcription errors and introduces a more structured approach to facilitate faster and more accurate online ordering.

CPOE facilitates the electronic ordering of laboratory tests, radiological procedures and nuclear medicine investigations. It increases efficiency by linking the clinics and laboratories electronically and through the use of standardised order forms customised for each specialty.

To better meet patient needs, SGH is renovating and re-configuring existing facilities. Building works are ongoing for a new National Heart Centre Singapore (NHCS), the SGH Pathology Building and pharmacies, among others.

When completed in 2013, the SGH Pathology Building will create the much-needed capacity to cope with the rising demand for clinical investigations. There will be more space for research and training of our healthcare professionals.

The NHCS building at SGH Campus will be completed in late 2013. It will be three times larger than its existing premises, allowing it to provide seamless and integrated care to more patients.

Work has already begun at SGH’s pharmacies. A new two-storey extension of the Retail Pharmacy will increase the facility’s handling capacity and improve patient privacy. Renovations at the dispensing pharmacy will facilitate the installation of an automated prescription drug delivery system, which will in turn enhance medication safety and improve efficiency and service levels. The entire makeover should be completed by mid-2012.

Visitor lobbies at Blocks 4, 5 and 7 are also being upgraded to install a new automated system that will facilitate visitors’ registration and access to the wards. The system is expected to be ready by early 2012.

Another move to improve patient care at the Hospital has been the introduction of a series of measures by nurses to improve the well-being and safety of elderly patients. These include the introduction of special low-height beds to allow elderly patients to get in and out of bed easily, a fall prevention pamphlet and additional night lights to brighten pathways and corridors in wards.

In November 2010, the Theatre Sterile Supplies Unit introduced a real-time instrument management system that controls and tracks the production cycle of surgical instruments and sets effectively. The system allows the unit to store and manage information related to the instrument from production to distribution to end users. Such traceability ensures the quality and integrity of the instruments or sets, which in turn ensures quality patient care.

SGH also continues to strengthen care integration by developing partnerships with community hospitals and community care providers including nursing homes, GPs and home caregivers.

EDUCATION
SGH remains at the forefront of continuing education for healthcare professionals and workers.

The SingHealth Alice Lee Institute of Advanced Nursing (IAN), the nursing training arm of SGH, was appointed a Continuing Education and Training (CET) Centre by Singapore Workforce Development Agency (WDA) in July 2010 to train and ensure the quality of the next generation of healthcare support workers.

This is significant given the growing need for intermediate and long-term care services in community hospitals and nursing homes as the population ages. Trainees specialise in various healthcare support functions, such as sterilisation services, operating-theatre support and administrative support. The SingHealth Alice Lee IAN has trained over 1,000 healthcare support workers to date.
Christina Lim’s approach to patient care and grooming new talent can be summed up in these few words – Nurture the carer and the patient will get cared for.

“My passion for my nurses’ personal and professional well-being ensures that they are well looked after. My nurses are in turn motivated to run the unit efficiently, and patients consequently receive better care.”

Christina’s mentor is SingHealth’s Group Director and SGH’s Director of Nursing, A/Prof Lim Swee Hia. Christina recounts her early days in an administrative role, “A/Prof Lim gave me many challenging assignments. Through these trials and with careful counsel, I learnt problem-solving and management skills.”

Of the many nuggets of wisdom Christina received from A/Prof Lim, the one that struck her most was the story of the Little Red Hen. “In the fable, the Little Red Hen finds a grain of wheat and asks for help to plant and harvest it. However, no one volunteers until the hen completes her task and asks who would help her eat the bread. This time, all eagerly volunteer and she graciously shares the bread with all. From that day onwards, when the hen worked on food, she could find volunteers. Hence, she was able to make bread easily. And she always shares the bread with all. This story taught me that teamwork and integration are essential for success in any situation,” says Christina.
With over a million patient visits a year at SGH, a skilled workforce is important to ensure the provision of safe, consistent and quality care to Singaporeans. Dedicated to raising the professionalism and employability of healthcare support workers, SGH made it mandatory for all new healthcare support workers to undergo the full Healthcare Support Workforce Skills Qualifications (HCS WSQ) training. SGH was conferred the Singapore WSQ Leading Adopter Award by WDA in November 2010.

SGH is also the largest Sponsoring Institution for the SingHealth Residency Program. With a dedicated team of faculty members, immense breadth and depth of 36 clinical specialties on SGH Campus and its varied patient load, SGH provides an ideal graduate medical education environment to nurture the next generation of competent and well-rounded medical practitioners.

In January 2011, 12 students successfully completed the Bachelor of Occupational Therapy programme, offered by SGH-Postgraduate Allied Health Institute and La Trobe University of Australia. The 18-month long programme allows diploma holders from local polytechnics to pursue a degree conversion course in Singapore.

RESEARCH
SGH places emphasis on research and innovative care in its continuous quest to improve patient outcomes.

In February 2011, A/Prof Marcus Ong from the Department of Emergency Medicine was awarded the Clinician Scientist Award for his research to identify and implement the best and most cost-effective strategies for increasing Out-of-Hospital Cardiac Arrest (OHCA) survival rates in Singapore and the Asia-Pacific. This is the first large OHCA study in Asia. About 1,500 deaths occur in Singapore each year due to OHCA.

In February 2011, SGH started a stroke rehabilitation research called AVERT (A Very Early Rehabilitation Trial). Singapore is the first Asian centre for the trial. Patients who are seen at SGH within 24 hours of a stroke may be eligible to undergo the trial, which provides them with early intense exercise therapy by physiotherapists, doctors and nurses. This study could make a difference to stroke patients as there is the potential for less disability and a better quality of life after stroke just by getting patients up and about earlier and more often.

Stroke is Singapore's fourth most common cause of death and the largest cause of disability. Thousands of Singaporeans are admitted to hospitals each year because of stroke or its complications. SGH plans to recruit 120 patients for AVERT over the next two years.

In July 2010, the SingHealth Investigational Medicine Unit (IMU) was set up at SGH for clinician-scientists to do early-stage drug trials. The $20 million research centre, with 32 beds, is the largest of its kind in Singapore's public sector. Most of the ongoing trials are for cancer patients. But there are also tests conducted for haematology and infectious diseases. At the point of set-up, more than 20 trials had been going on in the IMU, with patients and volunteers undergoing tests.

A collaborative study between SGH and the National Cancer Centre Singapore (NCCS), exploring a possible link between a rare slow-growing cancer and symptoms of Irritable Bowel Syndrome (IBS), began in October 2010. A 2005 US study found that the number of people with such tumours rose from two in 100,000 to five in 100,000 over 30 years. Establishing the link enables early diagnosis of the cancer, which might otherwise be diagnosed only at an advanced stage because its symptoms tend to appear only after nine years. By that time, the cancer could have spread to other parts of the body.

As part of the SGH-NCCS study, those with IBS symptoms such as diarrhoea and intermittent abdominal pain are given a blood test. To determine if they have the cancer, the blood samples are tested for a protein that the cancer cells release into the bloodstream.
He has guided many eminent doctors in their careers, but Prof Ho Lai Yun’s most memorable anecdote of mentoring is a premature baby boy he first cared for 20 years ago.

The infant grew up abused and neglected by his parents and ended up in the Family Court as a teenager beyond parental control. All the while, Prof Ho counselled him.

“He has since become a top boy in a polytechnic. He is a head taller than me and at our last meeting, wanted to take a photo with me. He purposely crouched. He said he should not stand taller than someone he has respected all his life.”

Prof Ho is a rare breed of mentor, his medical students say, not only because of the extraordinary care he shows his patients but also because he wants all his students to surpass him. The SGH Senior Consultant founded its Neonatal Care Unit in 1986, was the founding head of the then Child Development Unit at KKH and has numerous awards to his name, the most recent being the National Outstanding Clinician Mentor Award 2010.

Quoting Sir Isaac Newton, Prof Ho says, “If I have seen a little further, it is by standing on the shoulders of giants.’ I have been able to see far because I have had great teachers offering their shoulders to me. I hope my shoulders can be strong enough for the younger doctors to see even further.”
In February 2010, SGH embarked on a study of how abnormal thyroid functions could lead to depression. Higher levels of a specific thyroid antibody and proteins have been found in depressed patients and the study seeks to establish the effects of these changes beyond the thyroid and how they can contribute to illnesses such as depression. This may result in a better understanding of depression and lead to more effective treatment in the future.

SGH, together with the NCCS, also pioneered the use of Magnetic Resonance guided Focused Ultrasound (MRgFUS) to treat prostate cancer patients. It cuts post-operative downtime for patients and eliminates the side effects of current treatments such as impotence and incontinence.

The treatment uses ultrasonic waves to target, heat and kill a tumour. It is non-invasive and is used for patients with localised low-risk prostate cancer. Patients are able to resume their normal activities within two days.

Seven patients were treated using the MRgFUS in the first round of clinical trials in August 2010. A second two-year clinical trial, which treats a larger pool of 40 patients, began in early 2011.

OUR PEOPLE
At SGH, we believe in investing in our staff.

In FY2010, 51 medical, nursing and allied health professionals received overseas skills attachment training in various specialty and sub-specialty areas. In particular, a team comprising a doctor, nurse and physiotherapist who underwent training in a multidisciplinary programme for the management of patients with Spondyloarthropathies returned to establish the new Spondyloarthritis Clinic in January 2011.

One hundred and fifty-nine nurses were provided with opportunities for specialty skills development through the Advanced or Specialist Diploma in Nursing programmes. 11 nurses commenced their Masters of Nursing programme and 25 staff pursued their studies in Diploma or NITEC in Nursing. Another 29 nurses were awarded sponsorships for the Bachelor in Nursing programme.

In addition, a total of 47 scholarships and sponsorships were offered to allied health professionals for their degree upgrade and postgraduate clinical specialisation.

The Hospital is committed to helping employees harmonise work and personal needs. In recognition of its efforts, SGH won several awards including the Work-Life Excellence Award 2010, the SHRI Award 2010 for leading HR Practices in Quality Work-Life, Physical & Mental Well-Being, the Singapore Health Award 2010 (GOLD), which is presented to organisations with Workplace Health Promotion programmes to improve employee health and well-being and the Total Defence Awards (TDA) – Minister for Defence Award which recognises supportive employers who incorporate NS-friendly policies in their workplace.

COMMUNITY ENGAGEMENT
The Hospital, mindful of its corporate responsibility to the greater community, has consistently been active in community service, public education, fundraising as well as humanitarian relief efforts outside of Singapore. In November 2010, in recognition of SGH’s firm commitment to voluntary contributions to the community, the 800-strong SGH Volunteer Club was conferred the President’s Social Service Award.

Last year, more than 200 staff volunteers joined 100 beneficiaries from SGH Needy Patients Fund, Centre for Promoting Alternatives to Violence (PAVe) and Beyond Social Services for a fun-filled family bonding day at the Marina Barrage. SGH staff raised more than $100,000 that went towards food, transport, goodie bags and prizes for the family day.

Into its 2nd year, Project GroomOver saw more than 125 staff volunteers spring clean the homes of 13 needy patients who live on their own and have little family support. SGH staff also raised a record $81,000 for
As far as Dr Camilla Wong is concerned, being a mentor is not a job title or even something you choose. “People have often asked me how many mentees I have. My reply has always been, ‘I don’t know.’ I don’t label myself as a mentor. My mentees have to do it.”

She recounts an email from a former student who had been invited overseas to speak on her professional practice and her motivations to develop her clinical skills. “She wrote that she would like to mention how I have been a motivating, encouraging and inspiring mentor to her all these years. I was surprised. All this time, she had considered me her mentor and I didn’t know.”

For Dr Wong, who was President of the Pharmaceutical Society of Singapore for a three-year term and who has had 15 years of pharmacy experience in SGH, the desire to mentor stems from two sources – a drive to keep delivering services that make a difference to patients’ lives and a passion to share her knowledge with her juniors and peers.

And she has this word of advice for all her students – the going may get tough but stay on track. “Challenges will come in many forms including personal development, interpersonal conflicts and even managing your bosses. Do not give up easily. Remember that sometimes, it takes a while (even years) to overcome a challenge,” says Dr Wong.
President’s Challenge 2010. SGH Volunteers brought 26 beneficiaries from the Society for the Physically Disabled on an outing to the Singapore Flyer.

SGH also showed its support for health promotion causes by participating in events such as the annual Pink Ribbon campaign on breast cancer awareness and PuckerUp4PH campaign in support of Pulmonary Hypertension and stroke-related activities.

Doctors, nurses and allied health professionals of SGH also lent their expertise in health education by giving talks to members of the public. More than 80 public forums and health talks were organised by SGH or in collaboration with community organisations such as Health Promotion Board and Community Clubs last year.

SGH’s doctors and nurses also extended their support beyond borders through medical relief missions. In July 2010, SGH was part of the first Singapore medical team to help in relief efforts in flood-devastated Pakistan, providing the locals with medical attention and health education.

SGH received the SHARE Gold Award from the Community Chest in September 2010 for staff’s generous pledging through payroll since 1993 to help the needy.

### KEY FIGURES

<table>
<thead>
<tr>
<th></th>
<th>FY10</th>
<th>FY09</th>
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<tbody>
<tr>
<td><strong>Size</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Licensed Beds (as at end Mar)</td>
<td>1,590</td>
<td>1,521</td>
</tr>
<tr>
<td>Beds in Service</td>
<td>1,590</td>
<td>1,474</td>
</tr>
<tr>
<td><strong>Workload per annum</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bed Occupancy Rate</td>
<td>86.7%</td>
<td>86.5%</td>
</tr>
<tr>
<td>Inpatient Admissions</td>
<td>74,779</td>
<td>70,552</td>
</tr>
<tr>
<td>Inpatient Discharges</td>
<td>74,627</td>
<td>70,708</td>
</tr>
<tr>
<td>Total Patient Days</td>
<td>455,585</td>
<td>430,978</td>
</tr>
<tr>
<td>Average Length of Stay (days)</td>
<td>6.1</td>
<td>6.1</td>
</tr>
<tr>
<td>Total Surgical Operations</td>
<td>80,797</td>
<td>79,184</td>
</tr>
<tr>
<td>Day Surgeries</td>
<td>46,748</td>
<td>45,132</td>
</tr>
<tr>
<td>Inpatient Surgeries</td>
<td>34,049</td>
<td>34,052</td>
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<tr>
<td>Specialist Outpatient Clinic Attendances</td>
<td>698,689</td>
<td>680,740</td>
</tr>
<tr>
<td>Accident &amp; Emergency Attendances</td>
<td>144,973</td>
<td>142,236</td>
</tr>
<tr>
<td><strong>Staffing</strong> (as at end Mar)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>7,879</td>
<td>7,204</td>
</tr>
<tr>
<td>Doctors</td>
<td>875</td>
<td>816</td>
</tr>
<tr>
<td>Nurses</td>
<td>3,622</td>
<td>3,267</td>
</tr>
<tr>
<td>Allied Health Professionals</td>
<td>1,273</td>
<td>1,084</td>
</tr>
<tr>
<td>Others</td>
<td>2,108</td>
<td>2,037</td>
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</table>

*Note: Staffing figures refer to Filled Posts, in terms of Full-Time Equivalent, and may not add up to total due to rounding.*
### AWARDS & ACCOLADES

#### PATIENT CARE

**Singapore Health Quality Service Award 2010**
- **1293 staff** – 78 Star, 199 Gold, 1036 Silver
- **Superstar Winner – Best Nursing Staff**
  - Tan Chor Kien
- **Superstar Winner – Best Ancillary Staff**
  - Porckodi d/o Lallayah
- **Best Service Initiative Improvement Team**
  - Quick Blood team: Tan Chor Kien; Cheong Li Sack; Yeam Shin Yen; Dr Ang Ai Leen; Corrine Chua Mui Luan; Winston Bau Hon Wen; Dr Zakir Hussain Abdul Salam; Jerene Ng Chen Ling; Chong Lai Ling (Facilitator)

| National Day Awards 2010 (Public Service Star) | Prof Ho Lai Yun |
| National Day Awards 2010 (Commendation) | Crystal Lim Ah Yan; Kua Hun Choo Agnes |

| National Day Awards 2010 (Efficiency) | Janet Khoo Beng Neo; Kemas Muhamad Zulhaimi Bin K A Omar; Ong Soon Lan; Salimah Bte Mohd Ayoob; Senwan Bin Jamal; Soobramanee Taiwani; Tan Mui Chai; Tien Choo Eng; Wei Suat Nee |

| National Day Awards 2010 (Long Service) | Abdul Wahab Bin Haji Ahmad; Chew Guek Choo; Chiang Juat Lan; Chng Mei Juiua; Davadass Danapaul; Eyah Bte Amat; Gin Cheng Yam; Hajiah Sapiah Binte Abbas; Indurani Ammal d/o Pawadi S; Kalaichelvi Arunachalam; Koh Yee Mui; Lee Soo Liang; Leong Phoi Leng; Letchimi d/o Ponnusamy; Lim Swee Hia; Loh Loi Yin; Loh Thye Tai; Low Kiat Luan; Majima Binte Madari; Mohamed Noor Bin Abdul Rahman; Mohamed Salim Bin Karman; Mohd Shah Bin Mahmod; Ng Han Seong; Ng Kim Huat; Ng Siew Keng; |

| National Day Awards 2010 (Long Service) (cont’d) | Ng Soh Wah; Pang Sow Leng; Saroja d/o Sinniah; Seow Kang Hong; Sharifah Rogayah Bte Fadzil; Siti Rohani Bte Hassan; Sommu s/o Martha Muthu; Soo Yim Mui; Suliah Binte Kasidal; Tan Ah Moey; Tan Ban Seng; Won Phui How; Wong Chow Yin; Wong Pen Cheen; Wong Mui Choo; Yen Cheng Chen |

**SingHealth Excellence Awards 2010**
- **Distinguished Golden Achievement Award**
  - Prof Foo Keong Tatt
- **GCEO Excellence Awards 2010**
  - **Outstanding Clinician**
    - Prof Christopher Cheng Wai Sam
  - **Outstanding Nurse**
    - Nagalingam Saraswathi
  - **Outstanding Ancillary Staff**
    - Porckodi d/o Lallayah
  - **Outstanding Allied Health Professional**
    - Koh Bee Hua
  - **Outstanding Administrative Staff**
    - Isabel Yong Yem Lai

**Healthcare Humanity Award 2011**
- Loh Yit Lan Susan; Lee Chin Chew; Salimah Bte Mhd Ayoob; Cheng Lay See Peggy; Tay Yong Bee; Thoh Siew Pang; Leow Siew Tin; Lim Hwee Ling; Lim Wen Ting; Chen Xiaozen; Mohammad Nazri Bin Johri; Glyn Ytang Bonalos; Chua Bee Har

**4th Tan Chin Tuan Nursing Award**
- **Challenge Trophy Winner**
  - Ang Eng Hong

**President’s Award for Nurses 2010**
- Nidu Maran Shanmugam
### PATIENT CARE (cont’d)

<table>
<thead>
<tr>
<th>Award Description</th>
<th>Recipient(s)</th>
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<tbody>
<tr>
<td>PSS-Shire Hospital Pharmacist of the Year Award</td>
<td>Ng Hong Yen</td>
</tr>
<tr>
<td>CEO Best Clinical Nurse</td>
<td>Winner: Lee Chen Na 1st runner up: Tay Yong Bee 2nd runner up: Doris Lim Wei Feng</td>
</tr>
<tr>
<td>MOH Nurses’ Merit Award 2010</td>
<td>Chan Yoke Ling; Teng Chai Lian; Teh Nguan Kheng; Saw Ah Hua; K Thanaletchumi; Yeam Shin Yen; Nur Syahida Bte Abdulrahman; Shamugavalli d/o Ramasamy; Zauzah Mohd Jani</td>
</tr>
<tr>
<td>MOH Nurses’ Merit Award 2010</td>
<td>Tham Yim Leng; Wee Dillian; Swe Zin Tun; Tay Wai Lin; Peng JiPing; Lee Hui Xian Jessie; Sridhavi Mareddy; Teo Mei Wah Christy; Lee Su Yee Elizabeth; Uma d/o V. Palanisamy; Mohamad Rizal Bin Mohd Razali; Hery Yanto</td>
</tr>
<tr>
<td>MOH Nurses’ Merit Award 2010</td>
<td>SGH designated Global Hand Hygiene Expert Centre in Asia-Pacific by World Health Organisation</td>
</tr>
<tr>
<td>Asian Hospital Management Awards 2010</td>
<td>Division/Department: Infectious Diseases, Infection Control, Pharmacy, Microbiology Award/Category: Excellence Award, Patient Safety / Quality Medical Care category Project Title: Fighting the war against ‘superbugs’ – Anti-microbial Stewardship</td>
</tr>
</tbody>
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### Stage 6 of HIMSS
- Analytics™ EMR Adoption Model

### Team Excellence Symposium Innovation & Quality Circles (TE-IQC) Gold Award
- by Singapore Productivity Association

### EDUCATION

<table>
<thead>
<tr>
<th>Award Description</th>
<th>Recipient(s)</th>
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<tbody>
<tr>
<td>SingHealth-Lee Foundation Nursing Award</td>
<td>Malek Bin Amat; Cheng Lay See Peggy; Lee Mui Mui</td>
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<tr>
<td>SingHealth-Alice Lee Institute of Advanced Nursing Scholarship</td>
<td>Tee Ning; Harminder Singh Olikh; Guo Bing; Tan Pao Ling; Chua Lai Heng Andy; Quek Yanting; Chan Wai Chean Maximillian; Chang Yee Yee</td>
</tr>
<tr>
<td>CET Centre for Healthcare Support WSQ by WDA</td>
<td>SGH’s SingHealth Alice Lee Institute of Advanced Nursing appointed Continuing Education and Training Centre for Healthcare Support Workforce Skills Qualifications by Workforce Development Agency</td>
</tr>
<tr>
<td>WSQ Leading Adopter Award</td>
<td>SGH wins Singapore Workforce Skills Qualifications (WSQ) Leading Adopter Award</td>
</tr>
<tr>
<td>WSQ Champion Award</td>
<td>A/Prof Lim Swee Hia</td>
</tr>
<tr>
<td>Singapore Association of Occupational Therapists Award 2010</td>
<td>Clinical Education in Occupational Therapy Muhammad Razi Bin Kasmin</td>
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**RESEARCH**

<table>
<thead>
<tr>
<th>Category</th>
<th>Winner</th>
</tr>
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<tbody>
<tr>
<td>NMRC Clinician Scientist Award (CSA) 2010</td>
<td>A/Prof Marcus Ong</td>
</tr>
<tr>
<td>PS21 ExCEL Awards 2010</td>
<td>Best Ideator – Gold</td>
</tr>
<tr>
<td>PS21 Star Service Awards 2011</td>
<td>Dr Chan Yew Meng</td>
</tr>
<tr>
<td>EFORT Jacques Duparc Award, Madrid</td>
<td>Division/Department: Orthopaedic Surgery, Diagnostic Radiology Project Title: Natural history of femoral stress lesions in long-term bisphosphonate therapy</td>
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**HUMAN RESOURCE/TALENT DEVELOPMENT**

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<thead>
<tr>
<th>Category</th>
<th>Winner</th>
</tr>
</thead>
<tbody>
<tr>
<td>President’s Social Service Award 2010</td>
<td>Informal Group Category – SGH Volunteer Club</td>
</tr>
<tr>
<td>Singapore Compact CSR Awards 2010</td>
<td>Best Workplace Award</td>
</tr>
<tr>
<td>Community Chest SHARE Gold Award 2010</td>
<td></td>
</tr>
<tr>
<td>Work-Life Excellence Award 2010</td>
<td></td>
</tr>
<tr>
<td>Singapore Health Award 2010</td>
<td>Gold</td>
</tr>
</tbody>
</table>

**Singapore HR Awards 2010**

- SGH wins eight awards:
  - Corporate HR Champion Award
  - Corporate HR Award
  - HR Advocate Award
  - Leading HR Practices Award in Workplace Safety & Health
  - Leading HR Practices Award in Quality Worklife, Physical & Mental Well-Being
  - Leading HR Practices Award in Learning & Human Capital Development
  - Leading HR Practices Award in Employee Relations & People Management
  - Leading HR Practices Award in E-Human Resource Management

**SHRI Award 2010**

- Leading HR Practices in Quality Work-Life, Physical & Mental Well-Being

**Honorary Member of MiDAs League by MINDEF**
As the regional leader in women's and children's healthcare, KK Women's & Children's Hospital (KKH) pushes the boundaries in our relentless pursuit of delivering quality care and improved outcomes for patients.

2010 was an eventful year as KKH continued to build on our rich legacy of medical excellence through research, education and innovation. The effort is a broad-based one by motivated and achievement-oriented staff who drove a slew of initiatives across functional areas from patient care to research and community engagement.

The results are heartening. In the recent MOH Patient Satisfaction Survey, 83% of patients said they would recommend KKH to their family and friends. This strong endorsement from our patients is indeed encouraging.

Credit must go to all KKH staff for their unwavering dedication and passion for putting patients at the heart of all we do.

This KKH culture of commitment to patients will continue to be the cornerstone and key inspiration in our drive towards being a centre of excellence in Academic Medicine.

Prof Ivy Ng
Chief Executive Officer, KK Women's & Children's Hospital
Deputy Chief Executive Officer, SingHealth
PATIENT CARE
In FY2010, KKH, Singapore’s premier hospital for women and children, launched several new programmes in areas ranging from direct patient care to community-based efforts, all aimed at improving patient care and empowering our patients and their families through education.

In March 2011, KKH opened a one-stop endometriosis centre run by specialists in gynaecology, pain management and colorectal surgery to provide a holistic, multidisciplinary service for women with the painful and often under-diagnosed condition.

The KK Endometriosis Centre takes a comprehensive and patient-centred approach to treatment and also counsels women who suffer from the debilitating pain and infertility associated with endometriosis. The gynaecological condition – where an abnormal growth of cells similar to those that form inside the womb grows outside the womb – affects up to one in 10 women.

“At KKH, we treat approximately 1,200 women with endometriosis-related problems every year,” said A/Prof Bernard Chern, Deputy Chairman, Division of Obstetrics & Gynaecology. “Endometriosis affects a woman’s physical health as well as her social and emotional well-being. We are equipped with medical technology and expertise to diagnose and treat the condition. We believe that the Centre’s holistic services will bring greater support and benefits to our patients.”

KKH also took patient safety to the next level with the introduction of a 24-hour verification system by pharmacists as part of the Closed Loop Medication Management (CLMM) system which started in 2009.

The round-the-clock verification system allows drug orders to be verified by pharmacists on a 24-hour basis. This provides an additional check, and in turn increases medication safety. Drug inventory management has also been optimised through centralisation. This reduces the amount of medicine
Together with KKHDCD, a one-stop centre was established at St Andrew’s Community Hospital (SACH) in Simei, bringing together expertise in paediatrics, psychiatry and neuroscience in one community-accessible location.

Siting these specialisations together improves the collaborative efforts and opportunities by psychiatrists, researchers and paediatricians in early intervention, and facilitates research and programmes to treat and advance the mental health and development of children in Singapore.

The KKHDCD clinic at SACH supports intervention and treatment for pre-schoolers with developmental needs, which may include learning difficulties. KKHDCD’s collaboration with REACH East helps to cater for smooth transitional care for KKHDCD’s pre-schoolers to REACH when these children progress to school-going age and require support for behavioural and mental health issues at the schools.

In a first-of-its-kind initiative in Singapore, KKH started a dedicated Bowel Management Programme aimed at helping children with severe constipation due to congenital anomalies, like anorectal malformations, spina bifida and Hirschsprung’s disease. The aim is to help children with these conditions lead as normal a life as possible.

The Bowel Management Clinic at KKH is staffed by a dedicated team of doctors and nurses who teach parents how to manage problems associated with constipation or incontinence and the resulting social stigma. Not only do patients and their parents benefit from early detection and management, but doctors are then also able to use clinic consultations more effectively for treating and improving the condition or its associated complications.

The programme is based on one developed in Cincinnati, US, and is designed for patients with existing congenital anomalies.

EDUCATION

KKH has a long tradition of education and teaching, and runs the largest kept at ward levels. Preliminary results have shown a 97% verification of medication with a turnaround time of less than 30 minutes.

The integrated CLMM system improves operational efficiency and patient safety by allowing for a common view of inpatients’ medication information at each point of care. The embedded decision support mechanisms enable pharmacists and nurses to employ the ‘five rights’ of medication: right drug, right dose, right route, right time, and right patient. The medication process is strengthened and the potential for medication errors is reduced.

At the community level, a three-year programme was launched in March 2011, with the aim to empower parents of children with special or developmental needs to better manage the difficult behaviours they often face.

Signposts for Building Better Behaviour was put together by KK Women's & Children's Hospital’s Department of Child Development (KKHDCD) and Parenting Research Centre, Australia, and is supported by the National Council of Social Service and Temasek Cares.

Parents or caregivers who sign up for the programme attend five weekly sessions delivered by qualified and trained facilitators. The programme, which has been adapted to local needs by KKHDCD, empowers and enables parents by teaching them methods and tools which they can then adapt to develop their own ways to manage their children effectively, as each child is different.

Targeted to reach out to 1,500 families over the next three years, the programme had its pilot run in late 2010 involving 40 parents and over 30 trained practitioners such as psychologists, educational counsellors, teachers and social workers.

November 2010 saw KKH in another multi-agency collaboration with REACH (Response, Early Intervention and Assessment in Community Mental Health) East and the Singapore Institute for Clinical Sciences’ Neurocognitive Development Centre.
Assistant Director, Nursing,
Nurses Development Unit, KKH

She is a veteran of the nursing profession, with nearly four decades of nursing under her belt and several professional awards. But in recent years, ADN Giam Poh Eng, has been fired up with a renewed drive – mentoring future generations of nurses.

“Teaching has become my passion as I see my efforts bearing fruit in their practice,” she says, referring to her nursing students, newly promoted Nurse Managers and Nurse Clinicians.

“Mentorship translates to patient care when they emerge as confident and influential nurses and leaders. As they are closest to the patients, they are the best people to ensure that the patients receive safe, effective and efficient care.”

Teaching and mentoring for ADN Giam are more than just the delivery of content. She focuses on attitude, and believes that a mentor has to walk the talk. “The expansion of knowledge and extension of skills that nurses have to acquire are less of a challenge for the teacher, as compared to the shaping of attitudes that will carry a nurse throughout her professional life.”
“A thirst for knowledge is what spurs us to become better healthcare professionals.”

A/Prof Bernard Chern
Head and Senior Consultant, Obstetrics & Gynaecology

specialist training programme for Obstetrics and Gynaecology in Singapore. KKH is a major teaching hospital for Duke-NUS Graduate Medical School (Duke-NUS) as well as Yong Loo Lin School of Medicine, with a highly-rated Paediatric Residency Programme accredited by Accreditation Council for Graduate Medical Education-International (ACGME-I).

KKH’s efforts at education have also extended to the community level. A three-year programme was launched to bring therapy into kindergartens to help children with special needs.

Under the programme, a team comprising a paediatrician, psychologist and speech therapist visits kindergartens and offers therapy for pre-schoolers with mild learning disorders. Teachers were also trained to identify children with developmental problems and advised on ways to help these children.

As at July 2010, some 1,000 pre-school children have been screened in the one year since KKH, in collaboration with the Lien Foundation and PAP Community Foundation (PCF), launched the Mission: I’m Possible programme.

The programme was introduced to 22 PCF kindergartens in Potong Pasir-Punggol GRC, targeting children with learning delays, including those with autism, delays in speech and language development or problems with motor skill coordination.

The advantages of the school-based programme include the fact that dropout rate is zero and the cost of therapy is a fraction of that done externally, thanks to the S$2.5 million support from the Lien Foundation.

KKH, together with the Breast Cancer Foundation and Science Centre Singapore set up an interactive exhibition on breast cancer that was held until October 2011.

The exhibition aims to increase breast cancer awareness and educate the public on the causes, symptoms and treatment for the illness. Through a creative mix of audio, visual and sensory displays of real-life images,
Prof Truls Ostbye from Health Services and Systems Research at Duke-NUS was the other principal investigator. The results of the study received widespread media coverage and was presented at the SingHealth Duke-NUS Scientific Congress in October 2010.

KKH was also involved in a trial and testbed for a new non-intrusive device to detect the respiratory rate of newborn infants. The device ‘Intelligent Baby Breath Monitor’ (IBBM) used BreathOptics™ Technology, a first-in-the-world patented technology jointly developed by A*STAR and Excelpoint Technology Ltd. The trial, which was supported by MOH-EDB Health and Wellness Programme Office, was carried out over a six month period from June 2010 to November 2010.

Driven by the Department of Neonatology and Biomedical Engineering Department (BME), the testbed enrolled 65 infants including full-term babies as well as premature babies in the KKH Special Care Nursery.

The research trial conducted at KKH Simulation Centre and Special Care Nursery contributed significantly towards the development of an effective and non-invasive home monitoring device for parents. It also illustrated the collaborative power of public-private partnerships towards the betterment of service and patient care in the health sector.

**OUR PEOPLE**

KKH has always regarded our people as a key factor for our success.

Through the year, various awards have been conferred in recognition of the dedication shown by KKH staff. Amongst some key awards was the Healthcare Humanity Award won by four KKH staff who received the award from then President S R Nathan in May 2010.

In November 2010, KKH medical social worker Sylvia Mun was presented with the Outstanding Social Worker Award also by the President of Singapore.

Ms Mun made history for KKH in the year 2000 when she became the youngest social worker to head a Medical Social Work Department in
Singapore. Under her stewardship, many successful initiatives were launched over the past 18 years. These include garnering resources and support to form the Single Mother’s Support Group that prepares single mothers for their new role as mothers, and setting up a bereavement group to offer emotional support to grieving families.

COMMUNITY ENGAGEMENT

With a continued focus on community care, KKH brought its popular antenatal classes out of the hospital and into the community, starting with Anchorvale Community Club in Sengkang.

KKH’s antenatal courses in the heartlands are custom designed and conducted over nine 90-minute sessions, on consecutive Saturdays. These antenatal classes are specifically aimed at making it convenient for working parents-to-be by bringing the course closer to home and on weekends.

_Every Woman and Child Deserves Good Health_ is the mission of the KK Hospital Health Endowment Fund (KKHHEF) and it continues to stay true to this by engaging in collaboration with various corporate partners and schools to raise funds for needy patients as well as education, research and disease prevention programmes targeted at women’s and children’s health.

The Hospital also believes in giving back to the community. In 2010, in conjunction with the President’s Challenge, KKH raised funds for adopted charities – Casa Raudha Women Home and the children at Marine Parade Family Service Centre. KKH staff also played host to the beneficiaries from both charities for an afternoon of activities and health talks.

KKH’s community involvement goes beyond Singapore’s shores through overseas medical missions and relief missions to crisis-hit countries. Operation Smile and humanitarian aid missions to Pakistan and Laos are some areas where KKH staff have contributed their time and expertise.
Dr Sng Ban Leong is very clear about where the focus should be whether you are a mentor or being guided by one.

“You must start with the end in sight,” he says. “Having focused, targeted goals are important. Having an inquisitive mind in research and using evidence-based medicine in your daily practice is important. But most important is to give the patient care as you would your parents – with respect and concern.”

The anaesthesiologist had a jumpstart to his mentoring career. “Informally, I probably started when I became a registrar in 2006, staying awake, along with my junior comrades, through sleepless night calls and emergencies.”

But having inspirational mentors has encouraged him to also take up a teaching track and be a mentor to his juniors. And when he mentors, it goes beyond medical competency and skills sets. “I think teaching and mentoring should extend to personal development of the trainees including critical thinking, research and communication skills,” he says.
AWARDS & ACCOLADES

PATIENT CARE

National Outstanding Clinical Quality Activist Award 2010
A/Prof Tan Kok Hian

National Outstanding Clinician Mentor Award
Prof Ho Lai Yun

Asian Hospital Management Awards 2010 – Excellence Award
Runner-up for Patient Safety/Quality Medical Care
Happy Humpty – In-Patient Children Fall Prevention Measures in KKH
Runner-up for Departmental Service Improvement
Sure Make Sense (SMS) – SMS Service for Patients with ‘No evidence of cancer’ results from Screening Mammography & Cervical (PAP) Smear
Runner-up for Internal Customer Service Improvement
Phoenix – Development and Implementation of Hospital Risk Management System

Businesses for Families Mark
KKH

Director of Nursing Award
Tay Suan Lay Julie; Lim Hwee Hoon; Chitra d/o Shunmugam

Healthcare Humanity Awards 2010
Pauline Wee Chai Kee; Ang Lee Beng; Eng Peng Peng; Song Lee Gek

MOH Nurses’ Merit Award
Wong Mee Leng; Juay Siew Ngoi; Mary Ching; Chen Hui Yi, Jasmine; Kamisah Bte Salleh; Lee Sock Huay

Outstanding Social Worker Award 2010
Sylvia Mun

National Day Award 2010 (Commendation Medal)
Leslie Chia; Kwan Fook Weng; Peter Seah

National Day Award 2010 (Efficiency Medal)
Chew Fong Hsia, Judith; Balvinder Kaur; Eng Chui Lee; Hoon Siew Jong; Peh Siew Huay; Norazizah Bte Adam; Latima Latib; Muthiah Logeswary

National Safety and Security Award
KKH

Rosalind Chelliah Gold Medal Award (Paediatric Nursing)
Kam Wee Fang

Singapore Health Award Platinum
KKH

Singapore Health Quality Service Award 2010
353 staff – 2 Superstar, 42 Star, 102 Gold, 207 Silver

Team Excellence Symposium
Gold Award
Energy – To improve efficiency in managing patient follow-up by doctors at Infectious Disease Department
Sapphire – To reduce long searching time for clinical case notes for paediatric patients at Department of Child Development (DCD)
Phoenix – To improve system efficiency in Patient Feedback Management
PATIENT CARE (cont’d)

Team Excellence Symposium (cont’d)

PI008 – To reduce the unsatisfactory rate of ThinPrep Smear

Brisky – Improved morning nursing handover in O&G wards

DNA Helix – To improve efficiency in reporting DNA laboratory test results for patients

eWatch – To improve efficiency in server and application monitoring for high availability

PharmacIS – To improve operational efficiency in inpatient pharmacy billing process

PIDOT – Tediouss process in setting up nebuliser set via nasal CPAP

Speedy – To reduce turnaround time in purchase requisition process at Materials Management Department

Silver Award

iBis – To reduce processing time in Data Warehouse Loading Operations

EDUCATION

SingHealth Excellence Awards 2010

Distinguished Leader Award Series

(People Leader)

Lee Heng Pheng

Distinguished Mentor Award

Adjunct Prof George Yeo Seow Heong

SingHealth-Alice Lee Institute of Advanced Nursing Scholarship

Degree

Lok Hui Lu

Lim Siew Ling Yvonne

Aisha Alhaded

Master

Thuraiya Bte Jais

SingHealth-Lee Foundation Nursing Award

Excellence in Nursing – Registered Nurse

Li Ke Jia

Stuart Campbell Award for Education – Internal Society for Ultrasound in O & G (ISUOG)

Adjunct Prof George Yeo Seow Heong

Awarded by SHS for Harvard Macy Institute’s course

Dr Caroline Ong Choo Phaik

Singapore Pharmacy Council

Excellent Preceptor Award

Janice Lim Chai Huang

Duke-NUS Most Knowledgeable Faculty Award 2010 (O&G Clerkship)

Dr Chia Yin Nin

Duke-NUS Most Understanding Faculty Award 2010 (O&G Clerkship)

A/Prof John Tee

Duke-NUS Outstanding Developer Award 2010 (O&G Clerkship)

Dr Tan Thiam Chye

Duke-NUS Outstanding Educator Award 2010 (O&G Clerkship)

Dr Lim May Li

Honorary Membership – Singapore Medical Association

Prof Tan Cheng Lim
RESEARCH

SingHealth Duke-NUS Scientific Congress

3rd Place – Best Poster Award (Evidence-based Medicine)
Lucy Llewellyn-Stanton, Rehabilitation on
“Incidence of Hearing Loss Secondary to Severe Hyperbilirubinaemia in a Tertiary Neonatal Unit”

Best Oral Paper Award (Clinical Research)
Dr Chua Mei Chien; Christine Ong; Ms Vanitha d/o Buthamanaban; Siew Li Wong and Xianghui Charlotte Lin (MSc in Nutrition and Dietetics Students, Flinders University of South Australia);
Dr Edward Tan; Teo Suan Keow; Florence Wong on
“The Effect of Additives on the Osmolality of Milk Feeds for Premature Infants”

7th Asia-Pacific Regional Meeting on Newborn Screening

3rd Prize – Oral Presentation
Dr Kate John

Best Free Paper Oral Presenter
Dr Khoo Poh Choo

Australian & New Zealand Society for Paediatric Radiology Meeting

First Prize for Best Oral Presentation
Dr Annemieke Littooij, (First Author) and Dr Marielle Valerie Fortier, (Senior Author) on
“Value of MRCP in Evaluating Choledochal Cysts and Anomalous Pancreaticobiliary Ductal Union in Infants and Children”

HUMAN RESOURCE/TALENT DEVELOPMENT

International Management Action Award
Prof Ivy Ng

SHRI Leading HR Practices (Special Mention) Award in Employee Relations & People Management
KKH

SHRI Leading HR Practices in Learning & Human Capital Development
KKH

May Day Award – Comrade of Labour Award
Choo Hin Chan

Work-Life Achiever Award
KKH

Singapore Health Award Platinum Award
KKH

Community Chest Bronze Award
KKH

SHARE Award
KKH

GCEO Excellence Awards 2010

Outstanding Clinician Award
Dr Helen Chen

Outstanding Nurse Award
Chia Soon Noi

Outstanding Ancillary Staff Award
Jack Chee Kim Heng

Outstanding Administrative Staff Award
Parameswari d/o Nagalingam Vinatamby
That Dr Tan Thiam Chye loves to teach is plain to see.

Dr Tan is the founding coordinator for the curriculum of Obstetrics & Gynaecology, Duke-NUS. He and his faculty developed the entire curriculum from scratch. He is a clinician-educator, and a member of the committee for the development of Obstetrics & Gynaecology Curriculum at Yong Loo Lin School of Medicine.

Ask Dr Tan why he has a passion for teaching and he attributes his passion to his own mentors. “We follow the footsteps of our mentors. A great mentor can inspire and motivate many to emulate his example. My mentors spent hours guiding me through surgeries and bedside manner and I have benefited a lot from their teaching,” he recalls.

As a mentor, he gets his biggest buzz from his students. “On day one of medical school life, it is common for students to be filled with self-doubt and trembling hands. With patient guidance, they blossom into clinicians with astute judgement and fine surgical skills. This translates to safer and better patient care. I feel proud when my students get compliments from their patients. My passion comes from the belief that my mentees would outshine my generation in future and this is how medicine can progress.”
In FY2010, we adopted a multidisciplinary approach to grow our peaks of clinical excellence and we’ve seen good progress. For example, Changi Sports Medicine Centre is now fully accredited to train aspiring sports medicine specialists. Changi General Hospital’s (CGH) vascular surgery team is the first in Singapore to use drug-eluting balloons in the treatment of diabetic limbs.

From April 2011, CGH is anchoring a new healthcare cluster for eastern Singapore, working with partners to jointly provide seamless quality care for the population in the east.

In 2010, CGH piloted programmes to help patients better manage their chronic and long-term health conditions. We also piloted a community-based health screening and coaching programme for the early detection and prevention of chronic diseases. The new cluster will roll out more programmes to address the healthcare needs of our community.

This is an exciting time for us at CGH as we enhance our capabilities to meet the needs of the growing and ageing population in eastern Singapore.

T K Udairam
Chief Executive Officer, Changi General Hospital
PATIENT CARE

CGH believes in making leading-edge medical treatments available to our patients. In August 2010, a multidisciplinary team led by vascular surgeons Dr Steven Kum and Dr Tan Yih Kai pioneered the use of drug-eluting balloons to treat diabetic limbs.

The procedure, typically done in heart surgeries to widen narrowed arteries, was the first to be used for diabetic limbs in Southeast Asia. It has been used for more than 20 patients so far and reduces the risk of re-narrowed arteries by at least 50%, which helps prevent limbs from being amputated.

CGH also endeavours to lead the field in sports medicine expertise and was a key provider of medical support for the 2010 Youth Olympic Games (YOG) in August.

CGH provided sports medicine professionals for the YOG Sports Injury Clinic, deploying 14 doctors, 20 nurses and 8 physiotherapists, more than half the professionals at the clinic. In addition, 13 doctors, 23 nurses and 3 administrative staff were deployed to various medical venues throughout the event.

With CGH’s intervention, injured athletes could receive optimised treatment and resume competition in the shortest time possible, a factor critical to sportsmen and women who had spent much of their lives preparing for the games.

The Changi Sports Medicine Centre (CSMC), Singapore’s largest integrated centre for sports-related injury management, prevention and performance management, also provided medical screening for athletes from Special Olympics Singapore in December 2010.

CGH wholly acquired a second sports clinic, the Singapore Sports Medicine Centre (SSMC) on 1 November, 2010 in order to increase its capacity to support the sporting community, train more clinicians and expand its sports medicine services.
The Hospital reinforced its integrated care programmes with the launch of its Disease Management Unit (DMU) for diabetic patients in January this year. It is the first such programme in Singapore, set up to help patients with chronic diseases manage their conditions better and prevent complications.

CGH patients who were not managing their chronic illnesses well were automatically enrolled into the DMU. They received regular follow-ups over the phone by nurse tele-carers, who educated them about their disease and reminded them about the importance of taking medication and keeping a healthy lifestyle. The tele-carers also gave advice on dealing with symptoms or complications. At least 80% of the patients enrolled in the programme found it useful and a significant number had improved readings.

The Hospital also launched its Eastern Community Health Outreach (ECHO) programme in January 2011. It is the first health screening and coaching one in Singapore, to help the community in the east prevent or delay the onset of chronic diseases.

ECHO provides health screening and health coaching workshops for lifestyle modifications, and targets eastern residents aged 35 years and above.

EDUCATION
In January this year, the CSMC was accredited to train sports doctors, becoming the first and only centre to offer a formal training programme for medical practitioners who wish to specialise in sports medicine. The first doctor to be trained and certified under this three-year programme is Dr Roger Tian, Consultant at the CSMC.

Currently, there are about 13 actively practising sports doctors in Singapore. CGH hopes to train more to meet the needs of Singapore’s growing sports industry.

The Hospital organised the Psychotrauma Conference 2010 for psychiatrists, psychologists, social workers and other healthcare professionals. The conference provided an opportunity for discussion on the different challenges in assessing, diagnosing and managing patients with psychological trauma following their involvement in events such as accidents, assaults and disasters. The speakers outlined approaches to the assessment of these patients and shared updates on various interventions for management of post-traumatic stress disorder and other trauma-related psychiatric disorders.

RESEARCH
CGH launched its inaugural Leadership Forum in November 2010, inviting six medical experts from Taiwan, Korea and Sweden to share their experiences and thoughts on healthcare administration and leadership. The event opened more channels for cross-sharing between CGH and other hospitals around the world.

In October 2010, CGH also pioneered an international conference on ear and skull base surgery for more than 100 Ear Nose and Throat (ENT) specialists around the world. Participants at the Combined 4th Asia Pacific Otology and Neurotology Meeting and 1st Singapore Otology & Skull Base Update included experts from the US, Canada, Australia, the Philippines, China, Malaysia, and Thailand. Topics such as chronic ear diseases, skull base surgery and facial nerve disorders were discussed.

CGH’s department of Nursing presented four research papers at the SingHealth Duke-NUS Scientific Congress 2010. The papers covered topics such as a retrospective study on injury profiles of trauma patients; an investigative paper on the factors that influence intensive care staff nurses in giving information; and the outcome of patients with unplanned medical intensive care unit re-admission.

TALENT DEVELOPMENT
CGH believes that talent development and staff training is integral to its delivery of quality care to patients. In FY2010, a total of 34 staff attended
Teaching and mentoring others are likely coded into A/Prof Goh Siang Hiong’s DNA. He holds several academic appointments, has won CGH’s Best Clinical Teacher Award (Ambulatory Services) for five years, was the SingHealth Medical Mentor in 2005 and 2006 and also won the SingHealth GCEO Excellence Award for Education 2007.

But here is the most telling clue about his passion for teaching. Due to his heavy work commitments, he makes use of Saturday mornings to conduct tutorials – at home.

“Teaching in medicine is ingrained into our psyche. It has always been an apprenticeship. Every doctor will remember his or her student days, being taken through patient care by mentors at the bedside. Almost all the best teachers who taught me have been overworked, but they are uncomplaining and very dedicated. They bring to life the dry passages we read in our medical textbooks.”

Prof Goh thinks it critical that senior doctors mentor their juniors so that they will be able to connect theory to practice. “More so in critical situations such as the emergency department, intensive care units and surgery. It is important to know what works, what doesn’t, what tests are unnecessary, so we can give patients the most optimal care.”
“Iron sharpens iron – An integral part of being a good clinician is to be able to work with and learn together with colleagues. We help each other grow.”

Ms Goh Ming Rong
Senior Physiotherapist

international attachments organised under the auspices of the Health Manpower Development Plan.

In March and April 2010, 32 mentors and mentees from the Hospital’s Mentorship programme gathered to share their learning journeys as well as to exchange ideas on how to improve the programme for future runs. The participants were from the nursing and allied health departments. As part of the Hospital’s effort to support employees in their leadership development journey, both mentors and mentees were presented with a book Managing Oneself, by Peter Drucker. The book aims to help readers unlock their full potential by discovering their strengths and recognising how to best work with others.

COMMUNITY

At CGH, raising the level of healthcare literacy is an important element of a more integrated patient care approach. Among the community programmes initiated was Hearing Awareness Day 2010, organised by the ENT Department in October. This was for members of the public to have free hearing tests and surveys, raising their awareness on the signs of hearing loss, and the importance of early detection and treatment. More than 200 members of the public attended the event.

The Hospital also held a Chronic Obstructive Pulmonary Disease (COPD) Day organised by the Department of Respiratory Medicine in November. Organisers offered free lung health tests (using spirometers) for smokers and educated the public on the effects of long-term smoking. Smokers could also get advice and support on how to quit smoking while non-smokers learnt more about lung health and COPD.

In September, the two-week Think Safety, Live Safely exhibition reminded patients and the public about the importance of safety at home and in the hospital. The event featured a showroom exhibition that showed the public common areas where accidents can occur and how they can fall-proof their homes. Other aspects such as medication safety were also highlighted.
A seminar for HR professionals called *Healthcare At Your Workplace* was held in July to equip HR professionals with knowledge on factors affecting mental health and to share tips on how to be positive at work.

### KEY FIGURES

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<th>Size</th>
<th>FY10</th>
<th>FY09</th>
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<tr>
<td>Licensed Beds (as at end Mar)</td>
<td>788</td>
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<tr>
<td>Beds in Service</td>
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**Workload per annum**

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<th>Bed Occupancy Rate</th>
<th>87.4%</th>
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<td>Inpatient Admissions</td>
<td>37,952</td>
<td>40,671</td>
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<tr>
<td>Inpatient Discharges</td>
<td>37,922</td>
<td>40,677</td>
</tr>
<tr>
<td>Total Patient Days</td>
<td>239,622</td>
<td>230,151</td>
</tr>
<tr>
<td>Average Length of Stay (days)</td>
<td>6.3</td>
<td>5.7</td>
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<tr>
<td>Total Surgical Operations</td>
<td>40,954</td>
<td>40,540</td>
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<tr>
<td>Day Surgeries</td>
<td>24,397</td>
<td>23,355</td>
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<tr>
<td>Inpatient Surgeries</td>
<td>16,557</td>
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| Specialist Outpatient Clinic Attendances | 347,303 | 342,973 |
| Accident & Emergency Attendances        | 159,928 | 163,809 |
| Dental Attendances                      | 4,435   | 4,846  |
| Dental Procedures                       | 4,248   | 4,793  |

**Staffing (as at end Mar)**

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<th>Total</th>
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<td>Dentists</td>
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<tr>
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<td>Others</td>
<td>946</td>
<td>873</td>
</tr>
</tbody>
</table>

**Note:** Staffing figures refer to Filled Posts, in terms of Full-Time Equivalent, and may not add up to total due to rounding.

### AWARDS & ACCOLADES

**PATIENT CARE**

**PS21 Awards 2010**

- Leong Yoke Yin

**Asian Hospital Management Award 2010**

- **Customer Service Award**
  To A&E for creating an ideal patient experience

- **Departmental Service Improvement Award**
  To a team of speech therapists and dietitians for helping elderly patients with swallowing problems improve their nutrition

**National Day Awards 2010 (Efficiency)**

- Ng Siew Yong Lily; Heng Poh King; Phua Soon Kieng; Lau Soy Soy; Tan-Ho Yih Jeu

**National Day Awards 2010 (Long Service)**

- Amidah Bte Mohammed; Ang Boon Hock Augustine; Wong Kwok Meng; Ho Lai Koo; Kua Lang; Wee Huoy Fen; Lim Ai Gek; Zawiah Bte Hussin; Kannamma d/o Kuttan; Kwok Yoke Yong; Samsul Aripin Bin Sahlan; Prof Fock Kwong Ming; King Foong Meng; Sim Hwee Huang

**National Day Awards 2010 (Public Administration)**

- **Silver**
  Prof Fock Kwong Ming

- **Bronze**
  Dr Ng Li Ling

**Women’s Weekly – Great Women of Our Time Award 2010**

- **Health/Sports and Wellness category**
  Elaine Ng
HUMAN RESOURCE/TALENT DEVELOPMENT (cont’d)

National Excellent Service Award (EXSA) 2010

Gold Star Award – Senior Enrolled Nurse
Maznah Bte Mahmud

Silver Star Award – Senior Staff Nurse/Staff Nurse
Mary Jolie Lacuesta; Huang Qing Ya; Mu Yan Yan;
Chen Chen; Cai SuQing; Chiang Ming Fang; Jinky P.
Delos Santos; Paulina Nesamani; Wu Li Hua;
Zhang Mei

Silver Star Award – Senior Enrolled Nurse/
Enrolled Nurse
Radiah Bte Buang

Silver Star Award – OTA/HCA
Choong Yuen Fong; Marvin Roy Salazar; Melvin L
Estrada; Norbert Terence I Martir; Oliver Sam D
Vallejera; Roderick absalon Engalan; Savayinthan
Annamal; Tay Kim Moi

Silver Star Award – PSA
Quah Poh Choo Hannis

RESEARCH

15th Yahya Cohen Memorial Lectureship
Dr Yuen Heng Wai

College of Surgeons Award 2010
Gold Medal – Best Performing Advanced
Surgical Trainee
Dr Roland Chong

HUMAN RESOURCE/TALENT DEVELOPMENT

Work Life Excellence Award 2010
CGH won this for leading in work life strategies and
practices that enable their employees to harmonise
work and personal needs

Singapore Human Resources Institute (SHRI) Awards 2010
CGH was recognised to be a great place to work in
these categories:
• Leading HR Practices Award in Compensation and
Rewards Management
• Leading HR Practices Award in Workplace Safety
and Health
• Leading HR Practices (Special Mention) Award in
e-Human Resource Management
• Leading HR Practices (Special Mention) Award in
Corporate Social Responsibility

Platinum Health Award 2011
CGH was awarded by Health Promotion Board
for outstanding practices in workplace health
programmes

People Developer Certification 2011
CGH was awarded by SPRING for excellent
practices in staff development
Ong Siew Yit is more than an educator – the nurses she mentors treat her as a friend and confidante.

The relationships between Ms Ong and her mentees go beyond sharing of information and skills. Her mentees have confided in her when they had family problems, opened up to her when they were worried about being good enough for their jobs and sought her advice when faced with difficult colleagues or relatives of patients.

Ms Ong’s door is always open. 30 years in her job have made her fully aware of how demanding nursing can be and how patients can be affected by a nurse’s state of mind.

“By mentoring nurses, we help them receive the support and guidance to make firm decisions that could potentially save patients’ lives. Mentees enhance their skills, make sound judgements and improve communication among colleagues. This means less frustration at work, which improves the standards of service for our patients.”

Ms Ong considers nursing a calling and “a highly demanding one”. Her words of wisdom?

“A friend once advised me with this Chinese proverb: 有志者事竟成 (yǒu zhì zhě shì jìng chéng). It translates to “when there is a will, there is a way”. It motivates me to persevere when faced with challenges in both my personal and professional life.”
Cancer is and remains the number one killer disease in Singapore. This trend is expected to continue with our greying population and the lifestyle of our young Singaporeans.

For the National Cancer Centre Singapore (NCCS), this trend poses a real challenge as our doctors have to continually keep abreast of the new developments in medical science against a backdrop of an ever changing social environment.

Patients are more knowledgeable about cancer. They are asking more questions and demanding more treatment options from the doctors. We are tapping on the services of Advanced Nurse Practitioners to assist the doctors in some areas in order to relieve their workload. Space is a perennial constraint and hence the NCCS is working on the building of a new Centre to cope with the demands on our services.

I am pleased that several of our oncologists have been able to sub-specialise because I envisage that this is the best way forward if we are to raise our level of expertise to treat our patients. We will continue to encourage sub-specialisation and to send doctors overseas for training and to gain more exposure. Research is another platform for the NCCS to maintain its
position as a global leading cancer centre. We will relentlessly pursue our research and clinical trials, including collaborating with other countries. Results from multi-institutional trials are more robust and better accepted.

The NCCS has also been studying the latest in the field of medical technology for cancer treatment. Medical knowledge must be complemented with technology if we wish to improve on cancer care.

Prof Soo Khee Chee
Director, National Cancer Centre Singapore
Deputy Chief Executive Officer, Research & Education, SingHealth

PATIENT CARE
The NCCS celebrated several milestones in 2010. In September, it became the first ambulatory cancer centre in Asia to be credited with an audit score of 98% for US-based Joint Commission International (JCI) accreditation.

The accreditation followed a strenuous external audit and close scrutiny of the NCCS’ workflow and practices. Thanks to the hard work of the team, the Centre was awarded the accreditation, ranking it alongside world-class organisations that have been recognised for having practices that ensure safety, confidentiality and quality healthcare for patients.

For patients, the JCI accreditation means that they can be further assured of high quality inpatient assessment and treatment, improved clinician-patient and caregiver communication, patient privacy and confidentiality, and a safe environment from stringent infection control amongst many others.

In September 2010, research findings from a team led by the NCCS scientist, A/Prof Balram Chowbay, Principal Pharmacologist, enabled doctors to better identify the suitability of their patients in receiving the anti-cancer agent Irinotecan, which is widely used in the treatment of colorectal cancer.

“Learning to be a doctor is still foremost about apprenticeship and mentoring others.”

Dr Goi-Fung Cynthia Ruth
Senior Consultant and Head, Palliative Medicine
Findings from genetic studies done by the team suggest that certain ethnic groups may be more susceptible to increased toxicity when given Irinotecan and that prior testing of their genetic constitution can aid in the selection of a right dose to match the individual’s metabolic capacity and alleviate the risk of toxicity. A/Prof Balram’s laboratory has started providing these genetic tests to patients being treated with Irinotecan at the NCCS.

As a result of these findings, the Health Sciences Authority has directed that Irinotecan’s package insert be updated for more appropriate treatment. The findings have also resulted in several oncologists sending their patients’ blood samples to the Clinical Pharmacology Laboratory at the NCCS for genetic tests prior to patients receiving Irinotecan.

Within the same year, patients with advanced abdominal and pelvic cancers, who previously had six to 12 months of survival, now have a vastly improved chance to live due to a surgical procedure the NCCS has pioneered in the region.

The procedure, known as peritonectomy, seeks to remove all visible tumours in the lining of the abdominal cavity for patients with diseases such as colorectal and ovarian cancers, heated chemotherapy is then used to reduce residual tumours.

About 80 patients have undergone peritonectomy since the NCCS introduced it 10 years ago. A recent analysis of results has shown that the procedure offers more than 65% overall survival rate in three years.

The first patient who underwent the procedure at the NCCS is still alive today. That marks the longest survival at 10 years to date. Previously, patients depending on conventional chemotherapy seldom survived beyond a year.

EDUCATION
The NCCS’ efforts to nurture a teaching culture continued in FY2010 which saw the Centre organising a course and workshop focused on new treatment options available for breast cancer patients. The NCCS shared its expertise on advances in breast imaging, oncologic surgery, systemic therapy and radiotherapy and the variety of options for breast reconstructive surgery.

The meeting was aimed at providing participating surgeons with optimal care and treatment strategies for breast cancer from clinical experts of the NCCS and SGH, with whom we collaborated in this event.

The NCCS continued with its series of lectures from international experts under the banner of the Humphrey Oei Distinguished Lecture Series. The Centre aspires for the Lecture Series to be one of Singapore’s leading forums for intellectual inquiry and discussion on cancer research. In all, two lectures were organised for the 2010/2011 period for the NCCS researchers to learn from the best and to spur their efforts in cancer research.

A team of oncologists and nurses from the NCCS spent a month with Dr Paul Sugarbaker, the director of surgical oncology at the Washington Cancer Institute and Washington Hospital Center. He is widely regarded as a pioneer in the field of peritonectomy. The visit enabled the team to sharpen their skills in the procedure.

Returning to Singapore, they shared their experience with more than 60 surgeons, oncologists and professionals at the NCCS in March. The intention is to extend the practice to other institutions so that the technique, which vastly improves the chances of survival for cancer patients, can evolve into mainstream surgery. The demand for such surgeries subsequently led to the setting up of the Centre for Peritoneal and Pelvic Cancers in January 2011.

The establishment of the centre supports the development of a strong research programme. Research projects lined up include one that allows the testing of chemotherapy agents using animal models that mimic the pattern of human abdominal cancer.

RESEARCH
A/Prof Patrick Tan of the Laboratory of Molecular Development, together
Prof Teh Bin Tean says the best advice he has ever received in his medical career is to take on any task with the heart as well as the mind.

And he has boiled down his approach to mentoring to just that. Mentoring, to this much-awarded clinician, is “to cultivate young clinician scientists who care about their work and patients, and who work with both their hearts and brains, not just for accolades and awards.”

Prof Teh, a STaR award winner says a mentor should also nurture an individual to grow “intellectually, scientifically, socially”.

One such individual whom Prof Teh recalls with great clarity till today, was a young doctor who impressed him with not just his heart for his work but also his diligence and “tremendous tolerance”.

Curious about his background, Prof Teh found out that this young man was from Pulau Ubin, and as a child, had to trek everyday from home to catch a boat to the mainland to study. In his opinion, Prof Teh feels that this man with humble beginnings was a clear example of heart at work.
with Prof Teh Bin Tean, Director and Principal Investigator of the NCCS-VARI Translational Cancer Research Laboratory, have developed the use of Targeted Deep Sequencing, a cutting-edge medical research tool which allows for the screening of numerous genes simultaneously, in the field of gastric cancers.

They have also set up a targeted deep sequencing facility at the NCCS, supported by a grant from the Lee Foundation. In the first application of this technology, A/Prof Tan tapped on this newfound technology to screen over 500 kinase genes in a panel of gastric cancers. Within a short time frame of two weeks, A/Prof Tan and his team were able to identify 300 novel kinase single nucleotide variants and singled out genes that were frequently altered in gastric cancers. The conventional method would have taken the team about a year to complete the same task.

Looking beyond his early findings, A/Prof Tan said he envisions that in future, every single cancer patient will have their individual genomes analysed using these types of deep sequencing approaches and based on the unique repertoire of mutations uncovered in that patient, will have the benefit of customised treatments and diagnostics from the current one-size-fits-all treatments.

Separately, a scientific team led by Prof Kanaga Sabapathy, the Principal Investigator in the Laboratory of Carcinogenesis, has found a way to inhibit DNp73, a protein that is present in cancerous cells contributing to their growth and conferring resistance to therapy. The study helped to shed light on how DNp73 over-expressing cancers can be made sensitive to chemotherapeutic regimes.

The findings provide answers to why some patients do not respond well to chemotherapy and will ultimately lead to the development of more effective drug regimes. The publication of the findings, The Anti-apoptotic Delta Np73 is Degraded in a c-Jun-dependent Manner upon Genotoxic Stress through the Antizyme-mediated Pathway, was accepted by the Proceedings of the National Academy of Sciences of the United States of America (PNAS), one of the most cited multidisciplinary scientific serials that publish cutting-edge research reports.

Also in FY2010, the NCCS' head of medical oncology, Dr Toh Han Chong, and fellow oncologist Dr John Chia introduced a Phase Three clinical trial to determine if aspirin can reduce the risk of colon cancer recurring after surgery or chemotherapy. The trial involves a three-year treatment administered along with the standard chemotherapy.

The trial recruited 2,600 patients with Stage 2 and 3 colon cancer from at least 19 centres in Asia. The study is being funded by the National Medical Research Council, the SingHealth Foundation and the Grameen Foundation.

OUR PEOPLE

The NCCS continued to provide training stints and overseas fellowships to advance the skills and knowledge of its team of medical professionals in their fields of expertise and sub-specialties. The NCCS believes that training our doctors to provide style guide cutting edge treatment will ultimately benefit patients, increasing their chances for cancer survival and improving the quality of their lives.

Dr Connie Yip Siew Poh, Registrar, Radiation Oncology, spent 24 months at Guy’s and St Thomas Hospital in the UK, acquiring advanced knowledge in radiation oncology. The training provides for better assessment of patient condition allowing the medical practitioner to prescribe more precise radiation dosage. Dr Siow Tian Rui, Registrar, Radiation Oncology, was also at Guy’s and St Thomas Hospital for 24 months acquiring a deeper understanding of radiation technology.

Dr Lena Lo Li Lin, Consultant, Oncology Imaging, returned after six months at the Peter MacCallum Cancer Centre for a programme focused on acquiring multi-perspectives in assessing and diagnosing thoracic cancer.
“We are privileged to be in a position to help people at their time of greatest need.”

Dr Toh Han Chong
Head and Senior Consultant, Medical Oncology

conditions. The course prepared her for robust diagnoses and assessments of patient conditions.

Six months of training in functional imaging of head and neck cancers provided Dr Teo Tze Hern, Consultant, Oncology Imaging, the opportunity to acquire a deeper understanding of oncologic imaging. The imaging expertise allows for the provision of the more accurate assessments of types of cancers.

COMMUNITY ENGAGEMENT

In November 2010, the NCCS organised another successful Run for Hope annual charity run in support of cancer research. Jointly organised with the Regent Singapore and Four Seasons Hotels & Resort, the event drew 7,000 runners and raised $320,000 for cancer research. More than 500 volunteers from Temasek Polytechnic, Hwa Chong Institution and Canadian International School helped with race pack collection, marshalling and snacks distribution at the run. Now into its 18th year, Run for Hope is the longest running fundraising event in Singapore.

In another community initiative, the NCCS funded a cookbook put together by six students from the Nanyang Technological University. Sharing Plates features 12 heartwarming and inspiring stories of cancer patients and caregivers, along with 40 simple homemade recipes and nutritional tips contributed by the cancer families and verified by the NCCS Principal Pharmacist Ms Chang Yok Ying.

This book aims to dispel the myths that cancer patients can only eat bland food and should follow a very restricted diet. It also aims to encourage cancer patients to eat normally and be able to enjoy meals with their family members. Proceeds from the book will go to the NCCS Cancer Community Fund.

Fundraising efforts were also made by students from Methodist Girls’ School (MGS) which held a charity concert for the NCCS for the second year
“Medicine is best appreciated by the bedside” says Dr Lim Soon Thye. By that, he means that many of the subtle aspects and insights of medicine, and the art of being a good doctor cannot be learnt from a textbook. They are best taught by a mentor, preferably at a patient’s bedside.

Dr Lim is cognisant of the bumpy road the path to medical learning can be, and says he hopes to make the journey “a little easier” for younger clinicians.

“Many trainees and students, myself included, often feel like ‘pests’ during training. I try whenever possible to lessen this feeling for my mentees,” he says.

Mentoring ultimately benefits his patients, Dr Lim says, “In setting an example, it forces you to improve on your practice, hence translating to better patient outcomes.”

He has this bit of advice to his students, “Be grounded to fly high” as he believes doctors who are down to earth (grounded) will excel in their professions.
running. Through sales of concert tickets, food items and MGS souvenirs, and soliciting of donations from parents, the school has raised close to S$128,000 over the two years. The students also went beyond fundraising. In 2010, they embarked on several educational projects such as the creation of cancer blogs and the production of a storybook to increase public awareness about cancer.

### KEY FIGURES

<table>
<thead>
<tr>
<th></th>
<th>FY10</th>
<th>FY09</th>
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</thead>
<tbody>
<tr>
<td><strong>Workload per annum</strong></td>
<td></td>
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<tr>
<td>Day Surgeries</td>
<td>10,494</td>
<td>10,967</td>
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<tr>
<td>Specialist Outpatient Clinic Attendances</td>
<td>129,692</td>
<td>128,418</td>
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<td><strong>Staffing (as at end Mar)</strong></td>
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<tr>
<td>Total</td>
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<td>Doctors</td>
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<td>Allied Health Professionals</td>
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<tr>
<td>Others</td>
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*Note: Staffing figures refer to Filled Posts, in terms of Full-Time Equivalent, and may not add up to total due to rounding.*

### AWARDS & ACCOLADES

**PATIENT CARE**

<table>
<thead>
<tr>
<th>Awards</th>
<th>Recipients</th>
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<tbody>
<tr>
<td>SingHealth Excellence Awards 2010</td>
<td>Distinguished Leader Award Series (Young Leader)</td>
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<tr>
<td></td>
<td>Dr Lim Soon Thye</td>
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<td>GCEO Excellence Awards 2010</td>
<td>Outstanding Nurse Award</td>
</tr>
<tr>
<td></td>
<td>Lee Kim Hua</td>
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<tr>
<td></td>
<td>Outstanding Clinician Award</td>
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<td></td>
<td>Dr Ho Gay Hui</td>
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<tr>
<td></td>
<td>Outstanding Allied Health Professional Award</td>
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<td></td>
<td>Yusnita Bte Omar</td>
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<td></td>
<td>Outstanding Ancillary Staff Award</td>
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<td></td>
<td>Parvathy d/o Peria Karuppan</td>
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<td></td>
<td>Outstanding Administration Staff Award</td>
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<td></td>
<td>Amir Ahmad s/o Dabir Ahmad</td>
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<tr>
<td>Healthcare Humanity Award (Courage Fund) 2010</td>
<td>Dr Ho Gay Hui</td>
</tr>
</tbody>
</table>

*Running.* Through sales of concert tickets, food items and MGS souvenirs, and soliciting of donations from parents, the school has raised close to S$128,000 over the two years. The students also went beyond fundraising. In 2010, they embarked on several educational projects such as the creation of cancer blogs and the production of a storybook to increase public awareness about cancer.
The National Dental Centre (NDC) of Singapore achieved two major milestones in the past year, both attributed to the strong showing of teamwork amongst staff.

In December 2010, we achieved a sterling pass at the Joint Commission International accreditation exercise and benchmarked our standards of care against the world’s best. Weeks later, we overhauled our paper records system to a more efficient, fully electronic one that unifies the patients’ dental and critical medical history as well as all imaging records. The space gained will be re-purposed for new clinics to meet the needs of a growing, ageing population.

Initiatives to reduce wait times for high demand services and care coordination have expanded. We will continue to partner the Ministry of Health and other dental institutions to manage these. Through our Patient Care Fund and direct fee remissions, over 700 patients had their dental health taken care of in spite of financial hardship. We will always place our patients at the heart of all we do. The mentors among us will, by their teaching and conduct, continue to shape values to undertake this core belief in the coming generations.

Dr Kwa Chong Teck
Executive Director, National Dental Centre Singapore
PATIENT CARE
The NDC continually seeks to raise its standards of patient care measured against the world’s best institutions. The NDC’s efforts were affirmed this year when the Centre received accreditation by the Joint Commission International board on 11 December 2010. The NDC was successful on its first accreditation attempt.

The NDC is the first dental specialty ambulatory centre in Asia to make the mark, scoring a sterling pass for the 486 elements measured. It took two prior years of tough preparation, with every patient care process rigorously reviewed, followed by intensive staff communication and training. The accreditation affirms the commitment of the NDC’s staff in pursuing quality care for patients.

The Centre further harnessed information technology in FY2010 with the roll out of the first phase of the centre-wide Electronic Dental Record (EDR) system in February 2011.

EDR interfaces with the NDC’s pre-existing digital imaging and Outpatient Appointment Management systems and the SingHealth SAP Enterprise Resource Planning System. It also allows for data mining for standard statistical reporting, clinical process improvement projects and research.

The system, custom-built by staff from the NDC, Integrated Health Information Systems Pte Ltd and National Computer Systems Pte Ltd, will free up one floor of the Centre used to house paper records and plaster models for new clinics. It cost about S$3.7 million to implement.

FY2010 also saw a range of clinical practice improvements which worked towards better patient access to care.

In April 2010, the NDC launched a plan aimed at cutting down unscheduled orthodontic visits. It involved simple changes to existing clinical procedures and improved patient education targeted at the root

“My work carries the mark of my mentors – their wisdom and devotion to healthcare. I aspire to pass this passion on to those I teach.”

Ms Lorraine Christine Johnson
Manager, Dental Surgeries
cause of unscheduled visits. Since then, the number of unscheduled returns has dropped markedly by about 50%.

A team led by orthodontist Dr Chan Feng Yi studied ways to cut unscheduled orthodontic patient visits made without pre-appointments, typically due to dislodged appliances or discomfort. Their work led to fewer disruptions at the clinics and ultimately less inconvenience for patients.

Last year, the Centre also launched a study aimed at ensuring that more serious cases receive treatment quickly. With the combined use of a dental emergency categorisation system and additional manpower allocated to walk-in patients with pain, the waiting time for those in severe pain improved significantly. Since intervention in November 2010, most patients are seen within the hour.

FY2010 also saw the NDC working to improve the rate of patients returning for follow-up care after undergoing Root Canal Treatment. An educational brochure was produced in two languages (English and Mandarin) to aid in getting important messages across. Since the implementation of the process, recall rates have successfully doubled from the 22% to 37% range in 2008, to a mean of 48% as at March 2011.

As needs change in Singapore’s growing population, the Centre will continue to monitor and manage service processes to ensure that every person who seeks treatment at the Centre receives timely and appropriate care, in a safe environment.

EDUCATION
The NDC leads at the forefront of education for dental practitioners in Singapore. Its education mission is core to the NDC’s identity as a national centre and will feature strongly as the Centre grows into an academic centre.

The Centre is currently developing specialist training courses in fields where it has strong clinical expertise. The goal is to establish in-house courses to ensure a constant supply of institution-based specialists that excel in their respective fields.

The NDC had its first dental implant certification course for Oral and Maxillofacial Surgery and Periodontology residents at the Centre for clinical attachment. The workshop targeted at residents training to become specialists, familiarise them with implants and systems used in the NDC.

FY2010 also saw the NDC providing over 230 hours of education activities organised by various clinical departments. The Centre extended training opportunities to the larger dental community outside of the NDC so that the industry as a whole may benefit at the same time. Continuing training is vital to ensure updated care delivery processes, in terms of techniques and technologies.

Another key education event for the Centre was the NDC-Karolinska Institutet Joint Scientific Meeting 2010, entitled Dentistry in the New Millennium – A Decade On held in conjunction with the SingHealth-Duke-NUS Scientific Congress. Pre-congress symposiums were held earlier at the NDC for its staff.

The NDC also hosted an open house in March 2011 for junior college students aspiring to be dentists. The students were introduced to various aspects of dentistry and shown around the facilities in the Centre.

The NDC is also a major training provider for dental auxiliaries and is an accredited training centre for the National Institute of Technical Education Certificate programme for dental assisting and dental technology.

In FY2010, together with the Institute of Technical Education (ITE), the NDC hosted visits from Holmesglen Institute, a vocational training institution in Sydney, Australia. 16 trainee dental technicians participated in a two-day teambuilding exercise.

RESEARCH
The NDC regards research as an integral part of its work to further clinical
Dr Poon Choy Yoke’s students remember her passion for clinical excellence and professionalism as well as her penchant for being direct with criticism. “It was in the interest of her mentees and ensuring that the patient got the best possible care that she would point out our mistakes,” recalls one of her students, who now teaches her own batch of clinicians.

Dr Poon says her desire to teach is probably ‘innate’. She recalls role playing as a teacher to an imaginary class when she was a child, using the side of her mother’s cupboard as a blackboard. “Or perhaps it is just because we were poor and could not afford toys,” she laughs.

Dr Poon’s mantra for mentoring has been consistent in her 14 years of teaching. It is first culled from her own learning experience in secondary school.

“My secondary school principal taught me: ‘Whatever your hands find to do, do it to the best of your ability’. This has become my motto for life.”

Dr Poon considers mentoring others a way to ‘pay it forward’ and to show gratitude to her teachers. “Armed with the knowledge and skills we have learnt and honed, together with the values and ethics my mentors have imparted, there is a sense of responsibility to pass it on to others, especially the next generation.”
knowledge, develop thinking clinicians and improve quality of care. The direction of research is guided by the national Biomedical Sciences (BMS) initiatives.

In FY2010, the Centre received a total of S$424,400 in research awards. There are currently 31 research projects in place and the NDC has published 14 papers within this period.

Nurturing the right culture that supports research continues to be a priority for the Centre. This includes organising activities that encourage conversations on research and also paving the way for young clinicians to embark on research activities.

The 2011 Research Day in April, themed Dentistry and Bioengineering showcased and raised awareness of the current applications in Bioengineering. Speakers Dr Zu Yanbing and Dr Somenath Roy, from the Institute of Bioengineering and Nanotechnology A*STAR, presented talks on Is Point-of-Care Genotyping Possible? and PCR – Free Detection of miRNA Under an Optical Microscope respectively during the half-day event. A facility tour and networking session for discussion followed after the event.

The objective of an annual Research Day is to provide a platform to update clinicians on research activities in the NDC and exchange research ideas and experiences. Clinicians are also kept informed of the research initiatives and Academic Medicine directions of SingHealth.

The Centre’s ACORN Office also held a half-day in-house training programme on 31 July 2010 for newly appointed registrars, attendees at the research orientation session were introduced to the basics of research ‘must knows’ such as compulsory research applications before starting a research, funding sources and pointers for planning and conducting projects. The session aims to provide young clinicians a head-start in research.

The NDC is committed to grooming staff with an interest in research. This is made possible through protected time schemes, administrative and funding support, even for fledgling projects. Our staff showcase their work

“Our pursuit of greater knowledge and new discoveries in dentistry will enable us to make quality oral healthcare a reality for all.”

Dr Kwa Chong Teck
Executive Director
at various overseas conferences. Thematic projects have led to six PhD titles awarded to clinicians.

OUR PEOPLE
The NDC believes in building up and retaining its talent pool and commit significant resources to continuing education. The NDC invests in and provides ample development opportunities for staff and far exceeds the national requirements for dentist licensing.

An example is the annual overseas teacher exchanges with the Karolinska Institutet which serve to expand the clinicians’ pedagogy experience. The NDC is also refining its talent management systems to achieve the Centre’s Academic Medicine ambitions.

The NDC provides avenues to recognise and reward staff who contribute to the teaching and research culture at the Centre in addition to their clinical practice.

In FY2010, Dr Alvin Yeo was conferred a PhD by the University of Groningen (The Netherlands), for his work on *Novel Polycaprolactone-tricalcium Phosphate Scaffolds customised for Reconstruction of Dentoalveolar Deformities*, increasing the existing research talent pool to four.

For auxiliary staff, competency-based assessments now form part of the performance evaluation framework. To encourage a high standard of support services, the NDC offers dental assisting staff and technicians formal training places in ITE certificate courses to add to their qualifications.

The emphasis on training within the Centre is balanced with activities that promote staff well-being and awards for their contributions to public service. Last year, the NDC held staff wellness programmes including activities that target improvements in the overall physical and mental health of its staff. The Centre also held a Dinner & Dance event where 12 staff members were honoured with Long Service awards.

COMMUNITY
The NDC continues to help make dentistry possible for the financially needy by funding their treatments through its Patient Care Fund as well as direct remissions. Funding for this initiative comes from the SingHealth Foundation and the Centre as well as from fundraising activities.

The *Save Money, Save Lives Campaign* jointly organised with the SingHealth Foundation raised $9,935 for the NDC’s Tooth Fairy Fund for needy patients. A charity bazaar organised by the Staff Wellness Committee raised $644.

In FY2010, the Centre also disbursed over $201,000 which benefited 700 patients.

Aside from reaching out to the needy, the NDC actively participates in community programmes. A dental team from the Centre provided dental care for athletes at the 2010 Youth Olympic Games. The team provided treatment over 18 days. This included emergencies and pain control, stabilising infections and arresting bleeding in addition to other routine treatments.
Dr Chen Nah Nah believes there is one good way to become a skilled clinician who will give the best to a patient.

Get up close and personal with great and inspiring teachers, “the leaders, giants in their fields”, learn from them and then teach others – as she has done in her 25 years of mentoring others.

She jokes that she teaches partly because of her nature. “I enjoy interactions with students and the ‘kaypohness’ part of my personality wants to share ideas, views and opinions.”

Dr Chen describes dentistry as both a science and an art. The art being the soft skills and patient management, best learnt from a mentor, “through direct observations and learning from experts at the ‘chairside’, through teacher-student interaction”.

Her students value her for exactly that – a clear, focused approach to patients. “What has influenced me most is her relentlessly cheerful and positive attitude towards patient care,” said one practitioner who has benefited from Dr Chen’s mentoring.
KEY FIGURES

<table>
<thead>
<tr>
<th></th>
<th>FY10</th>
<th>FY09</th>
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</thead>
<tbody>
<tr>
<td>Workload per annum</td>
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<td>Day Surgeries</td>
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<td>Dental Attendances</td>
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<td>Staffing (as at end Mar)</td>
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<td>Total</td>
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<td>Dentists</td>
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<td>Nurses</td>
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<td>Allied Health Professionals</td>
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<tr>
<td>Dental Surgery Assistants</td>
<td>61</td>
<td>55</td>
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<tr>
<td>Others</td>
<td>146</td>
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</table>

Note: Staffing figures refer to Filled Posts, in terms of Full-Time Equivalent, and may not add up to total due to rounding. No. of Dentists excludes Dental Officers deployed to armed forces, schools and polyclinics as well as postgraduate residents.

AWARDS & ACCOLADES

PATIENT CARE

SingHealth Excellence Awards 2010
Outstanding Nurse Award
Lorraine Christine Johnson
Outstanding Clinician
Dr Mimi Yow
Outstanding Allied Health Professional Award
Huang Ngoi Yin
Outstanding Ancillary Staff Award
Jayaram Veeramani
Outstanding Administrative Staff Award
Chan Sai Hui

RESEARCH

National Medical Research Council
Research Training Fellowship

Dr Nattharee Chanchareonsook

HUMAN RESOURCE

Singapore Health Award 2010
Gold
The National Heart Centre Singapore (NHCS) has always been very focused on patient care. It is therefore no surprise that we have a national award winner this FY2010, for her extraordinary dedication and commitment to patient care. Ms Lim Suh Fen bagged the President’s Award for Nurses. This award represents the top accolade for the profession.

In patient care, we introduced the new robotic-assisted lobectomy which removes tumours in early-stage lung cancer patients. This minimally invasive procedure, the first in Southeast Asia, improves patient safety and allows a faster recovery. A multidisciplinary pulmonary hypertension clinic was also set up to provide comprehensive and seamless care for this group of medically complex patients. In July 2010, we celebrated our 20th anniversary in heart transplantation in Singapore.

The NHCS’ efforts towards becoming a truly digital hospital has reaped encouraging progress. Various initiatives were rolled out including Closed Loop Medication Management and Computerised Physician’s Order Entry modules, and nurse charting.

Education remains a core focus with our regular scientific meetings, cardiac technology diploma and fellowships programmes which contribute
to building a proficient cardiovascular workforce both locally and in the region. A stem cell workshop was also conducted to share our research expertise with local researchers.

A/Prof Koh Tian Hai
Medical Director, National Heart Centre Singapore

PATIENT CARE
The NHCS, as the standard bearer for cardiovascular care in Singapore, constantly makes new strides in patient care.

The Centre successfully performed Southeast Asia’s first robotic-assisted lobectomy in Southeast Asia in August 2010, using the Da Vinci Si Dual system. This puts the NHCS among about 25 institutions in the world offering this procedure. The landmark surgery allows surgeons to remove tumours from early-stage lung cancer patients with increased precision with the use of robotic arms which a surgeon controls from a remote console. Benefits include enhanced safety, a shorter hospitalisation, less pain from the surgery, a lower risk of infection and a smaller wound.

2010 was also the 20th anniversary of the NHCS’ heart transplant programme. The Centre carried out its first heart transplant on 6 July, 1990. To date, 53 heart transplants have been performed, giving severely ill heart patients a new lease of life.

The NHCS is among the early adopters of some of the most advanced techniques in heart valve therapy and has successfully treated many patients in Singapore and the region. The Centre now does more repairs, instead of replacement of heart valves, reducing the reliance of patients on blood thinning medications post-surgery and giving them a longer and better quality of life. In September, the Centre held a symposium to share its expertise.

“To do better, we must not only have the drive and passion but practise lifelong learning and constantly innovate.”

Dr Fong Meng Kum
Assistant Director of Nursing, Nursing Development Unit
The inaugural SingVALVE 2010 – Symposium of Heart Valve Therapies attracted about 100 doctors from the Asia-Pacific region.

In February 2011, the NHCS set up the multidisciplinary pulmonary hypertension (PH) clinic with SGH, allowing cardiologists, respiratory physicians and rheumatologists to meet, discuss and manage complex PH cases.

The clinic runs once a month and allows the clinicians involved to provide comprehensive and seamless care for their patients, reduces the inconvenience of multiple trips for consultation and provides opportunities for doctors to create a database for future research.

Harnessing the use of IT to improve work process, the Centre rolled out the Closed Loop Medication Management (CLMM) system in its inpatient wards. The system allows for a common view of inpatients’ medication information and improves workflow in the dispensing and administering of medication. It also enhances patient safety with its online alert checks and introduced a more structured approach to medication ordering.

In the second quarter of 2010, the NHCS implemented the nurse charting system in its inpatient wards. Doctors and nurses are able to view the clinical charts, hourly charts and intake or output charts electronically from all parts of the hospital at any time. The system removes the possibility of human error due to poorly written charts, or the need for manual calculations. It frees up more time for nurses to devote to patients.

EDUCATION
The NHCS initiated a slew of educational activities this past year as part of its mission to groom the next generation of healthcare professionals.

Over 1,700 international healthcare professionals participated in the 2nd AsiaPCR/SingLIVE. The Centre’s annual cardiology conference was held in partnership with EuroPCR, a top interventional meeting in the world. The course contributes to the advancement of education and information for the cardiovascular community in Asia-Pacific.

Together with Singapore Polytechnic, the NHCS has trained 147 cardiac technologists through the Biomedical Science (Cardiac Technology) diploma programme since 2000. This is the only formal diploma programme with Cardiac Technology as an option in Asia.

Cardiac technologists are important team members in the continuum of care for heart patients. They work in three main areas, carrying out diagnostic tests such as ECGs, performing cardiac ultrasounds and assisting doctors during cardiac procedures such as coronary angioplasty and electrophysiologic study. They also alert doctors of abnormalities in test results and explain test procedures to patients.

As a tertiary cardiac centre and premier interventional cardiology centre in Asia, the NHCS takes a lead role in cardiovascular medicine training both locally and regionally. The Centre has trained 131 international fellows to date in the various sub-specialties. The fellows were from countries in the region including Bangladesh, India, Indonesia, Myanmar, Philippines, China and Vietnam. Many of these fellows have assumed leadership positions in their countries after completion of their training.

RESEARCH
The NHCS continues to push ahead in the discovery of advanced methods for the better delivery of patient care.

The Centre has the largest clinical trials unit wholly dedicated to cardiovascular trials in Singapore. As of 31 March 2011, the NHCS has 39 ongoing trials, one of which is an Acute Coronary Syndrome (ACS) trial collaboration with Duke University Medical Centre, Daiichi-Sankyo, Lilly NUS and Quintiles.

A notable trial is the RE-LY trial which has brought about a new oral anticoagulant that is more effective in preventing strokes in patients with atrial fibrillation (a disorder of the heart rhythm) than the standard therapy, warfarin, which has been used since 1950s.
Dr K. Gunasegaran and Dr Chin Chee Tang believe in the sharing of knowledge. Dr Chin sees it as a responsibility while Dr Gunasegaran says ultimately, teaching is “the greatest gift we have to give to future generations.”

Both men walk the talk.

Dr Gunasegaran is the Director of the Cardiology Fellowship Programme, spearheading training programmes for registrars in the department. He also teaches at Duke-NUS Graduate Medical School. Dr Chin organises the core curriculum teaching sessions for specialty trainees and lectures and tutors doctors preparing for the MRCP.

“Without teaching there is no learning,” Dr Chin says, adding that it is especially critical in the field of medicine where learning is a continual process, with an ever increasing knowledge base.

Both say, the goal of teaching is to educate future generations of doctors and health professionals to better serve their patients. “Never stop learning,” Dr Gunasegaran advises, “and in the process always pay it forward through teaching and educating.”
Together with Web Biotechnology Pte Ltd, the NHCS jointly conducted a user acceptance trial on a new wireless ECG monitoring system, a rapid feedback programme which allows healthcare providers to respond promptly to patients’ symptoms, no matter where they are. The results of the two-week trial showed that almost all trial patients find the new system easier to use and are more comfortable with it. Without the hassle associated with the wired systems, patients are more likely to be compliant to the test. This is crucial in identifying their symptoms early and render timely treatment to prevent or delay the progression of heart disease.

In FY2010, the NHCS published 65 papers in international journals including the widely read and influential New England Journal of Medicine (NEJM) and Cardiovascular Research, a publication of the European Society of Cardiology (ESC).

The Centre’s Research and Development Unit (RDU) hosted a stem cell hands-on training workshop in October 2010 with StemCell Technologies Inc., Canada. The workshop enabled the sharing of RDU know-how in stem cell biology and was tailored to impart technical expertise for all researchers learning to handle human embryonic stem cells in feeder-free systems. This fully enrolled workshop included participants from various laboratories from Biopolis, NUS and NTU.

OUR PEOPLE
The NHCS remains committed in training and developing its people to elevate the standard of cardiovascular care in Singapore. Four consultants with the Department of Cardiology at the NHCS completed their fellowships at renowned overseas healthcare institutions.

Dr Tan Boon Yew, Consultant, Cardiology, spent two years at the Johns Hopkins Hospital in the US. There, he worked on a research project focused on genetic testing and Arrhythmogenic Right Ventricular Dysplasia/Cardiomyopathy (ARVD/C) patients. He was also trained in clinical electrophysiology and ablation of complex tachyarrhythmia, as well as advanced device-based therapy for cardiac arrhythmias. Dr Tan aims to establish a registry, similar to the ARVD/C programme at Johns Hopkins Hospital, for Singaporeans and their families with sudden cardiac death.

Dr Peter Ting, Consultant, Cardiology, spent close to two years at the Mazankowski Alberta Heart Institute, Canada. In his time there, Dr Ting focused on preventive cardiology and cardiac rehabilitation and was trained in advanced echocardiography, focusing on myocardial contrast echocardiography and 3-Dimensional (3-D) echocardiography. He plans to devise a syllabus and training programme in preventive cardiology and rehabilitation for medical trainees rotating through cardiac rehabilitation, and eventually also for medical students at the university.

Dr Chin Chee Tang, Consultant, Cardiology, was attached to the Duke Clinical Research Institute, Duke University Medical Center in US for a year where he was trained in cardiac database development. Through his involvement in various large registries, he learnt about the development and structure of such registries. He also studied trends on patient care to improve clinical outcomes, patient safety and reduce healthcare costs. Dr Chin aims to develop a mortality/ischaemic risk and bleeding risk assessment for patients admitted with acute coronary syndromes tailored specifically for Singapore and refine national cardiology databases for acute coronary syndromes and cardiac catheterisation/percutaneous coronary interventions.

Dr Tang Hak Chiaw, Consultant, Cardiology, spent a year at The Heart Hospital, UCL Hospitals, in the UK, gaining extensive and thorough exposure to the management of cardiomyopathy patients. Upon his return, he started the Cardiomyopathy Clinic at the NHCS. Senior Staff Nurse Suriani Binte Zahari, received the Health Manpower Development Plan (HMDP) scholarship to pursue Advanced Thoracic Nursing at Cleveland Clinic, US. The HMDP attachment focused on overall management of thoracic and lung transplant patients in inpatient and outpatient settings.
The Centre's rigorous efforts in talent development reaped several notable awards. Ms Lim Suh Fen, Assistant Director of Nursing, NHCS, was conferred the President's Award for Nurses on 29 July 2010. This yearly national award for nurses is given by the President of Singapore in recognition of nurses’ commitment, professionalism and dedication to excellent nursing care. Ms Lim is an inspirational nursing professional who displays exemplary leadership and skills resulting in noteworthy accomplishments that include setting up the Singapore Heart Centre Ambulatory Service. Her passion and dedication to nursing have brought her much admiration from both patients and staff.

Ms Rokiah Bte Sulaiman, Principal Enrolled Nurse, NHCS, was among the winners of the 4th Tan Chin Tuan Nursing Award in November 2010. The Award is the highest accolade for enrolled nurses in Singapore. It recognises enrolled nurses who are exemplary in their dedication to patients, demonstrate excellence in their nursing careers and made significant contributions to the nursing profession and the community.

COMMUNITY ENGAGEMENT

For the NHCS, community events are a way of giving back to the underprivileged and are invaluable for engaging the public. The NHCS held a public forum, Understanding Heart Valve Disease, in February which drew 230 participants. The forum helped participants to learn how to recognise the symptoms of the disease and the available treatments for it. They also learnt about the National Cardiovascular Homograft Bank, a depository bank for heart tissue graft, started by the NHCS.

The Centre's medical social workers organised a sandcastle-building event for more than 100 needy heart patients and their family members at East Coast Park, a team building exercise to instil hope, raise self-esteem and confidence in the participants.

The NHCS also reached out to youth beneficiaries from the Care Corner Family Service Centre through telematches and food sales as part of the President’s Challenge 2010, raising over $17,000.

Ramping up its fundraising efforts for the Heart2Heart Fund, the NHCS raised close to $314,000 in FY2010. The Fund helps provide financial assistance to needy patients. It also supports research and development, and training and education among others.

<table>
<thead>
<tr>
<th>KEY FIGURES</th>
<th>FY10</th>
<th>FY09</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Size</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Licensed Beds (as at end Mar)</td>
<td>185</td>
<td>185</td>
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<tr>
<td>Beds in Service</td>
<td>185</td>
<td>183</td>
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<tr>
<td><strong>Workload per annum</strong></td>
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<tr>
<td>Bed Occupancy Rate</td>
<td>71.9%</td>
<td>72.7%</td>
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<tr>
<td>Inpatient Admissions</td>
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<tr>
<td>Inpatient Discharges</td>
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<tr>
<td>Total Patient Days</td>
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<tr>
<td>Average Length of Stay (days)</td>
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<tr>
<td><strong>Total Procedures</strong>*</td>
<td>6,968</td>
<td>6,683</td>
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<tr>
<td><strong>Day Procedures</strong>*</td>
<td>34</td>
<td>34</td>
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<tr>
<td><strong>Inpatient Procedures</strong>*</td>
<td>6,934</td>
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<td>Specialist Outpatient Clinic Attendances</td>
<td>107,228</td>
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<tr>
<td>Total Non-invasive Cardiac Investigations</td>
<td>108,076</td>
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<tr>
<td><strong>Staffing</strong> (as at end Mar)</td>
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<tr>
<td>Total</td>
<td>894</td>
<td>836</td>
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<tr>
<td>Doctors</td>
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<td>Nurses</td>
<td>406</td>
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<td>Allied Health Professionals</td>
<td>131</td>
<td>117</td>
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<tr>
<td>Others</td>
<td>269</td>
<td>260</td>
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</table>

*Interventional and Surgical

Note: Staffing figures refer to Filled Posts, in terms of Full-Time Equivalent, and may not add up to total due to rounding.
Teaching is a passion to Nurse Educator Chua Lee Kheng, who has been teaching, motivating and mentoring nurses for more than a decade.

This passion is clear not just from the clutch of prestigious awards she has earned, but from her influence. When Ms Chua speaks, her students listen. “The course exceeded my expectations,” said one participant about a patient counselling course she conducted in 2010. “I love NE Chua for her entertaining and engaging discussions. Keep it up! Love it!”

Ms Chua has mentored clinical instructors in a range of places from Wards 44 and 56, to Cardiothoracic Intensive Care Unit and the Nursing Development Unit. “Mentorship nurtures and grows the new nurse. With appropriate support, guidance and supervision, we are able to enhance their clinical experience and prepare them to undertake clinical roles,” she says.

Ms Chua conducts training for nurses, allied health professionals and volunteers at the Singapore General Hospital Campus, SingHealth and the National Healthcare Group. She also conducts training for the public in her own time and volunteers at various NHCS events such as Family Day and career fairs.

Perhaps she is taking to heart the advice given to her by her own teacher – a quote from Florence Nightingale, “Live your life while you have it. Life is a splendid gift; there is nothing small about it.”
### AWARDS & ACCOLADES

#### PATIENT CARE

<table>
<thead>
<tr>
<th>Award</th>
<th>Recipients</th>
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</thead>
<tbody>
<tr>
<td>Singapore Health Quality Service Award 2011</td>
<td>139 staff – 11 star, 14 gold, 114 silver</td>
</tr>
<tr>
<td>National Day Awards 2010 (Efficiency)</td>
<td>Chang Choong Kek; Zhang Yuanshan Clara</td>
</tr>
<tr>
<td>National Day Awards 2010 (Long Service)</td>
<td>Chan Siok Tian; Saroja d/o Murugasu; Sim Sok Tiang Rosalind; Yip Yeok Mui</td>
</tr>
<tr>
<td>President's Award for Nurses 2010</td>
<td>Lim Suh Fen</td>
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<tr>
<td>4th Tan Chin Tuan Nursing Award 2010</td>
<td>Rokiah Bte Sulaiman</td>
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<tr>
<td>2010 SingHealth Best Junior Doctors Award (Cardiology)</td>
<td>Dr Leow Khang Leng</td>
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<tr>
<td>MOH Nurses’ Merit Award 2010</td>
<td>Dhaliana Binte Idris</td>
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<td>PS21 Star Award 2010</td>
<td>Lee Mei Bao Jasmine</td>
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#### EDUCATION

<table>
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<tr>
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<tr>
<td>SingHealth-Lee Foundation-D.S. Lee</td>
<td>Ho Foong Nun; Khatijah Bte Kassim</td>
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<td>SingHealth-D.S. Lee Foundation-Nursing Excellence Award 2010</td>
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#### RESEARCH

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<th>Research Award</th>
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<tr>
<td>National Medical Research Council Grant</td>
<td>Dr Wei Heming</td>
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<tr>
<td>Save the Children Korea Travel Grant</td>
<td>Dr Zhong Liang</td>
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<tr>
<td>SingHealth Duke-NUS Scientific Congress 2010 Best Poster Award (Translational)</td>
<td>Dr Ashish Mehta; Manasi</td>
</tr>
<tr>
<td>Singapore Cardiac Society 23rd Annual Scientific Meeting</td>
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<tr>
<td>Young Investigator Award (3rd Prize)</td>
<td>Dr Sun Xiaoming</td>
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<tr>
<td>Young Investigator Award (1st Prize)</td>
<td>Dr Zhong Liang</td>
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<tr>
<td>Best Abstract</td>
<td>Dr Zhong Liang</td>
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#### HUMAN RESOURCE/TALENT DEVELOPMENT

<table>
<thead>
<tr>
<th>Award</th>
<th>Recipients</th>
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<tbody>
<tr>
<td>Work-Life Excellence Award 2010</td>
<td>NHCS</td>
</tr>
<tr>
<td>Singapore Health Award 2010 (Gold)</td>
<td>NHCS</td>
</tr>
</tbody>
</table>
The National Neuroscience Institute (NNI) has grown tremendously and we are proud to see our efforts bearing fruits. While we have accomplished much over the last financial year, the best achievement was perhaps seeing our efforts come together with a commitment to putting patients first.

The NNI continues to perform well in delivering accessible and affordable care in 2010, in many ways. The improvement in the Ministry of Health Customer Satisfaction Survey results is but one of the examples.

Patient care has been further enhanced by the launch of Tele-stroke to improve access to acute stroke treatment and care from the NNI to Changi General Hospital and Khoo Teck Puat Hospital. Acquisition of new imaging technology, availability of new clinical investigations and findings from ongoing research studies all helped us improve our quality of care. We have also improved as an international teaching centre in clinical neuroscience. The numerous medical conferences organised, regular scientific updates and lively fellowship with leading experts and regional colleagues were instrumental in bringing the latest and best neurological and neurosurgical care to our patients at home and in the region.
The NNI is only as strong as the collective efforts of all our staff. I applaud the spirit of inquiry and creativity in all our employees as we strive to provide better care for all patients.

Moving ahead, the future looks promising and exciting as we continue to provide the best neuroscience care we can to all, especially at a time when our ageing population presents an ever increasing patient load.

I am confident that we will succeed because we have the people, the talent and the will to do so. May I thank all our dedicated staff: doctors, administrators, researchers, nurses, medical technologists and radiographers who have helped, and are continuing to help meet our vision.

Prof Lee Wei Ling  
Director, National Neuroscience Institute

PATIENT CARE
The primary mission of the NNI is to give the best neuroscience care it can to all its patients. In FY2010, the NNI took this one level higher, adopting leading-edge technology with the launch of a pilot tele-medicine project and an investment in an advanced 640 slice CT scanner which allows for speedier and more accurate diagnoses.

Time is key in stroke treatment. In October 2010, the NNI started a tele-medicine project, Tele-stroke, which uses a system based on the Internet for the remote diagnosis and treatment of stroke patients. With Tele-stroke, neurologists at the NNI can work with doctors in Changi General Hospital, which does not have a resident neurologist and is one of the collaborators in this project, to give patients the best possible care for stroke in the quickest time possible.

Stroke patients who are presented within three hours (four and half hours in selected cases) of symptom onset may be eligible for a clot-busting

“Many of us are inspired and have benefited from great teachers. We in turn hope to pass the spark on to the younger generation by getting them involved in learning.”

A/Prof Tan Eng King  
Senior Consultant, Neurology  
Director of Research
drug called recombinant tissue plasminogen activator (rtPA). The safe administration of this drug, which requires stroke expertise, can reduce the chances of death and improve post-stroke recovery. Tèle-stroke provides advanced web-conferencing technology that enables communication between the CGH emergency department physicians, the NNI neurologists and the potential rtPA candidate.

In addition, the installation of a new 640 slice CT scanner has enabled the Department of Neuroradiology to provide faster and better CT service of the brain and spine. The new scanner can capture up to 640 slices simultaneously in 0.75 seconds, and provides a wider coverage of 16 cm, thus enabling detectors to scan the whole brain in one rotation.

This is important for stroke imaging, especially CT Angiography and CT perfusion, as it results in sharper images and leads to improved results accuracy. The scanner comes with advanced applications that enable better image analysis, including CT angiography, CT perfusion and 4D dynamic CT DSA. Besides stroke, the scanner can also be used for spine and other imaging. Patients also benefit from the new scanner as they experience less discomfort, a shorter waiting time and shorter procedural time.

FY2010 also saw the NNI investing in improved physical facilities at the Department of Neuroradiology such as renovated reception counter, added privacy screens for financial counselling, installation of automatic glass doors and providing a private waiting area for Nuclear Medicine patients.

EDUCATION
The NNI advanced its education mission through continued collaboration with both the National University of Singapore (NUS) and Duke-NUS Graduate Medical School (Duke-NUS) to refine its curriculum and fine-tune neuroscience teaching.

The Office of Neurological Education (ONE), which has been in the forefront of pioneering new teaching methods in this field in Singapore, aims to restructure its curriculum to be more effective and relevant for medical students. This is a collaborative effort of a group of neurologists and neurosurgeons of the NNI who have been instrumental in defining the initial curriculum for Duke-NUS.

Other educational initiatives by the NNI are the Evidence-Based Medicine (EBM) club which sees residents and registrars meeting bimonthly to review key publications that have relevance to common neurological diseases. The weekly Grand Rounds by Prof Loong Si Chin, a Visiting Consultant and, long-time teacher and mentor to many at the NNI, are consistently cited by residents and registrars as the teaching highlight of their week.

The NNI is also actively involved in Continuing Medical Education (CME) and organising advanced training and conferences for healthcare professionals in Singapore, around the region and beyond.

In October 2010, the Department of Neurosurgery celebrated 10 years of neurosurgery at the NNI with the NNI International Symposium of Neurosurgery. The five-day symposium comprised a scientific conference on the developments of neurosurgery, a trauma spine nursing seminar and a public forum on brain tumours. Renowned faculty speakers from the US, Taiwan and Asia presented the most up-to-date information in neurosurgery.

Among the conferences organised in FY2010 are the Singapore Stroke Conference, the Neurocognitive Symposium and biennial Singapore International Parkinson's Disease and Movement Disorders Symposium. The NNI also organised seminars on neurology topics relevant to general practitioners and primary care physicians.

Since 1999, the NNI has organised the annual Advanced Neuroradiology Course, the Virtual Reality Course in 2006 and the NNI-Aeusculap Neurosurgical course since 2007. These meetings often feature ‘live-case’ procedures and hands-on demonstrations and allow the NNI to showcase its own renowned experts and budding talent.
It was the end of a hard day’s training at an army reservist camp. A/Prof Lee Kim En was having his evening meal when his army mate surprised him with a question. “A well-respected family physician, Dr W, who is three years younger, asked me if I had chosen to specialise in neurology because someone complimented me on my neurological examination skills. I was a little stunned by this random question,” he said.

A/Prof Lee then remembered an occasion during his house officer training when a colleague praised an impromptu neurological examination that he had performed on a patient. “Dr W told me he was then a second-year medical student posted to my team and he felt inspired by what he observed. And that was such a long time ago!”

A/Prof Lee has since taken active interest in the teaching of neurology at both undergraduate and postgraduate levels, and is currently the Education Director at the NNI. “Teaching keeps the best things alive; makes the good things better. We learn when we teach.”

In his view, the best reason for being a mentor is to have the teaching directly translate to better patient care. “I received an SMS from a former student working as a house officer, ‘Dr Lee, just to let you know, what you’ve taught me before, I applied on an admitted patient today, and it made a difference.’”
The NNI continues to advance its stature as a clinical and research centre in FY2010. A/Prof Tan Eng King, Director of Research and Senior Consultant, Neurology at the NNI, together with researchers at the Genome Institute of Singapore (GIS), developed a novel zebrafish model of Parkinson’s Disease, using the tropical freshwater fish to better understand how the disease leads to muscle degeneration in a person.

Although the exact cause of the disease remains unknown, a significant number of Parkinson’s disease patients have mutation in a gene known as Leucine Rich Repeat Kinase 2, or ‘LRRK2’, which has been found in more than 20 populations worldwide.

A/Prof Lim Kah Leong from the Research Department at the NNI said, “This novel and elegant study has illuminated the role of an otherwise poorly understood but important domain of LRRK2 associated with an increased risk for Parkinson’s disease amongst Asian populations. The use of zebrafish as a disease model is a clever approach. I am pleased that our arsenal of experimental organisms for drug screening has expanded with this study.” The study was published in peer reviewed scientific journal *PLoS Genetics* in April.

Other research developments include A/Prof Tan Eng King, being elected into the American Neurological Association (ANA) in July, making him the first local doctor to join the league.

Founded in 1875, the ANA is a professional society of academic neurologists and neuroscientists devoted to advancing the goals of academic neurology and to training and educating neurologists.

A/Prof Tan was elected based on his contributions as a clinical neurologist, scientist and educator. He joins a small select group of neurologists who will lead the field of academic neurosciences.

A/Prof Tan’s primary research interests include Parkinson’s disease, essential tremor and clinical and imaging trials in neuro-degenerative diseases.

The NNI’s A/Prof Ang Beng Ti, Deputy Director, Research and Consultant, Neurosurgery, was part of a team, including representatives from Tan Tock Seng Hospital and A*STAR, who won the Annual BCI Research Award for their project *Motor Imagery-based Brain – Computer Interface Robotic Rehabilitation for Stroke*. The team had undertaken this project from April 2007 to October 2009. The award recognises outstanding and innovative research done in the field of Brain-Computer Interfaces (BCI).

Stroke is the leading cause of severe disabilities in the developed world and recently, robot-aided rehabilitation has been clinically investigated worldwide to try to aid in stroke recovery. “This is recognition of our efforts and we believe continuous BCI developments will benefit more stroke patients in time to come,” commented A/Prof Ang.

**OUR PEOPLE**

The NNI’s staff continue to shine with the angiography team, comprising of Dr Wickly Lee, Consultant, Neuroradiology, Mr Wee Liang Kwee, Principle Radiographer and Chan Wai Yee, Nurse Manager, given the SingHealth Health Manpower Development Plan (HMDP) 2010 award for attachment at New Presbyterian Hospital, US (Weill Cornell Medical Centre) in July and September respectively.

The team will gain exposure and learn new skills in interventional cases at the well-known interventional centre. The attachments will help improve the clinical service quality as team members implement their newly honed expertise to enhance the current workflow and quality.

Ms Mayalagu Kanni, Principle Radiographer, Nuclear Medicine, was given the Talent Development award after graduating with a Masters Degree in Health Science with a specialisation in Nuclear Medicine.

This achievement will further equip her with knowledge to improve her capability in managing the daily operations of the Nuclear Medicine department to better improve patient care.
The son of two teachers, Prof Lim Shih Hui is one of the most popular clinician-educators at SGH. Since 1993, he has been active in teaching medical students rotating through SGH. He was appointed to the Duke-NUS Graduate Medical School as Associate Professor in January 2007 and in a short few years, has established himself as a key clinical educator at the school, not only in the practice of teaching but also in curriculum development. For his contributions to education, he was promoted to Professor in October 2009.

Prof Lim says of the critical need to mentor, “Medicine and related fields are rapidly progressing, and patients are the recipients of our care. Their life and death, and their well-being are in the hands of healthcare providers. Without teaching, not only will the learning curve be very steep for the learners, our patients will suffer till the healthcare providers become clinically competent.”

There is no doubt that Prof Lim’s students follow his example very closely. He tells of one incident where when presented with a patient with uncommon symptoms, he stared at the ceiling and gave an unexpected diagnosis. “My students joked that they went back to the same room, looked at the same ceiling I was staring at but could not find the diagnosis written on the ceiling!” said Prof Lim.
COMMUNITY
The NNI remains committed to public education and engagement with public forums organised throughout FY2010. These forums range in topics from coping with Parkinson’s disease to strokes, dementia, and brain tumours.

The Parkinson’s disease public forums were co-organised with our partners SGH and CGH. In April 2010, an English and Chinese public forum was organised with SGH in conjunction with World Parkinson’s Disease Day, which falls on 11 April each year. A Malay forum was co-organised with CGH in September 2010.

In May 2010, a Dementia Public Forum was organised to raise awareness about the disease. As part of the NNI Memory Awareness initiative, it held public screenings in November for early diagnoses of dementia. These screenings were attended by more than 100 people aged 50 years and above.

In conjunction with World Stroke Day, the NNI, together with the Joint National Healthcare Group (NHG)-SingHealth Stroke Disease Management workgroup, organised a stroke public forum in October to create awareness and spread the FAST message. FAST (F: Face; A: Arm; S: Speech; T: Time) stands for different stroke symptoms and in recognising these symptoms, one is able to act fast when stroke hits.

Together with Dr Deidre De Silva, Consultant, Neurology (SGH Campus) the NNI also initiated a public outreach programme, co-organised with SingHealth Polyclinics and NHG Polyclinics, to increase knowledge of stroke risks and prevention as well as awareness of symptoms and the FAST message. The talks were held in November 2010, at the Geylang, Outram, Tampines and Woodlands Polyclinics.

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KEY FIGURES

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<th>FY10</th>
<th>FY09</th>
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<tbody>
<tr>
<td>Workload per annum</td>
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<tr>
<td>Specialist Outpatient Clinic Attendances</td>
<td>38,282</td>
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<td>Others</td>
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<td>72</td>
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Note: Staffing figures refer to Filled Posts, in terms of Full-Time Equivalent, and may not add up to total due to rounding.

AWARDS & ACCOLADES

PATIENT CARE

GCEO Excellence Award 2010
Outstanding Clinician Award
A/Prof Ong Peck Leong

Outstanding Nurse Award
Ng Wai May

Outstanding Allied Health Professional Award
Violet Chua Gek Eng

Outstanding Ancillary Staff Award
Jestase s/o Posman

Outstanding Administrative Staff Award
Steven John Sobak
### PATIENT CARE (cont’d)

<table>
<thead>
<tr>
<th>National Day Awards 2010 (Long Service Medal)</th>
<th>Ismail Bin Ahmad</th>
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<tbody>
<tr>
<td>MOH Nurses’ Merit Award 2010</td>
<td>Rozana Bte Othman</td>
</tr>
<tr>
<td>Singapore Health Quality Service Award (Silver Category) 2010</td>
<td>Farah Julieanna Binte Mohamed Saleh; Faradillah Binte Jamil; Nur-Nazaria Baharudin; Goh Mei Lian Winnie; Esther Vanessa Chua; Lim Chai Ling</td>
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### EDUCATION

<table>
<thead>
<tr>
<th>SingHealth Distinguished Educator Award</th>
<th>Prof Lim Shih Hui</th>
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<tr>
<td>Duke-NUS Appreciation Award for Most Knowledgeable Faculty (Neurology Clerkship)</td>
<td>Prof Lim Shih Hui</td>
</tr>
<tr>
<td>Duke-NUS Appreciation Award for Outstanding Innovator (Practice Course)</td>
<td>Prof Lim Shih Hui</td>
</tr>
<tr>
<td>Duke-NUS Appreciation Award for Outstanding Developer (Neurology Clerkship)</td>
<td>A/Prof Lee Kim En</td>
</tr>
<tr>
<td>Duke-NUS Appreciation Award for Outstanding Educator (Neurology Clerkship)</td>
<td>A/Prof T. Umapathi</td>
</tr>
<tr>
<td>Duke-NUS-GMS Appreciation Award for Most Understanding Faculty (Neurology Clerkship)</td>
<td>Dr See Siew Ju</td>
</tr>
<tr>
<td>NUS YLLSoM Dean’s Award for Teaching Excellence</td>
<td>Dr Lee Sze Haur</td>
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### RESEARCH

<table>
<thead>
<tr>
<th>SingHealth Excellence Award 2010</th>
<th>Distinguished Researcher Award</th>
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<tbody>
<tr>
<td>Distinguished Researcher Award</td>
<td>A/Prof Tan Eng King</td>
</tr>
<tr>
<td>Sugita Scholarship Nagoya University</td>
<td>A/Prof Ng Wai Hoe</td>
</tr>
<tr>
<td>Singapore Stem Cell Consortium Grant Adjudication Panel, Biomedical Research Council</td>
<td>Dr Carol Tang</td>
</tr>
<tr>
<td>National Medical Research Council Medical Research Fellowship at Georgetown University &amp; NIH</td>
<td>Dr Nagaendran Kandiah</td>
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### OTHERS

| Young Neurosurgeon Award – 16th Annual Meeting of the Japan Society of Neurosurgical Emergency, Nagoya, Japan | A/Prof Ng Wai Hoe |
Singapore National Eye Centre (SNEC) celebrated its 20th anniversary in 2010.

The milestone was marked with several notable events and achievements in tandem with the Centre’s mission and its vision of international eminence in ophthalmology. The success of SNEC is the achievement of all our dedicated staff working in unison.

On this special occasion, we celebrate two decades of ophthalmic excellence. I would like to pay tribute to every one of our staff, for their dedication, tireless efforts and contribution towards this achievement. I would also like to acknowledge the pioneering spirit and nurturing efforts of our founders and early leaders who have made SNEC what it is today.

Overall, 2010 was an excellent year with SNEC growing from strength to strength in Patient Care, Education and Research as we celebrate 20 years of service to the nation.

Prof Donald Tan
Medical Director, Singapore National Eye Centre
PATIENT CARE
In 2010, SNEC celebrated its 20th anniversary. The Centre continued to explore treatment options and collaborated with Sri Lanka’s national eye hospital to build an eye bank, putting it at the forefront of the fight against corneal disease in Asia.

With SNEC’s debut of the Refractive Lenticule Extraction, or ReLEx, myopia patients now have a less painful, faster and more effective alternative to conventional LASIK. ReLEx is currently the most advanced procedure in the treatment of myopia, correcting high degrees for those unsuited for LASIK. As at 2010, 70 patients have undergone the procedure with a 100% success rate.

ReLEx involves the use of a single high-speed laser, the VisuMax Femtosecond laser by Carl Zeiss. With ReLEx, Medical Director of SNEC Prof Donald Tan and his team have developed precise procedures which result in highly accurate corrections similar to LASIK, and possibly even better in higher degrees of myopia.

Researchers at Singapore Eye Research Institute (SERI), the research arm of SNEC, are looking at freezing and storing these discarded lenses in liquid nitrogen for possible use later. This ongoing research is part of SERI’s Translational Clinical Research Flagship Programme, funded by the National Research Foundation and administered by the National Medical Research Council (NMRC), in collaboration with industry partner Carl Zeiss Meditec, and SERI researchers hope to soon prove reversibility of FLEx and SMILE in animal trials later this year.

In another move that benefits patients in Singapore and the Asia region, SNEC partnered Sri Lanka’s Colombo Eye Hospital (the national eye hospital) and the country’s health ministry to build an eye bank. The National Eye Bank of Sri Lanka (NEBSL) opened in January 2011, has 27 corneas so far, surpassing expectations. “We hope NEBSL will be one of the world’s largest eye banks servicing much of Asia. Judging by this encouraging...”

Prof Donald Tan
Medical Director
Head & Senior Consultant,
Cornea and External Eye Disease Service

“Our young doctors depend on our current leaders in clinical service, research and education to mentor them to become the next rung of academic clinicians and take over the torch to maintain and attain excellence in ophthalmology.”

SingHealth Annual Report 2010
start, it has the ultimate potential to provide over 1,000 corneas a year,” said Prof Donald Tan.

In another initiative, Singapore Eye Bank (SEB) spearheaded the formation of the Association of Eye Banks of Asia (AEBA). Prof Donald Tan is the President of AEBA. The supranational network cooperative of Asian eye banks is coordinated in Singapore and cements our country’s standing as the leader in the development of corneal ophthalmic sub-specialty in Asia. These initiatives to alleviate corneal blindness in Asia and in Singapore were funded by the Lee Foundation.

2010 also saw the official opening of Phase Two expansion of the SEB, the Lee Kong Chian Centre of Excellence for Cornea, Eye Banking and Eye Diseases which will allow the SEB to improve on infrastructure and manpower, and develop it as a centre of excellence for training, education and research in corneal diseases and transplantation.

EDUCATION
A growing number of SNEC faculty now hold joint or adjunct positions at NUS, NTU and Duke-NUS Graduate Medical School (Duke-NUS). SNEC faculty today has two Professors, two Associate Professors and four Adjunct Associate Professors in addition to other senior clinical teaching staff. This bears testimony to the high standards of the faculty as leaders in ophthalmic education. This is further validated by the strong international response to its own teaching programmes.

SNEC’s annual education programme caters to ophthalmologists of all levels, from basic trainees to the most experienced sub-specialist, family physicians, nurses, allied eye health professionals and the public. There are now over 30 programmes. SNEC faculty is also regularly invited to speak at major eye conferences in the US, Europe, Asia and Australia. SNEC is ready for its first batch of eight residents under the new Residency Program.

RESEARCH
SERI, which first mooted and conceptualised the Asian Association for Research in Vision and Ophthalmology (ARVO), organised a meeting in conjunction with it’s 20th anniversary celebrations this year.

More than 1,000 participants gathered to exchange research findings and share expertise at the Asia-ARVO 2011. The joint meetings were significant for the way they mirrored the symbiotic relationship between SERI and SNEC, and the synergy between research and clinical medicine, which ultimately benefits the patient. An excellent scientific programme encompassing the latest discoveries in vision research was presented.

Participants, mostly from the region, gained from the attendance of more than 200 international eye specialists and the sharing of almost 800 abstracts. ARVO is the world’s largest organisation for vision and ophthalmology researchers. ARVO’s annual meeting in Florida attracts over 12,000 researchers from around the world.

SNEC also continued its active involvement in clinical trials and research in the causes and treatment of major eye conditions such as myopia and glaucoma this year, starting a new trial on the treatment of conditions which leads to blindness.

The studies investigates the safety and efficacy of Vascular Endothelial Growth Factor Trap-Eye in patients with myopic Choroidal Neovascularisations in an effort throw more light on the treatment of this condition. The trial involves patients in Singapore and other countries across Asia where myopia is a common problem.

OUR PEOPLE
Prof Wong Tien Yin, Director, SERI, was awarded the prestigious President’s Science Award 2010 for his outstanding contributions to translational research and development of a novel platform linking eye imaging to diseases.
Dr Ian Yeo is an eye surgeon but he advises that doctors use their ears as well when with patients.

“A soft skill like offering a listening ear is useful and very important in patient care,” he says. “While it is important to have good clinical knowledge in treating patients, it is also important to be empathetic. Sometimes we need to manage patients’ expectations of complicated conditions.”

Dr Yeo, was awarded SNEC’s outstanding teacher and mentor award at the centre’s 20th anniversary celebrations. The award was for demonstrating a willingness to impart knowledge, skills and experience to juniors unselfishly, by providing excellent patient care and being a role model.

He declares he doesn’t believe there is such a thing as “a lousy doctor” – just an unguided one.

“If we can understand the individual ability of each doctor, we can nurture them to an appropriate role.”
He was also awarded the National Medical Excellence Award 2010 for his outstanding contributions to research in the area of retinal vascular diseases and development of innovative retinal imaging platforms for cardiovascular and metabolic disease diagnosis.

Dr Ian Yeo, Head of Training and Education has been appointed Programme Director of the new Residency Program.

Dr Seah Lay Leng, Senior Consultant, Oculoplastic & Aesthetic Eye-plastic Service, has been appointed Adjunct Associate Professor by Duke-NUS.

Dr Tina Wong, Consultant, Glaucoma Service was awarded the Clinician Scientist Award from the National Medical Research Council (NMRC) for investigating new treatment options and improving the outcomes of surgery for a certain types of glaucoma.

In appreciation of allied health professionals, the SNEC and SERI Allied Health Professionals Week was held from the 10-15 January 2011 in recognition of the significant role they play. The professionals being recognised include optometrists, orthoptists, ophthalmic imaging specialists, ophthalmic technologists, eye bank counsellors, pharmacists and medical social workers among others. A poster exhibition, fun quiz and a special get-together dinner with senior management were organised.

COMMUNITY ENGAGEMENT
SNEC takes pride and pleasure in connecting with the community. In conjunction with its anniversary, the Centre held a series of novel public education programmes aimed at raising awareness of the early treatment and detection of blinding eye conditions.

The campaign included the installation of health education panels on MRT trains islandwide and a roving exhibition at public libraries on the causes, symptoms and treatment of eye diseases. The latter was a collaboration with the Health Promotion Board and National Library Board.

“It is our responsibility as clinician scientists to ensure that young researchers and students who work for us are given high quality training, close mentorship and career guidance.”

Prof Wong Tien Yin
Director, Singapore Eye Research Institute
Senior Consultant, Vitreo-Retina Service
A/Prof Chee Soon Phaik says mentoring gives her an opportunity to share knowledge in her areas of specialty – uveitis, oculoplastics and cataract surgery.

“It gives me a sense of fulfilment in teaching the younger generation, as there are very few experienced eye surgeons in Singapore who are formally trained in uveitis and oculoplastics.”

“In addition, I specialise in the complicated and challenging cataract cases, which very few doctors internationally are experienced in handling. I like to impart these skills to other doctors so that they can also provide our patients the highest standard of medical eye care,” she says.

A/Prof Chee recalls her days as a trainee in the UK, where she saw patients with a different spectrum of uveitic conditions to what she first saw when she returned to Singapore. She now takes particular pleasure in sharing her knowledge about eye conditions which affect Asians in particular, she says, as this gradates the learning curve for her students.

“Ultimately, you realise there is only so much one can do. But you gain satisfaction knowing that there are doctors you have trained who can help treat more patients.”
In addition, SNEC held the 11th National Eye Care Week, expanded to a one-week programme including free screening as well as talks on health and eye care. About 2,000 members of the public benefited from the screening that week. SNEC also held an eye care exhibition at the Marine Parade Branch Library and supported the Centre for Enabled Living’s (CEL) LivEnabled Week 2010 through education on coping with low vision. CEL is the first-stop centre for users of eldercare and disability services and their caregivers.

SNEC partnered Channel NewsAsia in a public eyecare seminar themed A Clear Future For Your Eyes held on 12 March 2011. Prof Donald Tan, A/Prof Chee Soon Phaik, Dr Doric Wong and Dr Tina Wong spoke on major eye conditions such as myopia, cataract, glaucoma and diabetic retinopathy and discussed treatment options based on current research findings. The well-attended seminar was supported by major industry partners and received positive feedback from participants.

### KEY FIGURES

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<tr>
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<th>FY10</th>
<th>FY09</th>
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<tbody>
<tr>
<td><strong>Workload per annum</strong></td>
<td></td>
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</tr>
<tr>
<td>Day Surgeries</td>
<td>28,403</td>
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<td>Specialist Outpatient Clinic Attendances</td>
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<td><strong>Staffing (as at end Mar)</strong></td>
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<tr>
<td>Total</td>
<td>562</td>
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<td>Doctors</td>
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<td>Nurses</td>
<td>179</td>
<td>159</td>
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<tr>
<td>Allied Health Professionals</td>
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<tr>
<td>Others</td>
<td>216</td>
<td>203</td>
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*Note: Staffing figures refer to Filled Posts, in terms of Full-Time Equivalent, and may not add up to total due to rounding. SNEC workload figures included cases seen at SNEC Eye Associate Clinics.*
### AWARDS & ACCOLADES

#### PATIENT CARE

<table>
<thead>
<tr>
<th>Award</th>
<th>Recipient</th>
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<tbody>
<tr>
<td>SingHealth Excellence Awards 2010</td>
<td>Prof Donald Tan</td>
</tr>
<tr>
<td><strong>Distinguished Leader Award Series</strong></td>
<td></td>
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<tr>
<td>(Visionary Leader)</td>
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<td></td>
<td>Charity Wai</td>
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<td><strong>Champion of Change Leader Award</strong></td>
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<td>GCEO Excellence Award 2010</td>
<td>Peck Chye Fong</td>
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<td><strong>Outstanding Nurse Award</strong></td>
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<td></td>
<td></td>
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<tr>
<td><strong>Outstanding Clinician Award</strong></td>
<td>Dr Doric Wong</td>
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<tr>
<td><strong>Outstanding Allied Health Professional Award</strong></td>
<td>Joseph Ho</td>
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<td><strong>Outstanding Ancillary Staff Award</strong></td>
<td>Wee Lee Jong</td>
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<td><strong>Outstanding Administrative Staff Award</strong></td>
<td>Sharmila Kannan</td>
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<tr>
<td>National Day Awards 2010 (Commendation Medal)</td>
<td>Low Siew Ngim</td>
</tr>
<tr>
<td>National Day Awards 2010 (Efficiency Medal)</td>
<td>Aw Ai Tee</td>
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<tr>
<td>National Day Awards 2010 (Long Service Medal)</td>
<td>Dr Chia Swee Cheong</td>
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#### EDUCATION

<table>
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<tr>
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<tbody>
<tr>
<td>SingHealth-Lee Foundation Nursing Award</td>
<td>Chua Li Hong</td>
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</table>

| National Day Awards 2010 (Nurses Merit Award 2010)                   | Tay Li Kheng                     |
| National Day Awards 2010 (Foundation Nursing Award)                  | Chua Li Hong                     |
| SingHealth-Lee Foundation Nursing Award                               |                                  |

#### AWARD SCHEMES

- **SingHealth Excellence Awards 2010**
  - Distinguished Leader Award Series (Visionary Leader)
    - Prof Donald Tan
  - Champion of Change Leader Award
    - Charity Wai

- **GCEO Excellence Award 2010**
  - Outstanding Nurse Award
    - Peck Chye Fong
  - Outstanding Clinician Award
    - Dr Doric Wong
  - Outstanding Allied Health Professional Award
    - Joseph Ho
  - Outstanding Ancillary Staff Award
    - Wee Lee Jong
  - Outstanding Administrative Staff Award
    - Sharmila Kannan

- **National Day Awards 2010**
  - (Commendation Medal)
    - Low Siew Ngim
  - (Efficiency Medal)
    - Aw Ai Tee
  - (Long Service Medal)
    - Dr Chia Swee Cheong
2010 marks the 10th anniversary for SingHealth Polyclinics (SHP). Within a decade, we have transformed primary care and achieved significant milestones in chronic disease management and education.

We continued to embrace a team-based approach to care and expanded services like the Nurse Clinician Service and Medication Review Service. We introduced two new services, TeleCare Service and the Anti-Coagulation Therapy Management Service to cater to the specific needs of our patients. New IT innovations such as Electronic Medical Notes and the Singapore Integrated Diabetic Retinopathy Programme (SiDRP) were launched at selected clinics to provide better and safer care.

In education, we are the centre of primary care training for undergraduates from both the NUS Yong Loo Lin School of Medicine and Duke-NUS Graduate Medical School. Beyond that, we actively engage primary care doctors at the annual Clinical Update Symposium.

We will continue to push the boundaries of primary care as we prepare for accreditation by the Joint Commission International in 2011 and set benchmarks in chronic disease care.

Dr Tan Chee Beng
Chief Executive Officer, SingHealth Polyclinics
PATIENT CARE

SHP’s team approach and multi-pronged strategy to improve patient experience continues to be popular with patients. The Family Physician Clinics (FPC) saw attendance improve by 30% to more than 28,000 visits in 2010 while NCS attendances grew by 35%, reaching almost 6,800.

The FPC and Nurse Clinician Service were rolled out as SHP evolved from doctor-centric to team-based care and from running single-tier clinics to multi-tier clinics in an effort to improve chronic disease management and treatment outcomes.

SHP also introduced several patient-centric programmes in the year to keep costs affordable and help patients better manage their conditions.

Telecare Service (TCS) which promotes patient self-empowerment, was piloted at the Geylang Polyclinic in October 2010. 90 patients with well-controlled chronic conditions were put on the programme which encourages them to monitor their blood pressure, interact with nurses on the phone and based on the readings and review, receive advice on medication or scheduling a doctor’s visit. TCS helps patients to cut down on the number of consultation visits they have to make to the polyclinics as well as the overall cost for consultations.

Patients under TCS are still able to have their conditions managed by doctors. The project will be further enhanced before being introduced to other clinics.

Another programme aimed at helping patients better manage their health condition is the Anti-Coagulation Therapy Management Service (ACS), piloted in December at Bukit Merah Polyclinic.

The ACS gives patients who are on oral anti-coagulants the benefit of individualised care. To help patients better manage their conditions, pharmacists can be contacted directly to explain the medication and condition, and address any queries they might have.

The ACS processes allow the pharmacists to identify the contributing

“Good mentorship is about journeying together and being an encouraging guide to help others discover and develop his/her individual gifts.”

Dr Sally Ho Chih Wei
Assistant Director, Education & Research
factors towards patients’ deviations from their target International Normalised Ratio (INR) and reinforce patient education through counselling.

Patients have shown improved compliance and motivation with the ACS. The service has also led to increased safety in the course of therapy and reduced the number of hospital stays and bleeding episodes.

SHP Medication Review Service, which was piloted in October 2009, is now available at all nine polyclinics. Since the full roll out, the polyclinics have conducted full medication review sessions for some 1,400 patients with positive patient outcomes. The patients have shown improvements in compliance to medications and better management of their conditions.

In its efforts to improve patient care and achieve greater efficiency, SHP went paperless in 2010. Medical notes are now recorded electronically to eliminate errors arising from illegible handwriting and this also allow efficient sharing of medical records across institutions. Digital copies of laboratory and X-ray results as well as inpatient discharge summaries are also available electronically.

In FY2010, SHP collaborated with the Singapore Eye Research Institute (SERI) on the SiDRP. The pilot project allows eye images taken in the polyclinics to be sent electronically to the ocular grading centre, which is manned by trained non-medical staff in real time for assessment. This lets patients receive their results within an hour and cuts down on one clinic visit to review the results.

This programme was rolled out at Outram, Bukit Merah and Pasir Ris Polyclinics and will be available in all polyclinics in the near future.

EDUCATION
2010 has been an exhilarating and eventful year for PRiME@SHP, the training arm of the group. Many training events took place in 2010, such as the annual SHP Clinical Update Symposium, Diabetic Retinopathy Programme (DRP) workshop, decentralised medical officer induction training programme, among others.

As one of four accredited Family Medicine training centres in Singapore, SHP is constantly adding depth and extending our educational and training programmes for primary healthcare professionals.

SHP had the largest number of Family Medicine trainees in recent years who took the exit Family Medicine examination in 2010. 13 SHP candidates passed the exams, with a pass rate of 92.8%, significantly higher than the average national pass rate.

In FY2010, as NUS Yong Loo Lin School of Medicine (YLLSoM) revamped its curriculum and increased the amount of time that the students spent in primary care, more students were trained at SHP for a longer period of time in 2010 than in previous years. An Education Director and four core faculty members were appointed by the YLLSoM to oversee the programme.

The group of medical students from the YLLSoM was attached to four different polyclinics to learn more about the common types of conditions seen at the polyclinics. They gained insight to clinic operations through activities such as sit-in sessions with senior doctors, observation at service stations and case discussions on common conditions and treatment methods.

In FY2010, SHP also enhanced its programme for the Duke-NUS Graduate Medical School (Duke-NUS) Family Medicine Clerkship programme by providing a polyclinic curriculum to the students. The students now have opportunities to learn through attachments to other healthcare providers in the clinics such as the Nurse Counsellors, and the Immunisation Nurse. Three more clinical preceptors were appointed to teach the students in 2010.

Following the success of the inaugural Clinical Symposium Update in 2009, the 2nd SHP Clinical Symposium Update was held on 15 May 2010 at the Grand Hyatt Hotel. This was attended by 171 participants, of whom 70 were General Practitioners.
Sarah Tay sees pharmacists as the final gatekeepers between safe medication and the potentially dangerous world of online drug information.

“Patients are increasingly IT-savvy and may obtain wrong (and potentially dangerous) medical information online. We are in the best position to help clarify and correct such wrong information. In order for us to do so, we need the necessary knowledge.”

And that spurs her to teach and mentor. Sarah says she is ‘passionate’ about imparting knowledge to others.

“Knowledge is power, and this kind of power cannot be taken away by anyone. Healthcare, including Pharmacy, is a knowledge-based field, which explains why teaching and imparting knowledge is extremely important in Pharmacy.

There are constantly new drug innovations, new discoveries, and hence new things to learn. Knowledge plays a huge part in patient safety as we advise patients on their medications and medical conditions.”
To better prepare the clinics to manage emergencies, SHP rolled out an Automated External Defibrillators (AED) familiarisation programme to all our doctors. Using a Train-the-Trainer model, participants were taught how to use the AEDs which are now available in all SHP clinics. Together with nurses and other members of the clinic, Code Blue exercises were held in the clinics.

SHP continues to share knowledge and management skills in primary healthcare with its counterparts from Fujian, China in a joint project between SingHealth Academy and the Fujian Health Bureau.

PRiME also launched its own newsletter in 2010 to keep physicians updated on the latest developments in Education and Research. The quarterly The PRiME Update features key SHP training events as well as new research projects, publications and participation in conferences and presentations.

RESEARCH
2010 marked another exciting journey for the research scene in SHP. The research project titled Is Your Patient Really Hypertensive? Prevalence of White Coat Effect in Newly Diagnosed Hypertensives submitted by Dr Peter Moey and Dr Christopher Chang came in first in the inaugural research championship of the 2nd Asia Pacific Primary Care Research Conference in December 2010. Dr Tan Ngiap Chuan’s article on The Inaugural Primary Care Research Championship as a Social Experiment to Promote Research was also published as an editorial at the event.

To add to the list of accolades, Senior Nurse Manager Tan Ai Meng clinched 3rd position under the Nursing Speciality Track, Best Nursing Oral Presentation Award of the SingHealth Duke-NUS Scientific Congress with her research title Initiation of Insulin for Type 2 Diabetic Patients: What Are The Issues? A Qualitative Study.

The Research Workshop (previously known as Qualitative Research Workshop) equips participants with various research techniques such as organising focus group discussions, how to use available equipment for gathering qualitative data, role-playing and others. Participants will carry out an actual qualitative research project over the next 12 months as part of their training programme.

Dr Joanne Quah and Dr Tan Ngiap Chuan from the pioneer cohort of doctors graduated with the Masters of Clinical Investigation (MCI) programme in July 2011. Two others, Dr How Choon How and Dr Andrew Wee are currently enrolled in the MCI programme.

OUR PEOPLE
As part of the institute’s continual staff development, SHP supported 10 medical staff in their pursuit of the Master in Medicine (Family Medicine) and three other staff in their Graduate Diploma in Family Medicine.

Besides medical staff, SHP also supported six nursing staff for their Advanced Diploma in Nursing, of which two focused on Midwifery and four specialised in Gerontology.

COMMUNITY ENGAGEMENT
SHP’s annual outreach programmes saw SHP-Pasir Ris take part in the health carnival Big on Health organised by Pasir Ris Central Community Centre. The polyclinic provided health screening (including Body Mass Index and blood pressure measurements), smoking cessation tips and meal plans counselling to more than 200 residents.

Under the auspices of the SingHealth-President’s Challenge 2010, SHP brought families from the New Hope Community Services to the Bird Park and for a movie, The Last Airbender, to share a moment of cheer and friendship.
### KEY FIGURES

<table>
<thead>
<tr>
<th>Workload per annum</th>
<th>FY10</th>
<th>FY09</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyclinic Attendances</td>
<td>1,683,414</td>
<td>1,610,752</td>
</tr>
<tr>
<td>Dental Attendances</td>
<td>29,697</td>
<td>27,910</td>
</tr>
<tr>
<td>Dental Procedures</td>
<td>64,644</td>
<td>55,339</td>
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**Staffing** (as at end Mar)

<table>
<thead>
<tr>
<th>Category</th>
<th>FY10</th>
<th>FY09</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>902</td>
<td>860</td>
</tr>
<tr>
<td>Doctors</td>
<td>145</td>
<td>128</td>
</tr>
<tr>
<td>Dentists</td>
<td>11</td>
<td>11</td>
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<tr>
<td>Nurses</td>
<td>276</td>
<td>262</td>
</tr>
<tr>
<td>Allied Health Professionals</td>
<td>138</td>
<td>128</td>
</tr>
<tr>
<td>Dental Surgery Assistants</td>
<td>12</td>
<td>11</td>
</tr>
<tr>
<td>Others</td>
<td>320</td>
<td>320</td>
</tr>
</tbody>
</table>

Note: Staffing figures refer to Filled Posts, in terms of Full-Time Equivalent, and may not add up to total due to rounding.

### AWARDS & ACCOLADES

#### PATIENT CARE

**SingHealth Quality Service Award 2010**
- 100 staff – 2 Star, 11 Gold and 87 Silver

**Best Team on Clinical Practice Improvement award by SHP-Bukit Merah on “All Active CVD patients in Bukit Merah Polyclinic will have annual panel test done within the next 6 months”**

**National Day Awards 2010 (Long Service Medal)**
- Chan Yoke Yin; Chew Say Moi; Chia Mei Choi Daisy; Chua Ah Hoi Mary; Ho Quek Chiaj; Jimelah Binte Abdul Rahim; Koh Cheow Lian; Lee Yuet Lai; Liew Bock Kim; Malini Krishnan; Mohammad Yusof Bin Omar; Saidah Binte Shariff; Seah Ai Choo; Sulaiman Bin Sanawi; Tan Chee Eng; Tan Lay Poh; Tan Lee Hui; Teng Sock Thing; Dr Yeo Chye Luan

**MOH Nurses Day Merit Award 2010**
- Oh Beng Hoon, Ng Ah Mui

**SingHealth Excellence Award 2011**
- **Outstanding Nurse Award**
  - Tang Siew Cheng
- **Outstanding Clinician Award**
  - Dr Lim Hwee Boon
- **Outstanding Allied Health Professional Award**
  - Sarah Tay Siew Cheng
### PATIENT CARE (cont’d)

<table>
<thead>
<tr>
<th>Award</th>
<th>Recipient</th>
</tr>
</thead>
<tbody>
<tr>
<td>SingHealth Excellence Award 2011 (cont’d)</td>
<td>Roslina Binte Husain</td>
</tr>
<tr>
<td>Outstanding Ancillary Staff Award</td>
<td></td>
</tr>
<tr>
<td>Outstanding Administrative Staff Award</td>
<td>Lee Ching Ching</td>
</tr>
</tbody>
</table>

### EDUCATION

<table>
<thead>
<tr>
<th>Award</th>
<th>Recipient</th>
</tr>
</thead>
<tbody>
<tr>
<td>SingHealth-Lee Foundation Nursing Awards</td>
<td>Stephanie Teo Swee Hong</td>
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</tbody>
</table>

### RESEARCH

<table>
<thead>
<tr>
<th>Contest, Oral Category, Second Prize</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wonca Asia Pacific &amp; Chinese Taipei</td>
<td>Dr Tan Ngiap Chuan on “Treat to Target Approach in Managing Modifiable Risk Factors of Patients with Coronary Heart Disease in Primary Care Setting in Singapore. What are the Issues?”</td>
</tr>
<tr>
<td>Association Research</td>
<td>Dr Peter Moey and Dr Christopher Chang on their research proposal titled “Is your Patient really Hypertensive? Prevalence of White Coat Effect in Newly-diagnosed Hypertensives”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Conference, First Prize</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd Asia Pacific Primary Care Research</td>
<td>Tan Ai Meng, Senior Nurse Manager on “Initiation of Insulin For Type 2 Diabetic Patients: What are the Issues? A Qualitative Study”</td>
</tr>
</tbody>
</table>

### HUMAN RESOURCE

<table>
<thead>
<tr>
<th>Award</th>
<th>Recipient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore Health Award 2010</td>
<td>Gold</td>
</tr>
</tbody>
</table>

### QUALITY

<table>
<thead>
<tr>
<th>Healthcare Quality</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improvement Conference</td>
<td>Dr Low Sher Guan, Dr Hwang Siew Wai, Dr Soo Wern Fern, Tina Phua Yen Tin, NM Lau Siew Meng and Tan Swee Keng on “Reducing the Electronic Prescription Error Rates in Clinical Practice”</td>
</tr>
</tbody>
</table>
It has to happen. In the course of learning how to deal with patients, new and junior nurses will make mistakes and get scolded by their seniors. Nurse clinician Tang Siew Cheng’s advice is to pick yourself up and move on. “As long as one can learn from an incident, it does not matter if there are reprimands and setbacks along the way,” she says.

For Siew Cheng, who has been mentoring since she was a staff nurse, the value of mentoring is most seen when theory gets translated into practice at the service points.

“In clinical areas where there is always a need to gel learning with practice at a relatively fast pace, it will definitely help when there is someone there to guide and advise. This will prevent mistakes which may affect patients’ treatment and trust in healthcare professionals.”

And as a mentor, payback comes when she sees her new nurses build up confidence to deliver quality care to their patients.
BOARD OF DIRECTORS
AND SENIOR MANAGEMENT
Mr Peter SEAH Lim Huat
Chairman of the Board
Chairman, Staff Committee

A senior banking veteran who retired as Vice Chairman and CEO of OUB Pte Ltd in 2001, Mr Seah joined the SingHealth Board in October 2008 and was appointed Chairman in April 2009. He is currently also Chairman of DBS Group Holdings Ltd, Singapore Technologies Engineering Ltd and LaSalle College of the Arts Limited. Mr Seah also serves as Deputy Chairman of CapitaLand Limited and Director of several local and international companies including the Government of Singapore Investment Corporation Pte Ltd, StarHub Ltd and Level 3 Communications Inc. Mr Seah currently sits on the board of the Defence Science and Technology Agency.

Dr Michael B. WOOD
Board Member
Member, Research Committee
Member, Risk Oversight Committee

A physician and orthopaedic surgeon by training, Dr Wood joined the Board in April 2006. Dr Wood is the former CEO of Mayo Clinic, US and the current President Emeritus of the Mayo Foundation, US, since 2003, as well as Professor of Orthopaedic Surgery in Mayo Clinic since July 1989. Dr Wood is also Director of two publicly listed healthcare companies in the US.

Mrs Arfat SELVAM
Board Member
Member, Audit Committee
Member, Risk Oversight Committee

Mrs Selvam joined the Board in April 2006. An esteemed corporate lawyer, Mrs Selvam was admitted as an Advocate & Solicitor of the Supreme Court of Singapore in 1969. She is presently Managing Director of Selvam LLC, a Singapore law practice and its joint law venture, Duane Morris & Selvam LLP. With over 40 years in legal practice as a corporate finance lawyer, Mrs Selvam has been involved in some landmark Singapore acquisition transactions. She was President of the Law Society of Singapore in 2003. Mrs Selvam currently serves on the boards of several organisations including CapitaLand Limited, CapitaMalls Asia Limited, Breast Cancer Foundation, Hope Villages Fund Pte Ltd and Rahmatan Lil Alamin Foundation.
Mrs Christina ONG  
Board Member  
Chairman, Service Excellence Committee  
Member, Property Committee

Mrs Ong was appointed to the Board in April 2006. She presently serves as Chairman of the National Parks Board, and also sits on the Board of Singapore Airlines Limited. As Managing Director of the upmarket Club 21 fashion empire, Mrs Ong is well-known as a fashion entrepreneur and high-end hotelier with the Como brand of hotels, resorts and spas. She was awarded the Cavaliere Award by the Italian Government and Italian Fashion Hall of Fame Award in 1995.

Mr Ernest WONG Yuen Weng  
Board Member  
Chairman, Risk Oversight Committee  
Member, Budget & Investment Committee

Mr Wong joined the Board in April 2006. He started his career in 1967 with the Economic Development Board and the Ministry of Finance before joining United Overseas Bank (UOB) in 1972. He was appointed UOB Group President from 1990 to 2000 and Group CEO of MediaCorp from 2000 to 2005. Mr Wong is currently Chairman of Fullerton Financial Holdings Pte Ltd, Invida Group Pte Ltd and Nucleus Connect Pte Ltd. He is a Member of the Temasek Advisory Panel and sits on the Boards of Nanyang Technological University, SingBridge International Singapore Pte Ltd, Bank Danamon Indonesia and the Casino Regulatory Authority.

Mr CHAN Heng Kee  
Board Member  
Chairman, Budget & Investment Committee  
Member, Staff Committee  
Member, IT Committee

Mr Chan joined the Board in May 2006. He is Permanent Secretary of the Ministry of Community Development, Youth and Sports. Prior to his current role, he had served in a variety of public sector appointments, including Chief Executive of the Singapore Workforce Development Agency, Deputy Secretary (Development) of the Public Service Division at the Prime Minister’s Office and concurrently Chief Executive Officer and Dean of the Civil Service College. Mr Chan is also the Chairman of Singapore Sports School, and sits on the board of IDA International Pte Ltd, Singapore Totalisator Board and MediaCorp Pte Ltd.

Prof Edward W. HOLMES  
Board Member  
Chairman, Research Committee

A highly regarded physician-scientist, Prof Holmes joined the Board in December 2007. He received the prestigious Honorary Citizen Award in April 2011 for his contribution to biomedical sciences in Singapore. He is currently Deputy Chairman for the Translational and Clinical Sciences Group at the Biomedical Research Council of the Agency for Science, Technology and Research. Prof Holmes is also Executive Chairman of the National Medical Research Council. Prior to these appointments, he was the Vice Chancellor for Health Sciences and Dean, School of Medicine, at the University of California, San Diego. He has held senior leadership appointments in some of the best universities in the US and plays a major international leadership role, serving on numerous universities, industrial, and national advisory boards.
Ms Yong joined the Board in October 2008. She is Permanent Secretary, Ministry of Health and National Research and Development. Ms Yong is Chairman of MOH Holdings, the Infocomm Development Authority of Singapore and IDA International. She also serves on the boards of the Civil Service College, National University Health System, Singapore Symphony Company and Singapore Totalisator Board. During her career in the civil service, Ms Yong has served in the Ministries of Finance, Trade & Industry, Home Affairs, Communications & IT and Manpower and was Principal Private Secretary to then-Deputy Prime Minister Lee Hsien Loong.

Dr Dzau joined the Board in October 2008. He is the Chancellor for Health Affairs at Duke University and President and CEO of the Duke University Health System. Prior to joining Duke, Dr Dzau had worked for notable institutions including Harvard Medical School, Brigham and Women’s Hospital and Stanford University. With an academic interest in cardiovascular translational research and global health, he is the recipient of many awards and serves on numerous committees and advisory boards including the National Institutes of Health in the US.

Mr Cheng joined the Board in April 2009. He retired as managing partner of Accenture Singapore in 2003 and is currently a director of Integrated Health Information Systems Pte Ltd, the IT subsidiary of MOH Holdings Pte Ltd. He sits on the boards of United Overseas Bank Limited, Singapore Press Holdings and NTUC Fairprice. Active in the non-profit sector, he serves on the boards of councils of several civic and charitable organisations, such as Caritas Humanitarian Aid & Relief Initiatives Singapore, Council for Third Age, The Courage Fund and SymAsia Foundation.

Mr Yatiman joined the Board in April 2009. He retired from politics in 2007, Mr Yatiman joined the Board in April 2009. He is Singapore's High Commissioner to Rwanda and Kenya. He sits on the board of the Singapore Press Holdings Foundation, National Kidney Foundation, Public Guardian's Board and the National Parks Board, and is actively involved with the Singapore Scouts Association and the Malay Language Council.
Mr Philip ENG Heng Nee  
Board Member  
Chairman, Audit Committee  
Member, Property Committee

Mr Eng joined the Board in April 2009. He spent 23 years with Jardine Cycle & Carriage Group before retiring in 2005 as Group Managing Director. Currently, Mr Eng is Singapore’s Ambassador to Greece and High Commissioner to Cyprus. He is non-Executive Chairman of mDR Limited, Frasers Centrepoint Asset Management Ltd and Executive Deputy Chairman of Hup Soon Global Corporation Ltd. He serves on the board of several local and regional companies which include Asia Pacific Breweries Ltd, NTUC Income, OpenNet Pte Ltd, The Hour Glass Ltd, Heliconia Capital Management Pte Ltd and Hektar Asset Management Sdn Bhd.

Prof Raj Mohan NAMBIAR  
Board Member  
Member, Staff Committee  
Member, Risk Oversight Committee

Prof Nambiar joined the Board in April 2009. A surgeon for more than 40 years, he is Visiting Consultant to Singapore General Hospital, Tan Tock Seng Hospital and Khoo Teck Puat Hospital and Senior Consultant with the Ministry of Health. He is also Clinical Professor, National University of Singapore and Emeritus Consultant, Changi General Hospital. Actively involved in postgraduate medical training, he serves as Member of the Specialist Accreditation Board and Chairman of the Residency Advisory Committee for General Surgery under the Ministry of Health. Prof Nambiar was President of the Singapore Medical Council for four years until 2008.

Mr Gerard EE Hock Kim  
Board Member  
Member, Staff Committee  
Member, Service Excellence Committee

Mr Ee joined the Board in April 2009. An accountant, Mr Ee practised as an Auditor and retired as a partner of Ernst & Young in 2005. He was recently appointed Chairman of Eastern Health Alliance, of which Changi General Hospital is a founding member. Mr Ee also serves as Chairman of the National Kidney Foundation, Singapore Institute of Management, and Canossian School for the Hearing Impaired. He sits on the boards of MOH Holdings Pte Ltd, Accounting and Corporate Regulatory Authority, Tax Academy and Symasia Foundation Ltd. Mr Ee is active in the field of social service and chairs a range of social service organisations and programmes.

Mr KHOO Boon Hui  
Board Member  
Member, Property Committee  
Member, Risk Oversight Committee

Mr Khoo joined the Board in September 2010. He is the Senior Deputy Secretary for the Ministry of Home Affairs. He began his career in the Singapore Police Force (SPF) in 1977 and served as Commissioner of the Singapore Police from 1997 to 2010. He is also President of the INTERPOL Executive Committee and sits on the boards of Singapore Technologies Kinetics Ltd and Singapore Technologies Engineering Ltd, chairing its Risk Review Committee. Mr Khoo is also Deputy Chairman of the Singapore Island Country Club and the Singapore Quality Award Governing Council, alternate Chairman of the Home Team Academy Board of Governors and a member of YMCA Advisory Council and the International Centre for Sports Security Advisory Board.
Chief Executive Officers, Chairmen, Medical Boards and Directors of National Specialty Centres

Prof TAN Ser Kiat
Group Chief Executive Officer, SingHealth

Prof Ivy NG
Deputy Chief Executive Officer, SingHealth

Prof Ang Chong Lye
Deputy Chief Executive Officer, Clinical Services & Informatics, SingHealth

Prof SOO Khee Chee
Deputy Chief Executive Officer, Research & Education, SingHealth

Mr T K Udairam
Chief Executive Officer, Changi General Hospital

Prof NG Han Seong
Chairman, Medical Board, Singapore General Hospital

A/Prof KWEK
Chairman, Medical Board, KK Women's & Children's Hospital

A/Prof LOW Cheng Ooi
Chairman, Medical Board, Changi General Hospital

Dr Kwa Chong Teck
Executive Director, National Dental Centre of Singapore

A/Prof KOH Tian Hai
Medical Director, National Heart Centre Singapore

A/Prof A/Prof KWEK
Chairman, Medical Board, KK Women's & Children's Hospital

Prof LEE Wei Ling
Director, National Neuroscience Institute

Prof Donald TAN
Medical Director, Singapore National Eye Centre

Dr TAN Chee Beng
Chief Executive Officer, SingHealth Polyclinics

Prof TAY Boon Keng
Chairman, Medical Board (International), SingHealth
Mr SIA Kheng Hong
Group Chief Financial Officer

Mr TAN Jack Thian
Group Chief Operating Officer
Group Procurement Officer
Chief Operating Officer,
KK Women’s & Children’s Hospital

Dr Edwin LOW Cheng Tee
Group Director,
Office of Academic Medicine
Group Director,
Strategic Human Resource
Visiting Consultant,
Hyperbaric & Diving Medicine Centre,
Singapore General Hospital

A/Prof Colin SONG
Group Director, Education
(till 30 September 2011)
Designated Institutional Official (DIO)
Head, Dept of Plastic Reconstructive & Aesthetic Surgery,
Singapore General Hospital

A/Prof KOO Wen Hsin
Group Director, Education
(wef 1 October 2011)
Senior Consultant,
Dept of Medical Oncology,
National Cancer Centre Singapore

Prof FONG Kok Yong
Group Director, Clinical Research
Chairman, Division of Medicine,
Singapore General Hospital

Prof TEH Bin Tean
Group Director, Translational Research
Director, NCCS-Van Andel Research Institute Translational Research Program

A/Prof LIM Swee Hia
Group Director of Nursing
Nursing Director,
Singapore General Hospital &
National Heart Centre Singapore

Prof FOCK Kwong Ming
Chief Risk Officer
Senior Consultant,
Dept of Gastroenterology & Medicine,
Changi General Hospital

A/Prof LOW Cheng Ooi
Chief Medical Informatics Officer
Chairman, Medical Board,
Changi General Hospital
Corporate Office Directors

Mrs CHNG Wong Yin
Group Chief Information Officer
(till 31 December 2010)

Mr Benedict TAN
Group Chief Information Officer
(wef 1 January 2011)

Mrs TAN-HUANG Shuo Mei
Group Director,
Communications & Service Quality
SingHealth & Singapore General Hospital

A/Prof Daphne KHOO
Director, Clinical Governance & Quality Management
(till October 2011)

Head, Dept Of Endocrinology,
Singapore General Hospital
(till October 2011)

Dr CHOW Mun Hong
Director, Clinical Governance & Quality Management
(wef 14 November 2011)

Director, Quality Management
SingHealth Polyclinics

Dr LEE Ee Lian
Director, Medical Manpower
Senior Consultant,
Dept of Psychiatry,
Singapore General Hospital

Ms Elizabeth CHOO
Director, Legal

Ms QUAY Keng Wah
Director, Planning & Performance

Mr TAY Sin Hwa
Director, SingHealth Academy

Ms YONG Seow Kin
Director, Facilities Development

Mr Peter TAN
Director, Business Development
### Key Figures

<table>
<thead>
<tr>
<th></th>
<th>FY10</th>
<th>FY09</th>
<th>Change</th>
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<tbody>
<tr>
<td><strong>Size</strong></td>
<td></td>
<td></td>
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<tr>
<td>Licensed Beds (as at end Mar)</td>
<td>3,395</td>
<td>3,321</td>
<td>2.2%</td>
</tr>
<tr>
<td>Beds in Service</td>
<td>3,275</td>
<td>3,163</td>
<td>3.5%</td>
</tr>
<tr>
<td><strong>Workload per annum</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bed Occupancy Rate</td>
<td>79.2%</td>
<td>78.4%</td>
<td>0.8%pt</td>
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<td>Inpatient Admissions</td>
<td>188,241</td>
<td>184,555</td>
<td>2.0%</td>
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<tr>
<td>Inpatient Discharges</td>
<td>187,967</td>
<td>184,674</td>
<td>1.8%</td>
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<tr>
<td>Total Patient Days</td>
<td>947,334</td>
<td>904,950</td>
<td>4.7%</td>
</tr>
<tr>
<td>Average Length of Stay (days)</td>
<td>5.0</td>
<td>4.9</td>
<td>0.1 day</td>
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<tr>
<td>Total Surgical Operations</td>
<td>210,450</td>
<td>205,284</td>
<td>2.5%</td>
</tr>
<tr>
<td>Day Surgeries</td>
<td>133,198</td>
<td>128,571</td>
<td>3.6%</td>
</tr>
<tr>
<td>Inpatient Surgeries</td>
<td>77,252</td>
<td>76,713</td>
<td>0.7%</td>
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<tr>
<td>Specialist Outpatient</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinic Attendances</td>
<td>2,102,393</td>
<td>2,050,937</td>
<td>2.5%</td>
</tr>
<tr>
<td>Accident &amp; Emergency Attendances</td>
<td>470,427</td>
<td>459,152</td>
<td>3.1%</td>
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<tr>
<td>Dental Attendances</td>
<td>190,920</td>
<td>193,640</td>
<td>-1.4%</td>
</tr>
<tr>
<td>Dental Procedures</td>
<td>231,455</td>
<td>224,607</td>
<td>3.0%</td>
</tr>
<tr>
<td>Polyclinic Attendances</td>
<td>1,683,444</td>
<td>1,610,752</td>
<td>4.5%</td>
</tr>
<tr>
<td><strong>Staffing</strong> (as at end Mar)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>19,091</td>
<td>17,584</td>
<td>4.5%</td>
</tr>
<tr>
<td>Doctors</td>
<td>2,307</td>
<td>2,121</td>
<td></td>
</tr>
<tr>
<td>Dentists</td>
<td>94</td>
<td>98</td>
<td></td>
</tr>
<tr>
<td>Nurses</td>
<td>7,825</td>
<td>7,219</td>
<td></td>
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<tr>
<td>Allied Health Professionals</td>
<td>2,937</td>
<td>2,560</td>
<td></td>
</tr>
<tr>
<td>Dental Surgery Assistants</td>
<td>73</td>
<td>66</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>5,856</td>
<td>5,520</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Staffing figures refer to Filled Posts, in terms of Full-Time Equivalent, and may not add up to total due to rounding.

### Financial Info

<table>
<thead>
<tr>
<th></th>
<th>FY10 year ended 31 Mar 2011 ($S million)</th>
<th>FY09 year ended 31 Mar 2010 ($S million)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assets by Major Categories</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plant and Equipment</td>
<td>511</td>
<td>486</td>
</tr>
<tr>
<td>Trade and Other Receivables</td>
<td>532</td>
<td>330</td>
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<tr>
<td>Other Assets</td>
<td>750</td>
<td>852</td>
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<tr>
<td><strong>Total</strong></td>
<td>1,793</td>
<td>1,668</td>
</tr>
<tr>
<td><strong>Liabilities by Major Categories</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trade and Other Payables</td>
<td>684</td>
<td>643</td>
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<tr>
<td>Other Current Liabilities</td>
<td>97</td>
<td>85</td>
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<tr>
<td>Non Current Liabilities</td>
<td>458</td>
<td>388</td>
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<tr>
<td><strong>Total</strong></td>
<td>1,239</td>
<td>1,116</td>
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<tr>
<td><strong>Capital/Reserves by Major Categories</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share Capital</td>
<td>460</td>
<td>460</td>
</tr>
<tr>
<td>Reserves</td>
<td>94</td>
<td>92</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>554</td>
<td>552</td>
</tr>
<tr>
<td><strong>Revenue Breakdown by Major Categories</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient Revenue</td>
<td>1,180</td>
<td>1,065</td>
</tr>
<tr>
<td>Subvention</td>
<td>1,151</td>
<td>1,055</td>
</tr>
<tr>
<td>Other Revenue</td>
<td>279</td>
<td>274</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2,590</td>
<td>2,394</td>
</tr>
<tr>
<td><strong>Expenditure by Major Categories</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manpower</td>
<td>1,400</td>
<td>1,310</td>
</tr>
<tr>
<td>Supplies and Consumables</td>
<td>417</td>
<td>385</td>
</tr>
<tr>
<td>Other Operating Expenses</td>
<td>636</td>
<td>583</td>
</tr>
<tr>
<td>Depreciation and Amortisation</td>
<td>133</td>
<td>106</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2,586</td>
<td>2,384</td>
</tr>
</tbody>
</table>
DIRECTORY

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