

Making a Difference

annual review 2002



Our Mission

We deliver quality care to every patient through comprehensive, integrated clinical practice, innovation and life-long learning.

Our Vision

To be a renowned organisation at the leading edge of medicine, providing quality healthcare to meet our nation's aspirations.

Our Core Values

Commitment

Dedicated to SGH and its mission, and upholding the highest professional integrity

Collegiality

Looking beyond oneself and working in partnership with others; building trust through openness and goodwill

Compassion

Valuing and caring for every individual; being sensitive and attentive to their needs, and responsive to these needs in a timely and appropriate manner

Respect

Treating every individual with consideration and dignity

Integrity & Openness

Upholding firm principles and high standards; demonstrating a high level of trust and honesty; being upfront and truthful in actions and words

Professionalism

Dedicating one's best knowledge and skills to assure best outcome and experience for patients and colleagues; staying professionally competent and continually seeking self-improvement and development

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Message From The Chief Executive Officer

“ Making A Difference...challenges us to embrace a new mindset when carrying out our daily tasks, and inspires us to think out of the box to find new ways to make a difference when providing clinical care and service to our patients. ”

In November 2001, we launched the theme 'Making A Difference' to guide us in our quality journey for the year 2002. The theme challenges us to embrace a new mindset when carrying out our daily tasks and inspires us to think out of the box to find new ways to make a difference when providing clinical care and service to our patients. Not only in the delivery of patient care but also in the areas of teaching and research.

Underpinning the theme is the affirmation of our Mission, Vision, Core Values and commitment to clinical and service quality. It provides a common thread to every action that we take towards delivering quality care and service to our patients - whether it is welcoming patients with a smile, improving our work processes to cut down unnecessary procedures or introducing innovative medical services that enhance our patients' quality of life. It also cuts across all levels of staff within SGH as everyone, whether as individuals or teams can contribute towards Making a Difference.

Ultimately, if we believe that we are Making a Difference, it answers the universal question of why we are doing what we are doing. If we are committed towards delivering quality service, best outcomes for our patients, continuous improvements, and innovative leading edge medicine, we will make a difference.

Message

I am heartened to note that during the year-long quality journey, our staff have made a deliberate effort to make the theme a part of their work attitude. This Annual Review of our progress in clinical care, service delivery, teaching and research, speaks volumes of how everyone in SGH has contributed towards Making a Difference.

To all our staff - your efforts are commendable and I applaud each and every one of you who has made a difference in your area of work. Let me take this opportunity to thank you again for your contribution and more importantly, let me encourage all of you to keep up the good work.

A handwritten signature in black ink, appearing to read 'Tan', with a long horizontal stroke extending to the right.

Professor Tan Ser Kiat
Chief Executive Officer

A photograph of two surgeons in an operating room. They are wearing blue scrubs, blue bouffant caps, and light blue surgical masks. They are also wearing yellow gloves. The surgeon on the right is leaning over the patient, using surgical instruments. The surgeon on the left is looking towards the camera. The background is filled with bright, circular surgical lights. The text "Making a Difference - Clinical Excellence" is overlaid on the image in white, bold, sans-serif font.

**Making a Difference -
Clinical Excellence**

Patient-centric Care - building an integrated, comprehensive and seamless healthcare delivery system where resources are reorganised and redeployed around the needs of the patients.

In keeping with our tradition of caring and excellence, SGH has introduced several initiatives, including new treatment modalities and innovative programmes to improve and augment patient care and satisfaction. These initiatives embodied our commitment to making a difference in clinical outcomes.

Breakthroughs through Collaboration

The pursuit of clinical excellence was a common goal that motivated SGH doctors to collaborate with their colleagues within SGH as well as with institutions on Outram Campus, to perform various landmark procedures that propelled SGH to the forefront of cutting edge medicine.

SGH first collaborated with the National Dental Centre in 2000 to perform the first **Bilateral Maxillo-mandibular Advancement surgery** in Southeast Asia, breaking new grounds in the treatment of obstructive sleep apnoea (OSA). The drive to seek better and improved treatment led the team to refine the surgical procedure and achieved another breakthrough in the treatment of OSA, this time by enlarging the airway without any significant alternations to the patient's facial profile that are commonly associated with the traditional treatment method. The procedure is the first of its kind to be performed in the world, setting the benchmark in the treatment of this common form of sleep disorder.

In collaboration with the National Cancer Centre, SGH was able to extend the therapeutic envelope for liver cancer patients who were deemed unsuitable for surgery. **Radiofrequency Ablation (RFA)** was made available as a treatment option for patients suffering from inoperable liver tumour. The cutting edge procedure which can be done percutaneously or intra-operatively, opens up another treatment option for cancer patients.

A combined microvascular reconstruction team pooling the expertise of our Orthopaedic, Plastic and Hand surgeons led to the development of an innovative approach to limb

06 **Making a Difference -
Clinical Excellence**

“Through collaborations and tapping on talents across the various institutions, SGH doctors have been able to make a difference, by achieving clinical excellence that will help propel the hospital to the forefront of cutting edge medicine.”

A/PROF PATRICK TAN
Haematologist

Winner of 'Excellence for Singapore Award 2003' for his groundbreaking work and achievements in the fields of Haematology and Bone Marrow Transplant

DR GOH YAU HONG
ENT Surgeon

Pioneered breakthrough treatment for Obstructive Sleep Apnoea



salvage for patients, especially in children suffering from sarcoma. Adopting the use of **Osteo-myocutaneous Flaps** in upper limb reconstruction, the team was able to provide these young patients with a reasonable residual function in the affected limb through limb reconstruction.

Albumin Liver Dialysis using the Molecular Adsorbent Recirculating System (MARS) was performed in SGH for the first time through the collaboration of our doctors from the departments of Renal Medicine, Gastroenterology, General Surgery, Haematology, Respiratory Medicine and Anaesthesia. The dialysis provided temporary liver support for patients suffering from chronic liver disease with liver decompensation.

Improved Treatment Procedures

The advent of new treatment modalities brings with it unprecedented opportunities to understand and treat diseases that had previously confounded us. Besides the learning possibilities, these procedures brought about better outcomes while emphasising the level of comfort and safety of our patients.

For patients awaiting organ transplant, the hospital's success in conducting Singapore's first **Laparoscopic Donor Nephrectomy** brought renewed hope for a new lease of life. In this procedure, the kidney is removed laparoscopically and transplanted immediately into the recipient, thus greatly minimising the morbidity rate of the organ donor and reducing the risks faced by those who wished to give their loved ones the gift of life. The minimally invasive surgery also resulted in a much shorter recovery period for the donor, as compared to conventional transplant surgery. The months of preparation and intensive training by our staff paid off with the fruition of the landmark surgery, giving living-related organ donation a much-needed boost.

SGH became the first hospital in Singapore to perform **Injection Laryngoplasty**, a procedure to help patients suffering from paralysis or atrophy of the vocal cord improve their voice and swallowing. The procedure, which is performed on an outpatient basis, provided a viable option for patients suffering from malignant neck disease and those who are too unwell to undergo open vocal fold medialisation surgery.

Leveraging on state-of-the-art technology, surgeries such as knee and hip replacement which traditionally required long, deep incisions and a lengthy recovery period were replaced with minimally invasive surgeries that minimise scarring, reduce pain, and shorten recovery and rehabilitation period. As the hospital that performs the largest number of unicondylar knee replacement surgery in Asia, SGH surgeons continue to build on their wealth of experience and expertise in this field, exploring new concepts and improved techniques for the benefit of our patients.

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Clinical Excellence

“The advent of new treatment modalities brings with it opportunity to develop better clinical outcome while emphasising the level of comfort and safety of our patients.”

DR TAN MANN HONG
Orthopaedic Surgeon

Part of a microvascular reconstruction team that developed an innovative approach to limb reconstruction for children



For patients requiring hip replacement, the new **Mini-incision Hip Replacement Surgery** means less trauma and smaller wounds, as they can now have a total hip prosthesis implanted through an incision measuring only nine centimetre. Patients suffering from slipped disc or low back pain can seek relief from **Endoscopic Discsectomy**, which is performed percutaneously through small incisions under local anaesthesia without any traumatic back muscle dissection, bone removal, or large skin incision. SGH also performed its first **Total Disc Arthroplasty Surgery** with excellent results, and is set to offer the procedure as a surgical option for patients suffering from disabling low back pain.

To help couples realise their dreams of parenthood, couples undergoing IVF treatment now have the option of **Laser-assisted Hatching of Embryos**, which enhances the chance for pregnancy. The “hatching” process involves the use of laser to create a small hole in the zona pellucida prior to embryo transfer, thereby enabling the embryo to “hatch” from its eggshell for implantation on the uterine wall.

For women seeking a non-surgical alternative to permanent contraception, SGH has introduced **Essure Permanent Birth Control**. The procedure, which does not require any incision and is performed under local anaesthesia, provides a less invasive and yet more effective form of birth control as compared to tubal ligation.

Pain management plays an important role in patient care, as it helps patients to cope with their condition with the aim of improving their quality of life. Our doctors are constantly on the search for better ways to address patients’ needs and improve their comfort. To help alleviate the pain experienced by burns patients, **Entonox Gas** is introduced for use when these patients are undergoing certain treatment procedures. **Neurolytic Nerve Blocks** are also available to provide comfort and enhance the quality of life for patients battling cancer.

Co-ordinated clinical pathways, while outlining the care and outcomes for patients, ensure the delivery of cost-effective treatment and good clinical outcomes to our patients. In 2002, six new **Clinical Pathways** were developed for a range of conditions including hand infection, radical prostatectomy and lower caesarean section. New strategies were adopted to ensure continual quality improvement, so instead of launching the pathway when the patient is admitted to the ward, clinical pathways are now initiated from the source of admission and are extended to non-primary wards.

Detection and Screening

Early detection plays an instrumental role in the fight against diseases, allowing for timely intervention and management that may lead to a considerable improvement in survival or quality of life.

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For patients suffering from **Familial Hypercholestromia**, a Registry was established to provide screening for their family members. The condition, characterised by higher than normal levels of blood cholesterol, is transmitted from generation to generation and results in early-onset heart disease. The registry has successfully screened more than 150 persons and has helped to identify those who have the hereditary condition, allowing them to seek early treatment.

To provide a safety net for patients at risk of having children with serious genetic disorders such as haemophilia, the hospital conducts **Pre-implantation Genetic Diagnosis (PGD) Screening** for those planning to start a family. The new screening technique enables doctors to identify genetic diseases in the embryo prior to implantation before the pregnancy is established. This provided a viable option for high-risk couples to achieve their desired family size, by avoiding the need for possible pregnancy termination due to prenatal diagnosis of any genetic disorders.

New Clinical Services

In 2002, several new clinical services were introduced to augment the existing clinical specialties available at the hospital, providing patients with access to a comprehensive range of medical services that are relevant to their needs.

Skin problem is a common concern for patients who are on immunosuppressive regime, or those suffering from diabetic or renal conditions. A new **Dermatology Unit** now ensures that these patients receive the necessary care and treatment for their skin conditions. The unit was established in June 2002 to cater to the various skin diseases including psoriasis, atopic dermatitis as well as hair and nail problems.

A **Rheumatology Service** was introduced to provide diagnosis and management for a range of conditions including rheumatoid arthritis, osteoarthritis and systemic autoimmune diseases. Patients can now have access to treatments that provide good control of the disease and relief from symptoms. The service also focused on promoting understanding of the causes of these conditions and in identifying more effective approaches to the prevention, early diagnosis, and treatment of these diseases.

Established in 2001, the Department of **Rehabilitation Medicine** became a full-fledge department in October 2002. The team now provides comprehensive multidisciplinary rehabilitation for patients with complex impairments and disabilities including stroke and spinal cord injuries. The department plays an instrumental role in helping patients achieve their optimal level of independence while guiding them on the road to recovery and hopefully, re-integration into society.

A group of four people, two men and two women, are standing in a classroom or office setting. They are all smiling and looking towards the camera. The woman in the foreground on the right is holding a large stack of papers or a book. The man on the left is also holding a book. The background shows a bright, well-lit room with wooden paneling and a ceiling light fixture.

**Making a Difference -
Excellence in Teaching**

Maximising Potential through Education

As steward of the next generation of doctors, SGH upholds our teaching legacy by assuming a pivotal role in undergraduate and postgraduate medical education. Taking on a significant portion of the undergraduate teaching workload, the hospital is also the principal training ground for specialists and home to the country's first postgraduate teaching hospital.

Our tradition of excellence in clinical teaching is firmly supported by clinical departments dedicated to the training of new doctors. At the Department of Anaesthesia, Consultants are appointed as **Mentors** to coach individual medical students in the various aspects of their training. The department has also incorporated an **ICU Symposium** into the training programme to help familiarise new medical officers to the care of the critically ill patients, helping to prepare them to administer the appropriate emergency care.

The drive to deliver a high standard of medical teaching is augmented by the **Associate Dean**, who plays a key role in undergraduate teaching activities. Besides working with appointed **clinical coordinators** for the implementation of medical training programmes and auditing these programmes, the Associate Dean also appraised the performance of clinical teachers and accorded due recognition to outstanding ones. Serving as a mentor to the trainees, he also conducted regular feedback and dialogue sessions to ensure that SGH provides an excellent academic programme in a conducive environment.

As a premier regional training centre for various clinical specialties, SGH serves as an attractive option for overseas participants. In 2002, the hospital provided postgraduate medical training for 60 foreign doctors from 12 overseas countries. The **SGH-GE Interventional Radiology Fellowship**, launched by the Department of Diagnostic Radiology and GE Medical Systems is one of the fellowship programmes which offers international radiologists in the region an opportunity to be trained in interventional radiology.

As a strategic training partner of the International Atomic Energy Agency (IAEA), the Department of Nuclear Medicine provided training for seven overseas Nuclear Medicine Physicians under the **IAEA Fellowship Programme**. In addition, the department was also responsible for training local and overseas participants in Endocrinology, Nuclear Cardiology, General and Advanced Nuclear Medicine, as well as specialty training in Nuclear Medicine Nursing, Nuclear Medicine Technology, Nuclear Medicine Physics and Radiopharmacy.

The Department of Orthopaedic Surgery played host to 24 orthopaedic surgeons from various Asian countries at its **Advanced Arthroplasty Symposium**. As the department that performed the largest number of joint replacement surgeries in Singapore, the event allowed SGH surgeons to share their expertise in minimally invasive unicompartmental knee replacements. Another two specialist training workshops were conducted in

Vietnam, providing an opportunity for the local surgeons to pick up the finer points of arthroplasty techniques.

As a clinical teaching hospital for student nurses, radiographers and therapists, SGH had trained local nursing and allied health trainees and professionals, as well as those from the Asia Pacific region. In 2002, the hospital successfully trained the first batch of seven **Auditory-Verbal Therapists**, including three who had travelled from Malaysia, Indonesia and Hong Kong to enrol in the training programme.

The Institute of Advanced Nursing jointly collaborated with the Ministry of Foreign Affairs to organise a course on **Nursing Management** for 19 participants from countries in Asia, Africa and South America. The two-week programme focused on essential skills in ward management for middle level nurse managers and attested to the role of the institute as a leading training centre for nursing. A total of 42 nurses from external and overseas institutions participated in the clinical attachment programme, while 43 participants attended a study visit conducted by the institute.

Closer to home, the Department of Emergency Medicine achieved a first with the launch of a training programme for paramedics from the Singapore Civil Defence Force. The programme which trains paramedics in the administration of intravenous drugs translates into improved survival rates from pre-hospital resuscitation as paramedics are now capable of performing cardiac resuscitation. The department also set a milestone with the launch of the first **Disaster Medical Response Programme**, training hospital-based medical and nursing staff in responding to mass casualty events. The course will be adopted nation-wide as a blueprint for training emergency healthcare workers in the country on managing mass disasters.

SGH offers an avenue for lifelong learning for healthcare professionals through the myriad of courses offered by its Postgraduate Medical Institute. In 2002, the hospital organised more than 70 **Continuing Medical Education Programmes** for hospital staff and healthcare professionals. These activities were designed to provide up-to-date information and training on the latest advancement in medical technology and disease trends. Varied learning opportunities are available in the form of CME sessions, GP education programmes, workshops, symposiums as well as training programmes organised in collaboration with external partners including the National University of Singapore, Nanyang Technological University, Singapore Medical Association, College of Family Physicians and the Clinical Trials and Epidemiology Research Unit.

The Department of Endocrinology shared its findings with their counterparts in primary care at the department's **6th Annual Endocrine Update**, which attracted a record attendance by 130 general practitioners. The department also conducted a two-day workshop for general practitioners where they learnt about helping patients to reduce the burden of coronary heart disease and diabetes through role-play and activities instead of didactic lectures. The innovative approach to sharing information helped GPs to better understand and manage issues such as exercise, weight reduction and compliance with medication.

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Excellence in Teaching**

“SGH offers an avenue for lifelong learning for healthcare professionals... In 2002, more than 70 continuing medical education programmes were offered to hospital staff and healthcare professionals.”

PROF FOO KEONG TATT
Associate Dean

Advocate of undergraduate
medical education

MDM TAN LAY GEOK
Assistant Director, Nursing

Led her team to develop
e-learning programmes
for nurses



Collaborating with the Young Musicians' Society of Singapore, SGH organised a **Voice Workshop** for singers, sharing with them insights into the specific techniques for safe production of different vocal qualities. The team comprising Otolaryngologists and Speech Therapists also conducted a series of workshops for professional voice users, particularly speech language pathologists and teachers, to help them understand the basics of voice production with guidelines on proper voice care.

The Speech Therapy department provided training attachments for 29 speech therapy students from local and overseas academic institutions. The department is fast gaining recognition as an **established teaching and training centre for speech therapy** in Singapore with its university-endorsed, competency-based training programmes. This is further enhanced by the department's established clinical affiliation with the University of Sydney.

SGH spearheaded the development of the first eight **Skills Standards** that were endorsed under the National Skills Recognition System (NSRS) for use in the healthcare industry. The NSRS is a national initiative that SPRING Singapore has introduced to provide certification and recognition for employees for their competence in specific skills at the industry level. The national training guidelines were successfully developed by the Departments of Diagnostic Radiology, Pathology and Pharmacy in partnership with the SGH Learning Centre.

The hospital was also the first amongst local medical institutions to conduct assessment of its employees using the newly launched skills standards. A total of 115 employees from Pathology, Diagnostic Radiology, Physiotherapy, Central Sterile Supplies and Theatre Sterile Supplies were assessed and certified to have met the skills standards. 42 staff from Call Centre and Retail Pharmacy were also recognised for achieving competence in a NSRS call centre and departmental store standard respectively.

Leveraging on the latest in information technology to achieve its training objectives, the Department of Nursing embarked on the e-learning platform for its flexibility in allowing fellow nurses easy access to the Nursing Intranet. Specialist nurse clinicians from the department developed two **e-Learning Training Programmes** on Neuroscience and Orthopaedics, which enabled nurses to gain a better understanding of the related disease conditions as well as its preventive measures.

The department has also developed the curriculum for nine **Nursing Speciality Courses**, which were accredited by the Singapore Nursing Board. These courses aimed to provide specialty training for 50% of the nurses in the hospital. To provide nurses with a platform to discuss medico-legal issues pertaining to nursing, the department organised a seminar on Medico-legal issues and Ethics in Nursing which were attended by more than 200 nursing staff.

A photograph of two scientists in a laboratory. A man on the left, wearing glasses and a white lab coat, is looking at a clipboard held by a woman on the right. The woman is also in a white lab coat and is smiling slightly. They are standing in front of a microscope. In the background, there are shelves with various lab equipment and a poster on the wall. The text "Making a Difference - Research Excellence" is overlaid on the image in a bold, yellow font.

**Making a Difference -
Research Excellence**

Expanding the Boundaries of Medicine through Research

Research - one of the three pillars of SGH, plays an instrumental role in augmenting patient care delivery and teaching. The hospital provides a nurturing environment to foster strong research teams, where clinicians and researchers worked closely together in selected niche areas that boast their research strength. In the process, the quality of the research undertaken by our staff has become a benchmark that distinguishes SGH as an excellent medical institution.

SGH set new directions in the field of cancer treatment research when it joined forces with Biotech Research Ventures and pSiMedica Limited to form a joint venture. The new company, pSiOncology Pte Ltd, focuses on developing **Direct Intratumoural Treatments** using biodegradable BioSilicon™ to deliver local chemotherapy and radiotherapy to cancer tumours. Capitalising on the strength and quality of the clinical expertise at SGH, the partnership allows for pre-clinical and clinical research activities on the application of brachytherapy to be conducted at SGH as well as the National Cancer Centre. The Department of Experimental Surgery has since completed two research projects with pSiOncology.

The Department of Emergency Medicine won accolades for the results of its **Hair Apposition Technique (HAT) Trial** for the treatment of specific scalp lacerations. Using the novel treatment for scalp lacerations, patients no longer need to shave their hair while having their wound treated. The patient's pain and discomfort are also greatly reduced, as the procedure does not require any local anaesthetic injections, suturing or removing of stitches. The technique has been hailed internationally as one of the major advancements in wound management for 2002. In addition, the department was also one of the participants of the world's largest randomised controlled trial on the Emergency Management of Chest Pain patients.

The Department of Urology scored another breakthrough in its research in minimally invasive surgery, with the acquisition of the da Vinci surgical system. The robotic surgical system with its enhanced three-dimensional imaging and surgical precision enables the department to make inroads into the field of **Laparoscopic Radical Prostatectomy**, paving the way for SGH to become the first in Singapore and the region to provide robotic-assisted surgery for the treatment of prostate cancer. The availability of the groundbreaking technology also brings with it the potential for robotic-assisted surgery to be applied in all areas of reconstructive urological procedures, including laparoscopic pyeloplasty, laparoscopic radical cystectomy and laparoscopic partial nephrectomy.

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In a groundbreaking research project, the Department of Otolaryngology conducted clinical trials on a new **Olfactometer**, setting the stage for the world's first device that can quantitatively measure and assess odour concentrations. The success of the project will set the cornerstone in establishing a standardised measurement unit for the sensitivity of smell.

The focus on biomedical and clinical research has provided our clinicians with a better insight of diseases which are common and important in Singapore and the region, while keeping them up-to-date with the rapid development in these fields. These research efforts will eventually translate into improved care for our patients, better diagnostic tests and more effective treatment.

An extended randomised controlled study of **Thymosin Alpha-1** on patients with chronic Hepatitis B conducted by the Department of Gastroenterology revealed promising treatment response. The department's study revealed that the medication may have some unique therapeutic advantage in Asian patients, who traditionally have poorer therapeutic outcome with conventional treatment of Hepatitis B. The study found that Thymosin alpha-1 can be useful in patients with chronic Hepatitis B who are unable to tolerate interferon treatment due to its various adverse effects. The department is also a participant in another landmark multicentre study involving the use of **Lamivudine** for patients with Hepatitis B-related liver cirrhosis, a disease traditionally deemed irreversible and associated with multiple morbidity and definite death.

With bladder cancer being the ninth most prevalent malignant disease, studies have shown that a high recurrence rate of about 70% of the malignancy is due to a lower level of sensitivity of current methods of surveillance of high-risk bladder cancer patients. The Department of Urology is studying the efficacy and safety of using **Hypericin Fluorescence Cystoscopy** for the detection of early neoplasia of the bladder.

One of the focuses of the research projects undertaken by the Department of Endocrinology is the cardiovascular disease risk in the Asia Pacific region, specifically on the metabolic syndrome. Capitalising on its strength in the area of epidemiology of dyslipidemia and the dissection of the ethnic differences between the three ethnic groups, the department's research team is studying how genetic and lifestyle factors modulate **Lipoprotein Metabolism** among the Chinese, Malay and Indian population in Singapore. The research outcome will hopefully lead to management strategy in the prevention of the metabolic syndrome and cardiovascular disease in the region.

The Speech Therapy Department undertook research projects to develop a validated screening test for **Dysphagia**. The test will allow for the early identification of dysphagia, enabling nursing staff to prescribe a safe and appropriate means of feeding these patients to ensure that they received adequate nutrition to participate in their rehabilitation programme. Early intervention, including referral for speech therapy, will also help the patients in their recovery process.

Besides undertaking a Phase II study of **Gemcitabine** in recurrent epithelial ovarian cancer, the O&G Department is also involved in a multinational and multicentre clinical trial to investigate the safety and efficacy of **Tibolone** in women with climacteric symptoms and a history of breast cancer. Other research projects undertaken by the department included the clinical application of **TruScan** in screening for cervical cancer, as well as a retrospective review of the pregnancy outcomes in haemodialysis patients.

In year 2002, the Department of Colorectal Surgery published 12 major research and clinical papers in international journals. The department also continues to refine its surgical management of haemorrhoids and colonic pouches, making SGH an important institution in the training of rectal cancer surgery and haemorrhoidectomy around the world.

The Department of General Surgery published 19 papers in the MEDLINED journal, consistent with its role as the leading department of surgery in the region. The department also conducted two multicentre trials on hepatocellular carcinoma and also participated in multicentre clinical trials on pancreatic carcinoma and trauma.

The Department of Clinical Research (DCR) continues to support research within and beyond SGH. Research training remains a key activity with eight full time PhD students carrying out their research in the department's laboratories. The department also participates in programmes such as the NUS Medical Faculty's Special Study Modules, NTU-SGH Master of Science in Biomedical Engineering, Polytechnic Student Internship Programmes as well as Overseas Postgraduate Student Attachment, held in collaboration with the Nagaoka University of Technology, Japan.

The Institutional Animal Care and Use Committee (IACUC) was formed in October 2002 as the first step for the Department of Experimental Surgery towards seeking international accreditation from the Association and Assessment of Laboratory Animal Care (AAALAC). Since its inception, the IACUC has already reviewed over 60 research applications involving animal work. The IACUC also organises training courses for staff and researchers in accordance to training guidelines of the National Advisory Committee for Laboratory Animal Research (NACLAR).

A female doctor with short dark hair, wearing a white lab coat over a dark blue collared shirt, is smiling warmly. She is holding a white plate with a stack of food, possibly a burrito or a sandwich, and is looking towards a patient whose back is to the camera. The setting appears to be a bright, modern hospital or clinic with large windows in the background.

**Making a Difference -
Patient Care**

Investing in Quality Patient Care

We continue to strive for quality improvement in our services by keeping our patient as the central focus of care planning and delivery. Aiming to make a difference in our patient's experience, whether at the clinics, in the wards, or at the information counter, workflow and processes were re-engineered and facilities improved to deliver services that meet their needs and expectation.

Multidisciplinary Clinics

With emphasis on holistic and seamless care, several specialty clinics involving multidisciplinary teams were introduced, bringing integrated and well-coordinated services to our patients.

With the establishment of the **Joint Thyroid Clinic**, patients with thyroid conditions are now assessed by both the surgeon and the endocrinologist during the same visit, instead of having to return on another day to see the surgeon if surgical intervention is necessary. The clinic also provides same-day turnaround for Fine Needle Aspiration Cytology (FNAC) investigations, making test results available to the patient on the same day of the test.

Singapore has one of the highest incidence of end-stage renal disease in the world. Hence, efforts and resources are channelled towards helping patients stricken with renal failure to better manage their conditions. A **Pre-End Stage Renal Disease Programme** brought together a team comprising nephrologist, vascular surgeon, dialysis and transplant co-ordinators, psychologist, pharmacist, dietitian and medical social worker to care for these patients. By providing patients with an in-depth understanding of their medical condition and the treatment options available through open communications, patients are empowered to take control of their own health and make informed choices of their treatment process.

Timely and accurate intervention can often prevent or ameliorate the complications of swallowing disorder, thereby reducing the burden of this common condition. A clinic for **Fibreoptic Endoscopic Evaluation of Swallowing (FEES)** was jointly launched by the ENT surgeons and speech therapists to provide early diagnosis of patients suffering from this condition. Using endoscopic evaluation, the team is able to detect key anomalies through assessment of the anatomy and physiology of the swallowing mechanism, without the need for the patient to undergo any radiological investigation.

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The **Obesity Clinic**, bringing together a team of Endocrinologists, Dietitian, Physiotherapist, Psychologist and Pharmacist, was set up to provide a weight loss programme for overweight and obese patients. With obesity being linked to common medical conditions including diabetes, heart disease and stroke, the programme provides a safe and effective avenue for patients to lose weight under medical supervision by a multidisciplinary team.

To better meet the needs of patients suffering from chronic low back pain, the **Documentation-Based Care (DBC) Clinic** which uses a combination of exercise-based therapy with state-of-the-art exercise equipment, was introduced. The clinic has brought about marked improvement in treatment outcomes for low back pain, with 83% of the patients responding with a decrease in low back pain and improvement in the range of movements of the back.

With greater emphasis on sporting excellence and the promotion of healthy lifestyles through exercising, injuries incurred through sporting activities have become more prevalent. A **Sports Physiotherapy Clinic** was established to address the high incidence of sporting and sports-related injuries, providing assessment, treatment and prevention against such injuries. Besides biomechanical and physical assessment of the patients' musculoskeletal systems, sport techniques and mechanisms of injuries; the physiotherapists also help patients with specific exercise therapy and technique re-education.

For children with hearing-impairment, the **SGH Listen and Talk programme** provides aural habilitation and gives them an opportunity of reintegrating into society. Trained auditory-verbal therapists help these children to develop their speech and language skills in a natural way following normal developmental stages, and through using effective hearing devices such as the cochlear implant. The programme also allows parents and caregivers to play an instrumental role by incorporating listening and speech learning into day-to-day activities with the child.

Various specialty clinics were established to provide co-ordinated care and management for patients suffering from a range of conditions including inflammatory bowel diseases, functional bowel diseases, chronic hepatitis, gastrointestinal nutrition and complications of portal hypertension. A Transplant Clinic was also set up to review patients who are on non-standard immunosuppressant and those presenting with renal allograft dysfunction. A new minimally-invasive Upper Gastrointestinal Service was established to focus on laparoscopic fundoplication, cardiomyotomy and laparoscopic gastric banding.

“We continue to strive for quality improvement in our services by keeping our patient as the central focus of care planning and delivery.”

A/PROF ANANTHARAMAN
**Emergency Medicine
Specialist**

Led his team in constructing
Singapore's first Hospital
Decontamination Station

MR VASU GOVINDASAMY
Auditory-Verbal Therapist

Member of the Listen
and Talk Programme
that helps children with
hearing-impairment develop
their listening and
communication skills



Service Improvement Initiatives

The ability to provide the service that patients want and need forms the cornerstone of total patient satisfaction. Building on our culture of seeking excellence through continuous improvement, a series of initiatives was launched to bring about process improvements and to deliver quality service that is both efficient and effective.

To help patients who are on long term repeat medications save time and the inconvenience of making frequent trips to the hospital's pharmacy to collect their medications, the Pharmacy introduced a new **Courier Service**. The door-to-door delivery service keeps track of the patient's supply of medication and ensures timely delivery of the required quantity to the patient's home or place of work on a regular basis.

Understanding that most people do not like to wait in queue, especially when visiting the doctor, a **SMS (Short Message Service) Reminder Service** was introduced to make the wait at the Specialist Outpatient Clinics more bearable. Patients who are registered for the free service now receives a SMS alert when there are five patients ahead of their queue number. The service also allows patients to check on their queue status via SMS, giving them the freedom to leave the clinic to grab a bite or run some errands, without being tied to the waiting area for fear of missing their turn.

The introduction of **Patient Service Co-ordinators** at the Urology Centre ensures that patients have a more personalised experience for every visit. The service-oriented staff aim to make each visit a memorable experience, as they attend to the requests and queries of patients and visitors, including helping them with the scheduling of follow-up appointments or investigations. The centre has also re-organised its workflow so that patients can now make prior arrangement which allows them to call in for the results of their investigative tests when these turned out to be normal. While the arrangement gives the patient unfettered access to their own medical information, it also saves them the agonising wait for their test results.

A **TV Menu** instead of paper menu now greets patients in the A and B class wards, allowing them to view and select the various meal choices at their own time. The menu, which runs continuously on the in-house TV channel, also features therapeutic menus allowing patients to learn and compare necessary modifications to meet the dietary requirements for their different medical conditions. Leveraging on the latest technology, the meal ordering process has also been simplified with the launch of the **Electronic Meal Ordering System**. The system which interfaces with the hospital's inpatient system capturing the patient's demographic data, provides nurses with a hassle-free option in ordering meal, while ensuring that meals are served promptly upon the patients' admission to the wards.

To enhance the comfort of burns patients, our Occupational Therapists have developed an improved version of the **fabric facemask** which is used to reduce scarring as a result of burn injuries. The new generation facemask adopts a 3-dimensional design, which distributes pressure evenly over the patients' facial contours without distorting their facial muscles. The improved facemask also helps to greatly minimise the patients' discomfort while improving their aesthetic appearance, giving them a much needed boost on their path to recovery.

SGH launched the **Home Care programme**, a first hospital-based programme established to address the intermediate home care needs of patients discharged from the hospital. Supported by a team of professional staff comprising doctor, physiotherapist, occupational and speech therapists, podiatrist as well as nurses from the Home Nursing Foundation, the programme provides primary care to the homebound patients, and enables family members to be more confident of looking after these patients at home.

Very often, when one member is stricken with a disease, the entire family is affected as the onset of illness brings with it physical as well as emotional and financial impact of varying degrees. To provide a lifeline for patients needing psychological support for their emotional, family or marital problems, the **Family Therapy Service** was introduced to help patients and their families cope and resolve these issues. The service which is the collaborative effort of our Medical Social Worker and Psychiatrist, also caters to the needs of patients coping with mental illnesses, helping to minimise the negative impact of their medical condition on their family.

The hospital continues in its efforts to seek new ways to reduce risks and to ensure the safety of our patients. One of initiatives is an online reporting system of patient safety indices such as falls, sharp injuries and medication errors. The **Risk Management System** enables data to be collected, tracked and analysed, allowing staff to identify areas which needed improvement and review. To further enhance the safety of our patients, awareness education programmes on fall prevention were organised for staff, and the patient care record was redesigned to aid the staff in assessing the risks of falls for the patients.

SGH's commitment to excellence in patient care is enhanced by making improvements to the facilities and infrastructure, providing staff with the state-of-the-art capabilities so that they could better meet the needs of our patients.

Patients are now able to benefit from the **Computer-guided Orthopaedic Trauma System** that was installed at the Trauma Unit. Leveraging on the latest state-of-the-art technology, the system caters to injuries ranging from simple hip fractures to complex sacral and pelvic fractures in severely polytraumatised patients, allowing the surgeons to perform the surgery with greater accuracy and safety.

26 Making a Difference - Patient Care

Services at the Diagnostic Radiology Department received a boost with the installation of a **Biplane Angiographic System**, which significantly reduces the time required for patients undergoing neuroangiography. The cutting edge system also encompasses 3D angiographic capabilities and together with the MRI, provides a one-stop Gamma Knife planning solution with direct digital linkage to the treatment console at the Gamma Knife Centre.

The availability of **Positron Emission Tomography (PET) imaging** at SGH has enhanced the advancement in Oncology, Neurology and Cardiology, in particular on cancer treatment and molecular imaging in Singapore as well as the region. The **Cyclotron Centre** to be opened in 2003, will be responsible for the manufacturing of the radioactive tracer required in PET scanning.

The **Antenatal 3-dimensional Ultrasound Scanning** at the O&G Centre provides parents-to-be with a better idea of how their unborn child looks like. Besides offering surface rendering of the fetal face, the ultrasound machine can also highlight any fetal anomalies and congenital uterine abnormalities. The 3D blood flow studies also allow the course of vessels in an organ or mass to be traced, enabling doctors to better plan their treatment option.

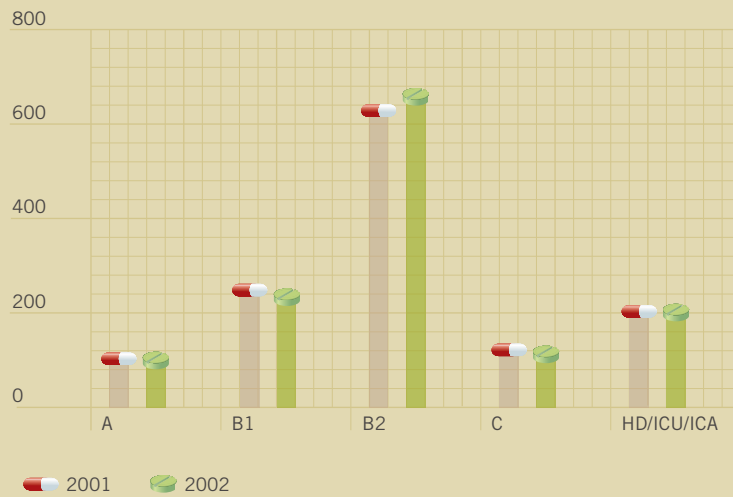
To ensure optimal care of mothers-to-be, the delivery suites in the Labour Wards are now equipped with **Cardiotocograph Monitoring System**, which displays real time tracing of the fetal heart rate and uterine activities. The monitoring system at the central station also provides an overview of all the patients in the labour ward, where their blood pressure, pulse oximetry and alert signals are captured and monitored to ensure optimal care for patients who are in labour.

SGH staff designed and built the world's first **Semi-automated Mass Casualty Decontamination Station**. The station is able to decontaminate up to 42 casualties within an hour in the event of a chemical disaster, and has reduced the readiness time for decontamination from activation to an impressive time frame of less than five minutes. The facility will also enhance the training of decontamination team personnel and the actual procedure of decontaminating of toxicological casualties.

Building works for a **Biosafety Level 3 (BSL-3) laboratory**, a joint initiative between the Ministry of Health and SGH, have been commissioned to provide pathologists and researchers with a core facility that guarantees biocontainment. Upon completion, the laboratory will be equipped with the latest diagnostic technology for the diagnosis and typing of microorganisms deemed too dangerous to be handled by ordinary routine microbiology laboratories. These include diagnostic and autopsy samples from patients suspected of being infected with microorganisms belonging to biohazard group 3, such as Nipah virus, hanta-viruses and arbo-viruses.

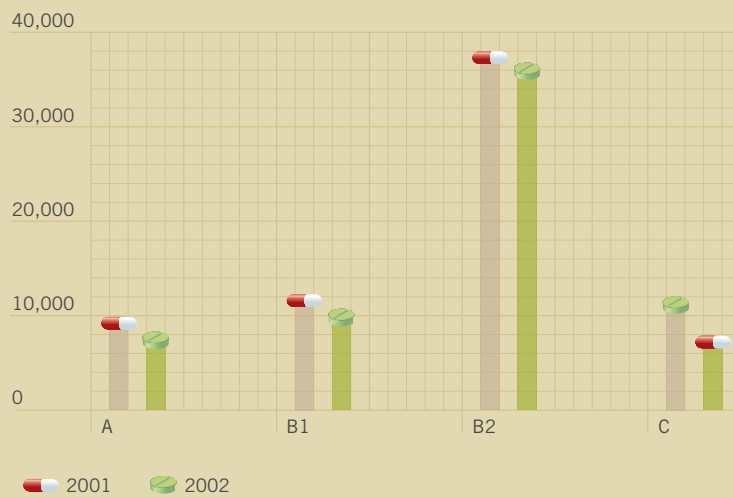
Hospital Statistics

for year 2001 & 2002



Beds in Service

Class/Year	2001	2002
A	117	118
B1	256	249
B2	644	673
C	134	130
Sub-total	1151	1170
HD/ICU/ICA	217	218
Total	1368	1388

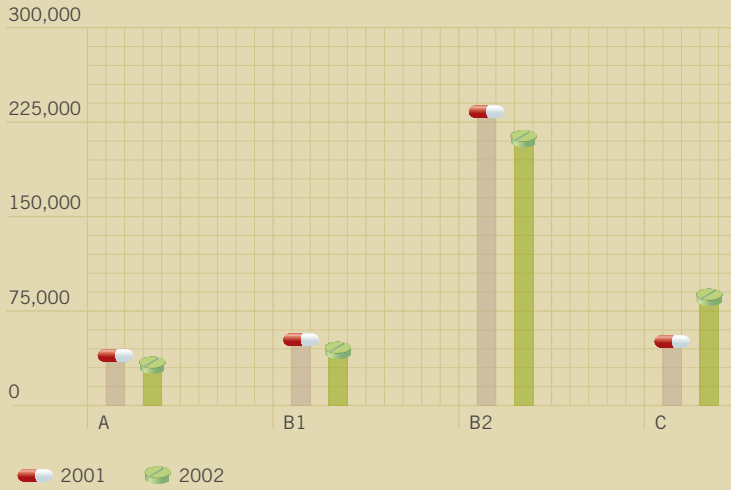


Admissions

Class/Year	2001	2002
A	8,985	8,227
B1	12,223	10,865
B2	37,986	36,676
C	7,985	12,016
Total	67,179	67,784

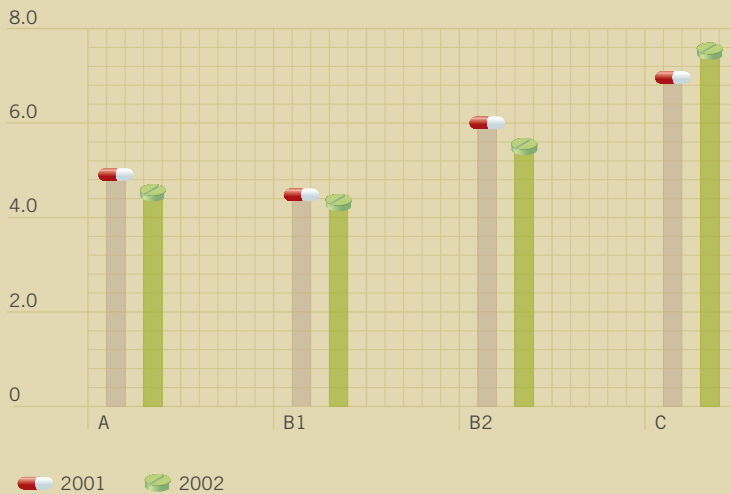
28 Hospital Statistics

for year 2001 & 2002



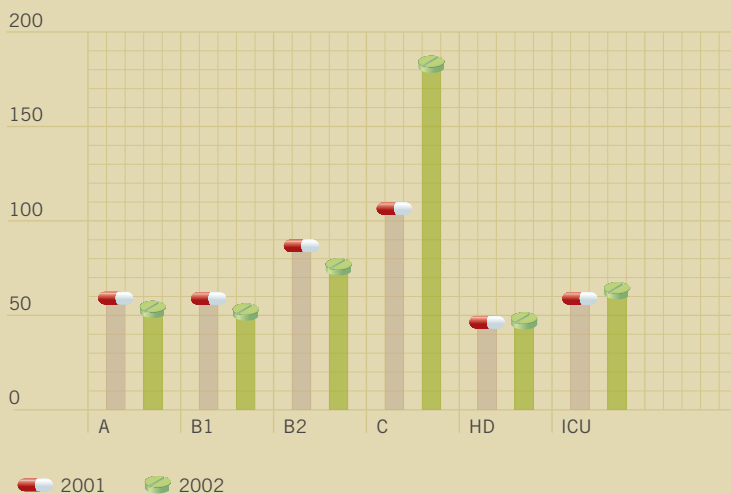
Patient Days

Class/Year	2001	2002
A	45,016	39,125
B1	55,710	49,317
B2	234,491	218,580
C	56,286	93,866
Total	391,503	400,888



Average Length of Stay (in days)

Class/Year	2001	2002
A	5.0	4.7
B1	4.6	4.5
B2	6.1	5.7
C	7.1	7.7
Total	5.8	5.9



Bed Occupancy Rate (%)

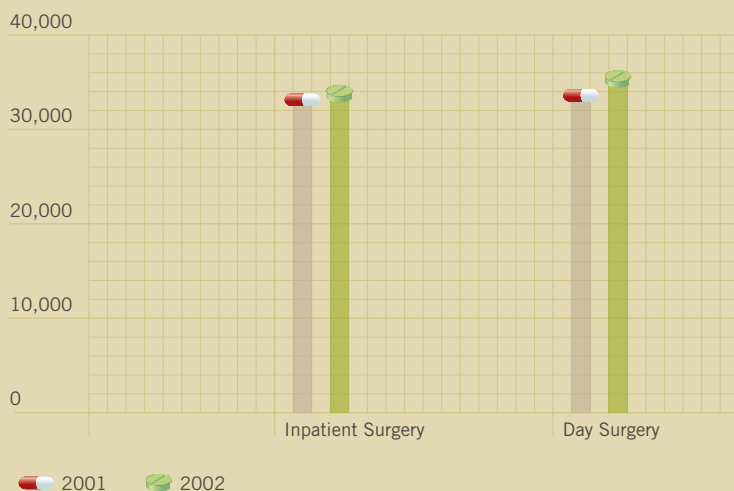
Class/Year	2001	2002
A	62.3	57.5
B1	62.1	55.8
B2	89.9	80.5
C	110.2	178.3
HD	50.6	51.0
ICU	62.1	68.2
Total	78.4	79.1

for year 2001 & 2002



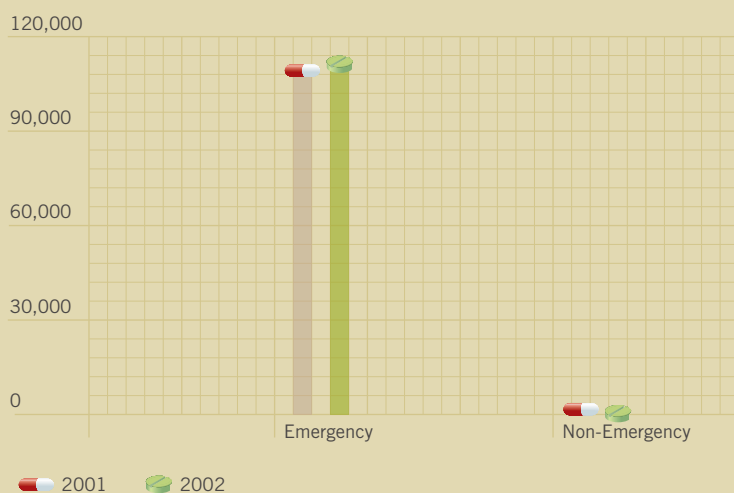
Outpatient Attendance

Class/Year	2001	2002
Private	224,620	219,795
Subsidised	369,456	351,596
Total	594,076	571,391



Surgical Operations

Surg Operations/Year	2001	2002
Inpatient Surgery	33,782	34,675
Day Surgery	34,387	36,261
Total	68,169	70,936



A&E Attendance

Class/Year	2001	2002
Emergency	110,973	113,844
Non-Emergency	1,740	983
Total	112,713	114,827

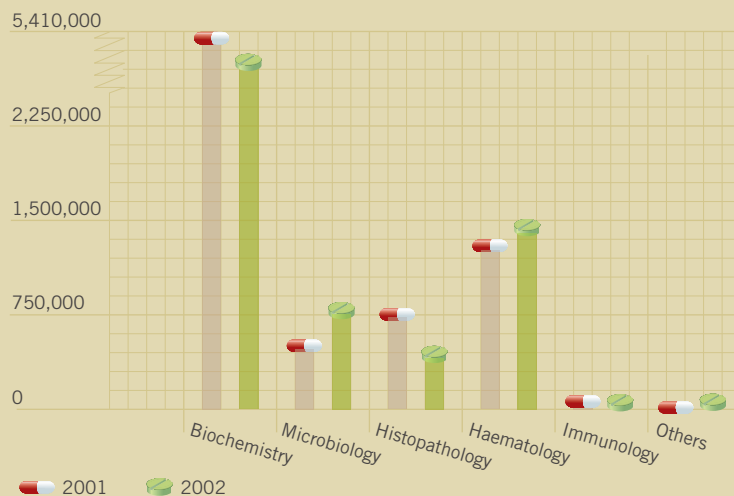
30 Hospital Statistics

for year 2001 & 2002



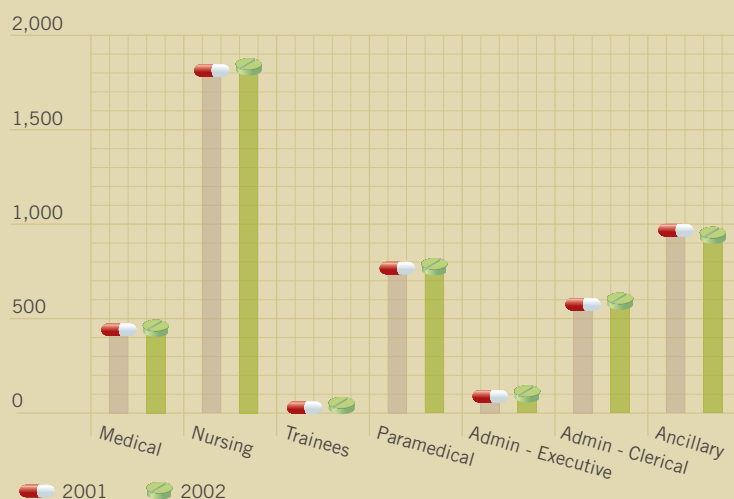
Radiological Examinations done at the Department of Diagnostic Radiology

Types of Examination/Year	2001	2002
Plain Film	328,362	320,367
Specialised X-ray	82,501	94,360
Total	410,863	414,727



Laboratory Investigations carried out by the Department of Pathology

Types of Laboratory Investigations/Year	2001	2002
Biochemistry	5,409,817	5,205,104
Microbiology	547,640	843,096
Histopathology	79,635	511,357
Haematology	1,341,552	1,514,707
Immunology	107,593	118,021
Others	63,806	118,588
Total	7,550,043	8,310,873



Staff Strength (As at 31 Dec 2002)

Job Group/Year	2001	2002
Medical	488	493
Nursing	1,849	1,887
Trainees	62	73
Paramedical	805	820
Admin - Executive	128	153
Admin - Clerical	616	637
Ancillary	1,004	984
Total	4,952	5,047

Awards and Recognition

A/Prof Patrick Tan, Head of the Department of Haematology was conferred the Excellence for Singapore Award by the Singapore Totalisator Board for his outstanding pioneering efforts in Thalassaemia Major and the use of cord blood transplant using the non-myeloablative approach.

Dr D S Sethi from the Department of Otolaryngology was presented with the prestigious Honour Award by the American Academy of Otolaryngology - Head and Neck Surgery for his presentation of instruction courses at the Academy's annual meetings.

Dr Yeo Sow Nam from the Department of Anaesthesia was awarded the Second Prize for his poster presentation at the Annual Scientific Meeting of Australian and New Zealand Faculty of Pain Medicine.

Dr Tan Yu Meng from the Department of General Surgery was presented with the Young Surgeon's Award by the Asian Surgical Association.

Senior Nurse Manager **Lee Seok Pang** was presented with the President Nurse Award 2002.

The **SGH Haemophilia Centre** received the rare honour of being the only local hospital to be officially designated as an International Haemophilia Training Centre by the World Federation of Haemophilia. Only 30 haemophilia treatment centres worldwide are being officially designated as an international training facility.

The **Department of Diagnostic Radiology** won the Technical Service Improvement Award at the **Asian Hospital Management Awards 2002** held in Bangkok for a project entitled "The Six Sigma Strategy to Quality and Increased Productivity at the Department of Diagnostic Radiology". Using the Six Sigma strategy, the department was able to streamline its inpatient and outpatient Computed Tomography (CT) scanning processes to reduce process variation and improve efficiency.

The **Department of Nursing** developed two programmes to guide nurse managers in assessing the training needs and plan training programmes required by their nurses. The "SGH Nurse Development" and "SGH Nurse leader Development" programmes which focused on the nursing model in the areas of integrating and cascading careers, competency and training, won an award at the Asian Hospital Management Awards in the Human Resource Development category.

