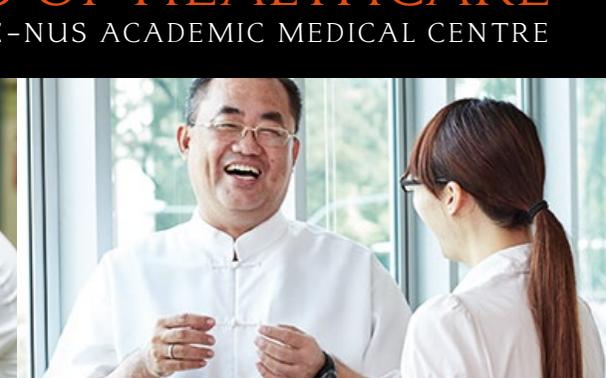




IMPRINTS OF HEALTHCARE
SINGHEALTH DUKE-NUS ACADEMIC MEDICAL CENTRE



Imprints of Healthcare

SingHealth Duke-NUS Academic Medical Centre Annual Report 2014

Singapore General Hospital (SGH)

KK Women's and Children's Hospital (KKH)

Sengkang Health (SKH)

National Cancer Centre Singapore (NCCS)

National Dental Centre Singapore (NDCS)

National Heart Centre Singapore (NHCS)

National Neuroscience Institute (NNI)

Singapore National Eye Centre (SNEC)

SingHealth Polyclinics (SHP)

Bright Vision Hospital (BVH)

Duke-NUS Graduate Medical School Singapore (Duke-NUS)

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At the heart of all we do, the smiling faces on our patients form the imprints of healthcare. The following pages are tributes to their fortitude and positivity that make us proud to serve in public healthcare.



Poised to serve Singapore's healthcare needs

As Singapore's largest public healthcare cluster, we are in a privileged position to serve the healthcare needs of the nation. Ten years into our partnership with Duke-NUS, we have attracted a talented pool of healthcare professionals who hold a strong conviction in the importance of education and research, so that our patients may benefit from high-quality, evidence-based care.

We are proud to deliver 40 per cent of the nation's healthcare training and education, training over 700 students each day across the various professions. In 2010, we started the Residency programme in SingHealth with 63 Residents. Today, as the largest Sponsoring Institution in Singapore, SingHealth has more than 800 Residents training in 34 specialties.

While we strengthen the talent pipeline, we must transform our model of care to meet the needs of Singapore's ageing population and rising expectations of patients. This means we need to ensure that patients get the appropriate-level care at the right time and place. The Regional Health System Office was set up to oversee the integration of care across the patient's journey. The Transitional Home Care service and Patient Navigators both help patients with stable conditions transit from the hospital to their homes or the community with greater ease. An ever expanding network of community partners ensures our patients get high-quality care away from our tertiary care hospitals and centres.

"Healthcare is about building relationships."

We are also mindful of the need to create a better patient experience. In May 2015, SingHealth published the Singapore Healthcare Age-Friendly Infrastructure Guide, which recommends more than 800 ways to create an age-friendly environment for patients. All SingHealth institutions will feature age-friendly design as they are renovated or built. The Ministry of Health has also shared the guidelines with all public healthcare clusters in Singapore.

Infrastructure plans to serve more patients at different stages of their lives have gradually materialised. The NHCS new building, officially opened in September 2014, doubled our clinical capacity in cardiovascular medicine on SGH Campus. Slated for completion in 2020, the new Outram Community Hospital will add another 550 community beds to our healthcare system. The Sengkang General and Community Hospitals are also on track and will be ready to serve patients in 2018.

Building capacity is just one part of our efforts to improve patient care. Our clinician-scientists have been working tirelessly with research stakeholders within and beyond the Academic Medical Centre to bring hope to our patients. This year alone, our research collaborations have made great strides in cancer, glaucoma and cardiovascular medicine.

These advancements would not have been possible if not for committed staff and visionary leadership. I would like to thank outgoing board members Mrs Christina Ong, Mr Ernest Wong and Prof Michael B. Wood for their invaluable contributions, and also welcome Mr Tony Chew onto the Board.

Healthcare is about building relationships. This Report celebrates the wonderful relationships that our healthcare professionals have built with patients and their families, and the strong bonds forged as they work together to deliver the best care that our patients deserve.

I hope that you too will find inspiration in their stories.

A handwritten signature in black ink, appearing to read 'Peter Seah', written over a thin horizontal line.

Mr Peter Seah
Chairman,
SingHealth



The power of collaboration

Duke-NUS and SingHealth have a rich, ten-year history as partners in Academic Medicine. This Report celebrates that and the work of the people and teams who have made all this possible.

The Academic Medical Centre was born from a vision to harness the collective strengths of SingHealth, Duke-NUS and Duke, to focus on delivering the best care to patients, anchored on strong research, education platforms and traditions of excellence.

Duke-NUS is very grateful for the Singapore Government's and SingHealth's continued support and confidence in our ability to contribute to this joint mission and vision of transforming medicine and improving lives.

There are now over 700 clinical faculty members across 11 Academic Clinical Programmes (ACP). Many of them are also teaching and mentoring our medical students.

Some of the faculty are also collaborating with Duke-NUS researchers in the school's signature research programmes in cancer, neuroscience, cardiovascular and metabolic diseases, emerging infectious diseases and health services and systems research.

Three recent examples of the result of our impactful research collaborations are:

- The start of clinical trials by A*STAR and Duke-NUS for a new made-in-Singapore cancer drug. This is the first publicly-funded drug candidate to be discovered and developed in Singapore to advance into first-in-human trials. The drug candidate targets colorectal, pancreatic, ovarian and gastric cancers. The trials are underway at the National Cancer Centre Singapore and the National University Hospital Singapore.

"Scientific curiosity, innovation, creativity and educational leadership are the hallmarks of the SingHealth Duke-NUS Academic Medical Centre."

- Another clinical trial is underway to test the efficacy of an anti-dengue drug called Celgosivir, in collaboration with SingHealth. Based on findings from a Phase 1b study published in Lancet Infectious Diseases, a US-based pharmaceutical company has licenced the clinical data from Duke-NUS and its partners to move the drug to clinical application through a full-scale Phase 2 trial involving Singapore and other countries.

- A genetic study to determine if the mutated 'titin' gene discovered in Caucasian patients with dilated cardiomyopathy also affects Asians. The team of researchers from the SingHealth Duke-NUS Academic Medical Centre plans to examine another 60 genes and patients' DNA. This is to determine if there are other genetic causes at play, to identify patients who are susceptible to developing this heart disease, and to help them monitor and administer personalised medicine to combat it. This study could help speed up diagnosis and predict if family members could be at risk for the same condition.

Scientific curiosity, innovation, creativity and educational leadership are the hallmarks of the SingHealth Duke-NUS Academic Medical Centre. Our vibrant culture and ethos promote deeply engaging conversations and stirring intellectual discussions. It also builds and nurtures impactful collaborations and partnerships in medicine, science and education, at all levels.

In addition, the ACPs, Academic Medicine Education Institute (AM•EI), Academic Medicine Research Institute (AMRI), as well as the joint Institutes in Neuroscience, Cardiovascular and Health Services research, further harness the joint strengths and capabilities we have in both organisations. Our synergies and shared vision give the overall efforts a tremendous boost, while keeping our entities nimble, efficient and effective.

As we continue our effort to build on the present, and to find new ways to improve medicine and science for mankind, we are fuelled by the rapid new developments in personalised and genomic medicine and biomedical sciences research and technology. Some of these are being shaped by the SingHealth Duke-NUS Academic Medical Centre.

This is the power of our collaboration. Our impact on the future of the biomedical sciences and education, as well as our patients and our respective communities, is indeed bright and promising.

Mr Kai Nargolwala
Chairman,
Duke-NUS Graduate
Medical School

Staying on course, together



In the last ten years, SingHealth and Duke-NUS joined hands and co-created an Academic Medicine partnership that addresses the tripartite needs of clinical care, education and research. The objective was clear – to deliver better, more accessible care to our patients. Armed with a shared purpose, plenty of positive energy and a strong desire to improve our patients' lives, we continue to improve the way we deliver care.

Building on the rich legacies of over two hundred years of medical education, our strong faculty has seen five cohorts of graduates become doctors with a passion for research and innovation. They are well placed to improve the lives of our patients and the healthcare system as a whole.

Beyond basic medical education, the affirmation we received from the Academic Medicine Advisory Council (AMAC), comprising renowned internationally prominent figures in Academic Medicine, speaks for our achievements over the past decade. Evidence shows how our programmes and initiatives have benefitted our patients. That is the power of our partnership. We are proud of how far we have come.

*"Patients are always at
the heart of all we do.
They are the purpose of our
march in this Academic
Medicine journey."*

The bedrock of the SingHealth Duke-NUS Academic Medical Centre is our Academic Clinical Programmes (ACPs). Strong and wide-reaching, the 11 ACPs continue to transcend institution boundaries, synergise shared knowledge and maximise resources to advance Academic Medicine.

With strong support from the joint institutions – Academic Medicine Research Institute (AMRI) and Academic Medicine Education Institute (AM•EI) – there are now more robust and impactful career roadmaps for both existing and developing researchers and educators. This has allowed our ACPs to grow from strength to strength, celebrated at hugely successful joint events such as the Scientific and Education Congresses. These platforms provided opportunities to learn and network with the likeminded; and showcased research and education from all facets of healthcare to drive better patient outcomes.

New discoveries offer tremendous opportunities to advance care. In the last financial year, we gained the support of philanthropists who shared our vision and we more than doubled the funds raised from the year before. These funds give us that extra edge to take research and clinical translation further, faster.

Patients are always at the heart of all we do. They are the purpose of our march in this Academic Medicine journey. Placing patients at our core means making sure they get the right care when they need it. Spun from the ACPs, the SingHealth Duke-NUS Disease Centres (SDDCs) provide a borderless disease-focused practice organised around

the patient. We now have five SDDCs formed, the most recent being the Liver Transplant Centre and Diabetes Centre.

In line with the Ministry of Health's vision of Healthcare 2020, we are working alongside community partners towards an integrated care model beyond our campuses in the form of a Regional Healthcare System. We have taken strides in building a strong network with our primary and long-term care partners, organising care such that it is seamless and holistic for our patients at each stage of their healthcare journey.

The results of our efforts are evident in the stories our patients tell. In this report, we share some of these stories which detail their journey with us. We hope that their stories and photos touch you as much as they have touched us.

To our patients, thank you for letting us make a difference in your lives.

Prof Ivy Ng
Group Chief
Executive Officer,
SingHealth

Prof Thomas Coffman
Dean,
Duke-NUS Graduate
Medical School

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Age-Friendly Infrastructure Design Guide

It was meant to be an initiative to be rolled out organisation-wide within SingHealth, but what was to be a six-month long project soon became a two-year journey that will have a significant impact on the design of healthcare facilities across Singapore. We speak to four of the members behind the Age-Friendly Infrastructure Design Guide to find out what the journey was like.

It all started in early 2013. A team of 16 personnel from across the cluster was formed to look into creating a consistent look and feel for our healthcare facilities to improve patient experience. Beatrice Low was appointed as the workgroup leader to steer the initiative along, and she said that it was through discussions and sharing sessions that they decided to focus on elderly patients as the most important segment to cater to, in light of our ageing population.

“In our first meeting, we talked about the problems and challenges our patients faced. One common issue faced by elderly patients is navigation and wayfinding around the various institutions located on the same campus. Each institution under the SingHealth Group feels different to the patient, and that can be confusing. So we started talking about how to improve the patient experience from the time they arrive at the institution, to the time they leave.”

With the multitude of ideas and best practices shared, plus a host of new solutions developed, the team decided to organise the recommendations into a “10-Point Plan” for easy reference and application. This formed the framework of the Guide, a plan that aims to provide both patients and their caregivers a pleasant and hassle-free experience within all our institutions.

From left to right: Jean Sim, *Graphic & Media Designer, Marketing Communications, SingHealth* and Wong Yoke Sim, *Senior Project Manager, Facilities Development, Singapore General Hospital*





From left to right:
Beatrice Low, Senior Manager,
 Facilities Development, SingHealth
 and **Ngai Khai Loong**, Facilities Management
 & Development Operations (Support Services),
 National Heart Centre Singapore

Along the way, as the workgroup worked tirelessly on the Guide, interim presentations caught the attention of various stakeholders within the healthcare industry and the initiative was presented at the Ministerial staff meeting, and eventually to the Health Minister.

With more eyes on the project, the work scope also grew from its initial plan. Team member Ngai Khai Loong said they all started to feel the heat, "When I first received the assignment, we were only looking at the SingHealth cluster but as we progressed, the scope grew wider and naturally our stress levels also went up."

Fellow member Wong Yoke Sim was pleasantly surprised at the impact the work had. She said: "I was quite amazed when I knew it was going to be published into a book. I felt it was a fairly ambitious idea to begin with."

The team was meticulous in their work. Meeting at least once every two weeks, they conducted numerous discussions, focus groups, as well as study trips and eventually included over 800 suggestions to make building infrastructure age-friendly in the Guide. Beatrice said: "I had to make sure that whatever we included in the Guide could withstand criticism, so we went through many rounds of edits. I think the final version was version 40!"

Despite the long, hard work, Yoke Sim feels that it was all worth it. She said: "Even though we're from different institutions, we were

able to integrate and learn from one another. It was worth the effort and it was a very meaningful project to work on."

Fellow member Jean Sim agreed: "We've helped to create an environment that is conducive for patients so that they do not feel so anxious when they visit the hospital. It was quite a fruitful journey."

Khai Loong, who made numerous trips to various institutions in a bid to understand the other institutions better, said that he gained much more than just knowledge. "What I gained most out of this experience is the friendship, the exchange of information and rapport that we built.

The team got to see their ideas come to fruition when Tampines Polyclinic became the first to implement the guidelines as it underwent renovation works in 2013. Feedback from patients and staff had been largely positive.

Workgroup leader Beatrice said: "It makes me happy to know that our efforts have paid off. The experience has also enabled me to be more aware of what we need to do for the next 10 to 15 years. I hope that in future, if I need it, I will get to use the facilities that have been designed based on the guidelines."

"It makes me happy to know that our efforts have paid off.

The experience has also enabled me to be more aware of what we need to do for the next 10 to 15 years. I hope that in future, if I need it, I will get to use the facilities that have been designed based on the guidelines."

— Beatrice Low



Markus Ng
 Manager, Clinic Operations,
 SHP-Tampines

As one of the first institutions in SingHealth to implement these age-friendly initiatives, we are happy to hear compliments from patients about the new features. The use of age-friendly colours for service areas as well as larger fonts for directional signages have greatly benefited our patients, especially the elderly in navigating around the clinic. This helps to make the experience at the polyclinic a better one, not just for patients but for staff too!



Mr Law Sah
 Patient of SHP-Tampines

I have been going to Tampines Polyclinic for the last 15 years. Before the renovation, there were few directional signs and I had to ask nurses how to get to different sections. Now with the new colour coding system, it is easier to navigate around the polyclinic.



A pilot programme aimed at engaging elderly patients to improve health knowledge and better manage chronic conditions was rolled out in 14 Senior Activity Centres with great success. Professor David Matchar and Associate Professor Angelique Chan, the researchers who evaluated this initiative, share the ups and downs of their three-year journey.

Self-Care of Older Persons in Singapore (SCOPE) is a programme jointly developed by the Tsao Foundation and evaluated by Duke-NUS to empower elderly patients to take ownership of their own health. The target group was those above 55 years of age, living in rental housing with no severe health or mental conditions.

Researcher Prof Matchar said the underlying issue was that older people are often very passive about their health issues: "They rely on the health system to take care of them when they get really sick. So this is a first step to get people to understand they have a role in managing their own health."

The Tsao Foundation has, over the years, been working actively with the community, and this study was a collaboration with Duke-NUS to formally evaluate the effects of imparting health knowledge in the community.

The research team partnered with Senior Activity Centres to roll out the programme. Extra effort was taken by the team to collect a representative sample of individuals from the community to ensure that they reached segments of the elderly population who don't usually frequent these centres.

Fellow researcher Assoc Prof Chan said: "We wanted to reach out to those who were less vocal, to see if this could change the way they interacted with their doctors."

Prof Matchar added: "The ultimate goal of the programme was to change how people use health services. We were really focusing on processes like if they were going to the doctors more frequently, if they were taking their medications, filling their prescriptions, and so on."



IMPRINTS OF HEALTHCARE

Self-Care of Older Persons in Singapore (SCOPE)

"We gave out blood pressure monitors to the activity centres which joined the programme for the participants to check their blood pressure every morning. For some of the men, it became a competition to see who had normal, healthy blood pressure."

— Assoc Prof Chan

During the 28-week programme, participants attended weekly courses which touched on topics such as lifestyle, nutrition and common chronic diseases such as diabetes. They also had their health monitored and had to submit a journal every two weeks. Despite the commitment needed, over 70 percent of them remained in the programme.

"They liked what they learnt and the peer support they had. We had a health buddy for each of the participants and the groups got really 'sticky'. They really enjoyed being together."

"We gave out blood pressure monitors to the activity centres which joined the programme for the participants to check their blood pressure every morning. For some of the men, it became a competition to see who had normal, healthy blood pressure," related Assoc Prof Chan.

One of the problems the research team identified was that elderly patients often find visits to doctors intimidating. Hence, the

programme also tried to educate the elderly on the questions they should ask on doctor visits. However, they met with some unexpected resistance.

Assoc Prof Chan said: "We found that we could teach the elderly how to communicate with their doctors but there was some resistance at the level of the General Practitioners (GP) to make changes. There was this older gentleman who learnt about side effects. He went to see his GP and his GP gave him a month's worth of new medication."

"The patient told the doctor: 'You know some medication has side effects, maybe you should just prescribe a week or two weeks worth and see how I do.' The GP was really ruffled and he said: 'No, no, no. Here's a prescription for one month.'"

It is such anecdotes from the participants that strengthened the team's resolve to do even more. Prof Matchar said: "This leads us to believe that there are areas where we can create a stronger collaborative link with the GPs."

Even so, the team is happy with the results the programme has achieved so far. Assoc Prof Chan said: "It has started a dialogue on the ground among older persons and the senior activity centres about health, nutrition and lifestyle. It has policymakers thinking about working at the community level on this topic."

With participants reportedly feeling happier and less lonely after taking part in the programme, the Ministry of Health is looking to roll out the SCOPE programme nationwide.

From left to right:
Prof David Matchar, Director, Programme in Health Services & Systems Research, Duke-NUS and **Assoc Prof Angelique Chan**, Programme in Health Services & Systems Research, Duke-NUS



FACES OF HEALTHCARE



Dr Hwang Siew Wai
*Clinic Director,
 SHP-Bukit Merah*

What inspires me about healthcare is the level of dedication that healthcare workers have for their daily tasks despite working long hours under busy and stressful conditions. I see many who go the extra mile to provide the best care for patients.

My wish for healthcare is for patients to partner healthcare professionals in taking care of their health. A strong doctor-patient relationship requires mutual respect and understanding and this forms the basis of trust between the two parties.



Jaclyn Lim Shan Shan
*Clinical Research Coordinator,
 Clinical & Translational Research Office,
 NHCS*

The thought that our research efforts can help patients in the future has motivated me to do my best. With the growing number of patients waiting for heart transplants and the lack of a cure for sudden cardiac death, I really hope that science will one day provide the answers that will help these patients.



Agnes Tan Pei Pei
*Assistant Manager,
 Human Resource,
 SKH*

A young man once thanked me for giving him the chance to be part of the organisation, despite his previous medical conditions. He was really excited to the job especially after many unsuccessful interviews. At that moment, I felt really good to have made a difference in his life.



Wong Mei Wah
Nurse Clinician,
SKH

A young lady once walked into the ward and greeted me. I had no idea who she was until she told me her name and previous condition. She had previously been a patient in a life-threatening coma with a brain haemorrhage. I was elated to learn of her amazing recovery and we exchanged hugs immediately. I remembered vividly what I said to her just before she was discharged from the hospital: 'One day, I will see you walking to the ward to visit me' – and she did just that!

Memorable moments like this remind us that we can make a difference. At the end of the day, our job is not just about achieving the best outcomes for our patients – it is also about walking the journey with them.



Dr Timothy Lim Yong Kuei
Head and Senior Consultant, Dept of Gynaecological Oncology,
KKH

When I was doing my rotations as a specialist registrar, caring for cancer-stricken women struck a chord with me. Being able to make a difference in improving their lives motivates me.

I once had a patient with terminal ovarian cancer. She was suffering a lot and almost gave up hope. With strong encouragement from my team, she overcame her fears and underwent chemotherapy and surgery. Her cancer was in remission for one year, and she was able to return to work.

Unfortunately, her cancer relapsed and she had to undergo treatment again. Through this, she wrote a song about hope and the fight against cancer and performed it at a cancer survivor dinner organised by KKH in 2013. Unfortunately, she did eventually succumb to the cancer, but not without a good fight. Her indomitable spirit has touched many people's lives and is a constant reminder that we should never give up hope and to live life to the fullest.



Susan Marissa Babu
Specialist Clinic Assistant,
ENT Centre,
KKH

Working in healthcare allows me to meet people from all walks of life. The best part of my job is when my patients recognise me outside the hospital. A simple greeting from them makes me feel very appreciated.



Assoc Prof Lok Shee-Mei
Programme in
Emerging Infectious Diseases,
Duke-NUS

I work on the development of dengue vaccine and therapeutics and have been working on the same project for 11 years. In research, you never do the same thing every day. There aren't always new discoveries but I love every step of the way to each new discovery. That keeps me going.

Rozana Othman
Assistant Nurse Clinician, Dept of Neuroradiology,
NNI

Acute stroke treatment is a topic that I'm passionate about as it hits close to home, since a couple of my close relatives have fallen victim to the disease. I'm currently part of a team studying different means of increasing the number of eligible acute stroke patients receiving intravenous thrombolysis with reduced door-to-needle time. This refers to the time taken to administer drugs that helps reduce the effects of stroke, after the patient has entered the Emergency Department.

This project may also lead to our next endeavour, which is to reduce the door-to-puncture (DTP) time – the time taken to remove the clot that is causing the stroke, from the moment the patient comes through our doors.

It never fails to make me smile when patients with acute stroke symptoms regain their mobility post procedure. I will always remember how a patient, who was not able to move his hand at all, commented excitedly after the procedure, "Oh! Now I can move my arm!"

What intrigues me most about radiology is that it provides treatment through minimally invasive procedures and can achieve similar treatment results to open surgery.



Assoc Prof Angelique Chan

Programme in Health Services & Systems Research, Duke-NUS

I have always been interested in numbers and patterns. I got to realise my interest as a Sociology undergraduate in the United States. I studied intergenerational transfers between older Malaysians and their children for my undergraduate thesis. As a result of this work, I was contacted by the RAND Corporation to continue my studies on ageing as a predoctoral fellow. At that time, very few people were interested in population ageing and it was tough to be heard in the academic and policy community. Twenty years later, the landscape has changed so dramatically. It is immensely gratifying to have support for integrating the social dimension into elderly healthcare.

Historically, healthcare has been disease-focused, however, increasingly there is recognition that without tackling the social issues that confront older adults, we are only halfway to creating successful ageing. That's why I'm really excited about the new Centre for Ageing Research & Education (CARE). CARE will provide a platform to support medical and social researchers to come together to tackle ageing issues holistically.



Assoc Prof Winston Lim

Senior Consultant, Dept of Diagnostic Radiology, SGH

After more than 30 years in healthcare, I am still touched by how healthcare workers continue to give more and more of themselves for the good of another human being. I suppose I should not be surprised at this, but I am repeatedly humbled by stories and incidents of compassion and self-sacrifice that have surfaced.

I don't think that there is just one person who influences me most in my work. There have been so many teachers and so many lessons. From senior workmates who have selflessly shared their wisdom, skills and experience, to colleagues who gave of themselves when the going gets tough, and the *ah ma* who always has a smile to greet you in the morning, despite her multiple medical problems.



Lay Sock Yee

Manager, Quality Management, Operations (Management Information and Performance), NHCS

I am an engineer by training and had never worked in a healthcare setting before I joined NHCS. However, I have always wanted to join it as I felt working in healthcare is very meaningful.

I believe that when we are passionate about something, we have more energy, become more creative and will search more diligently for solutions when difficult problems arise, and in turn inspire others that we work alongside with.

Good healthcare is not just about making treatments and medicines accessible, but also having compassion and discovering what matters most to patients. I believe that good healthcare can change people's lives, and that it should focus on empathy, understanding, and treating patients as a whole and not just the disease.



Jessie Rosilawati Bte Ibrahim

Senior Dental Surgery Assistant, Nursing, Operating Theatre (LAOT), NDCS

My passion is to assist in surgeries. After graduation, I chose to join dental nursing at NDCS because I wanted to work in an operating theatre environment. What is most comforting is that patients hold our dental and medical expertise in high regard. This is something we, as healthcare providers, can be proud of.



Karen Tan

Senior Staff Nurse, OPD Clinic F, SNEC

My vision is to work towards a more patient-centric healthcare environment, focused on enhancing patient experience and personalised service as well as providing affordable healthcare to all individuals. I believe in inspiring others to honour their words with actions to make this world a better place.



THE PARTNERSHIP



10 Years of Improving Patients' Lives Together

In 2015, the SingHealth Duke-NUS partnership entered its tenth year. Previously established Academic Clinical Programmes (ACPs) flourished in the areas of research and education, spurred by the guidance provided by the esteemed Academic Medical Advisory Council.

Sprouting from the academic fervour are SingHealth Duke-NUS Disease Centres (SDDCs), taking multidisciplinary practice to a higher level and enabling subspecialties across ACPs to come together and offer patient-centered care. The SDDCs break away from the traditional hospital setting, graduating to disease-based care, where patients receive holistic care from a broader base of healthcare professionals without the need to travel to multiple institutions.

Reinforcing transformation in clinical services are research collaborations between the ACPs and Duke-NUS' Signature Research Programmes, culminating in the formation of national research institutes for cardiovascular, neuroscience and health services study.

SingHealth Duke-NUS Disease Centres (SDDCs)

First formed in 2014, SDDCs are multidisciplinary and multi-institutional integrated practice units that focus on the treatment of particular disease groups so that patients can benefit from better care. There are currently five SDDCs:

- 1 Head & Neck Centre (Led by Dr Tan Hiang Khoon, NCCS)**
Brings together multidisciplinary specialists to care for patients with tumours of the head and neck region
- 2 Breast Centre (Led by Dr Ong Kong Wee, NCCS)**
The largest centre in Singapore treating the full spectrum of breast conditions, serving patients at SGH, NCCS and KKH



These institutes focus on fostering research collaboration, developing core facilities and encouraging further collaborations between scientists and clinicians to improve patient care.

Supporting the academic journey are the joint institutes of research and education, which facilitate the active growth and development of driven scientists and educators into the SingHealth Duke-NUS family.

- 3 Lung Centre (Led by Adj Prof Lim Chong Hee, NHCS)**
Multi-disciplinary centre for cardiovascular and lung treatment
- 4 Diabetes Centre (Led by Dr Bee Yong Mong, SGH)**
The centre providing holistic and integrated diabetes care for patients
- 5 Liver Transplant Centre (Led by Dr Jeyaraj Prema Raj, SGH)**
Integrated and multidisciplinary centre furthering clinical service, education and research in liver transplant

Academic Medicine—Enhancing Training, Healthcare, Outcomes & Standards (AM-ETHOS)

The AM-ETHOS is a set of new initiatives developed based on recommendations from the Academic Medicine Advisory Council (AMAC) to build capacity and capabilities for the SingHealth Duke-NUS Academic Medical Centre (AMC). Comprising five fellowships, two project grants and an Academic Development Fund (ADF) for strategic competencies, AM-ETHOS aims to enhance the learning and practice of Medicine by developing good role models, retaining excellent academic clinician faculty and cultivating a rich research culture to drive improvements in healthcare. Developed by the Joint Office of Academic Medicine, four of the initiatives have been launched.

1 Duke-NUS Medical Students Research Fellowship

Spur medical students' interest in clinical and translational research and grow a research talent pipeline for SingHealth Duke-NUS AMC, supported by committed research mentors from the Academic Clinical Programmes (ACPs).

- Early identification of potential clinician researchers and scientists for ACPs
- Attract more ACP faculty as research mentors to medical students
- Engagement of medical students and guided pathways to grow research careers within SingHealth Duke-NUS AMC

2 Academic Mentor Development Fellowship

Developing excellent academic clinician faculty leaders to become role models to medical students and junior faculty through academic leadership exposure at Duke Medicine and other leading AMCs.

- Tap on expertise of AMAC network to enhance academic exposure and AMC thought-leadership
- Pairing with senior faculty and AMC leaders for sharing of best practices through a tailored 1 year academic mentoring plan
- Cultivate strong academic leadership to advance our AMC

3 Senior Faculty Academic Study Fellowship

Empowering senior academic clinician faculty leaders for next level of contributions in our AMC through an advanced academic development Fellowship for up to 3 months in their specific area of strategic focus.

- Enhance capabilities in relevant areas of academic and leadership development
- Support for senior academic clinician faculty leaders to pursue emerging fields of interest for further contribution and leadership
- Recognition and support for outstanding faculty leaders

4 Medical Simulation & Inter-Professional Learning Project Grants

Improving the standards of academic clinical training and learning outcomes for Duke-NUS medical students. Support is given to innovative proposals harnessing simulation to enhance medical education curriculum and capabilities for our AMC.

- Strengthen range of expertise in simulation infrastructure at collaborative platforms across SingHealth and Duke-NUS
- Develop train-the-trainers programmes to equip academic clinician faculty
- Explore pilot initiatives for inter-professional learning across Duke-NUS and SingHealth

The AM-ETHOS Academic Administrator Fellowship and Academic Medicine Fellows Exchange Programme are on-going initiatives leveraging the strengths of Duke Medicine to facilitate academic cross-sharing of best practices and AM culture. The Academic Development Fund for Strategic Competencies and Duke-NUS Education Project Grants will be launched by end of FY2015.

National Research Institutes

Results of a joint venture between ACPs and Duke-NUS Signature Research Programmes to improve treatments of diseases through collaborative research.

1 National Neuroscience Research Institute Singapore (NNRIS)

Singapore's largest institute specialising in neuroscience research, bringing together more than 200 neurologists, neuroscientists and research professionals from NNI and Duke-NUS to work in collaboration

2 National Heart Research Institute Singapore (NHRIS)

Established with the aim of transforming cardiovascular outcomes, with research themes ranging from heart function and genetics to regenerative medicine

Background

Our population is rapidly ageing, with more people having multiple, long-term illnesses. This has intensified demand for healthcare services.

Close collaboration between healthcare providers is needed in order to move from episodic care within hospitals and medical institutions, to holistically address both health and social needs beyond hospital walls.

SingHealth Regional Health System

The SingHealth Regional Health System (RHS) brings the public and private healthcare providers within its region under one umbrella, to achieve seamless, patient-centred care.

The overleaf illustrates how SingHealth RHS come together to support the different care needs required by our patients.

Find out more



<http://bit.ly/1LrLFUD>



1

WELL AND HEALTHY

All Residents in SingHealth RHS Catchment

- Partners**
- Health Promotion Board
 - Community Centres/Grassroots
 - Agency for Integrated Care (AIC)

2

AT-RISK PATIENTS

Early stage • Chronic Disease/Surgical Patients

- Programmes**
- SingHealth Right-Siting Programme –Delivering on Target (DOT) 9,432 patients seen by FMC
 - KKH Asthma Right-Siting Programme 1,399 patients right-sited to primary care
 - Standardised Care for Optimal Outcomes, Right-Siting and Rapid Re-Evaluation (SCORE) 956 patients right sited to polyclinics
 - Nursing Home Care 3.6% patients referred back to SOC
 - Community Mobility for the Elderly (COME)
 - Family Medicine Clinics (FMCs)/ Community Health Centres (CHCs)

3

COMPLEX DISEASE

Complex, High Needs Patients (Frequent Admitters)

- Partners/Programmes**
- Patient Navigators 1,364 frequent admitters patients recruited
 - RHS Frequent Admitters Programme 4,915 patients managed by patient navigators
 - Transitional Home Care (THC) 61% patients remained under patient navigator management
 - Complex Medical Care Clinic (CMCC) 44 patient navigators trained and assigned to SGH, KKH, NHCS Inpatient wards and SGH A&E
 - Aged Care Transition (ACTION)
 - Community Hospitals
 - Nursing Homes
 - Intermediate & Long Term Care and Community Partners

4

END OF LIFE

- Partners/Programmes**
- Advance Care Planning Advance Care Planning – Engaged 30 clinical units and received 255 referrals
 - Community & Social Services
 - Caregiver Support Groups
 - Intermediate and Long Term Care (Palliative Care/Nursing Homes Hospices/Respite Care)

Realising philanthropy's potential

In FY2014, a total of \$24.36 million was raised for research, education and support for needy patients across SingHealth's institutions. This encouraging success in development efforts is testament to the growing support for our causes that advance care for patients.

Needy patients



Academic Medicine (Research and education)



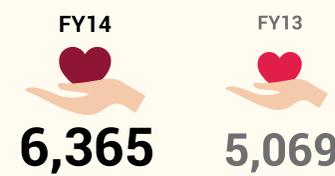
Total funds raised



Number of named funds launched (Research and education)



Total number of gifts



Creating a vibrant philanthropic culture

The Clinician Involvement in Philanthropy Programme (CIPP), which took shape in May 2014, aims to create awareness about the importance of philanthropy in furthering our pursuit of Academic Medicine. The Programme's goal is to build stronger partnerships between clinicians, development officers and like-minded individuals and corporations in one common mission to better the lives and health of patients and the community. To date, more than 200 clinicians and development officers have been introduced to the CIPP, in line with efforts to nurture a pipeline of clinicians to be advocates of healthcare philanthropy.

Find out more



<http://bit.ly/1LuxAlh>



Prof Julian Thumboo
Senior Consultant, Dept of Rheumatology and Immunology, Singapore General Hospital

This journey in philanthropy was something new to me and it involved a major mindset change on my part. I realised that I needed to take on an active role as a clinician to move this fundraising initiative forward for the good of rheumatology patients. It was very encouraging when things started to gain momentum, and more potential donors expressed interest in the research work that we are doing, and wanted to know how they could be a part of these efforts.



Prof Terrance Chua
Medical Director, National Heart Centre Singapore and Academic Chair, Cardiovascular Sciences ACP

Research is imagining what might initially seem to be beyond reach... and taking steps to make it a reality. Research success takes an entire team of people collaborating together, from astute observations, to building a hypothesis, to finding resources and executing rigorous studies. Everyone can play an important role in research, not only the scientist and the clinician, but also the hospital support structure and the generous philanthropist.



Assoc Prof Ng Kee Chong
Chairman, Division of Medicine at KK Women's and Children's Hospital and Academic Chair, Paediatrics ACP

Philanthropy has an important role to play in Academic Medicine. Funds are needed to help drive research and education in medical care. There are many people out there who are altruistic and only too willing to give towards a worthy cause. We just need to open up and share our needs and aspirations with them. It is a privilege to be involved in philanthropy and I look forward to future philanthropic endeavours which will provide the impetus to turn ideas into cures and further the cause of innovative research and education for Paediatric Medicine in SingHealth.



IMPRINTS OF HEALTHCARE

Callen Lam



If not for the hearing aid he wears, it is impossible to tell that four-year-old Callen Lam has hearing impairment. The pride and joy of his parents, Callen underwent surgery to get a cochlear implant when he was barely three. With the multi-disciplinary care he receives at the Ear, Nose and Throat (ENT) Centre at Singapore General Hospital (SGH), the bubbly toddler has made marked progress in his speech abilities and is now ahead of his peers!

When their newborn son was diagnosed with severe hearing impairment in both ears at just a week old, Jerry Lam and Diane Chung were shocked and desperate for answers.

"We felt so hopeless. We were told that if Callen couldn't hear, he would never be able to speak. We started trawling the internet to find out more, downloaded sign language apps and started looking for schools for hearing impaired kids. My wife even thought of quitting her job to care for Callen. We were prepared for the worst," Jerry said.

Thankfully, the couple managed to connect with Alana Triscott, founder of "Little Hands, Big Voices", a support group for parents of hearing impaired kids. "Alana encouraged us to seek a second opinion at SGH where her son was treated, and we were glad we did," said Diane.



After rigorous tests by the audiologist, Callen was diagnosed as "moderately hearing impaired", much to the relief of his parents. Then three months old, Callen was fitted with hearing aids.

One visit to the Centre was especially emotional for Diane: "I met many hearing impaired kids at the tenth anniversary celebration of the centre. When one of them came and said hi to me, I started to tear uncontrollably. He could speak – there was hope for Callen!"

"Callen's recent speech and vocabulary tests show that he is ahead of his peers who are not hearing impaired. We were once worried that Callen would never speak - but now, he talks too much!"

When the hearing in Callen's left ear deteriorated, he underwent surgery for a cochlear implant when he was barely three. As a result of the implant, Callen can hear regular conversations and has been going to the centre for check-ups and auditory-verbal therapy.

Expressing gratitude for the care team, the couple said: "Mandy, his auditory-verbal therapist, gave us really good advice to prepare Callen for the surgery. She recommended reading Callen storybooks about hospital visits, and showed him how to bandage his teddy bear because he would also have a bandage on his head after surgery."

"Our audiologist Pei Shan was helpful and reassuring. When there were issues with tuning the implant, she gave us her mobile number and told us to call her whenever we needed help," they added.

The couple has these words of encouragement for fellow parents of hearing impaired children: "Don't despair – seek help and you will find help. Just look at Callen – his recent speech and vocabulary tests show that he is ahead of his peers who are not hearing impaired. We were once worried that Callen would never speak – but now, he talks too much!"



Dr Barrie Tan
*Head and Senior Consultant, Dept of Otolaryngology, SGH
 Deputy Head, SingHealth Duke-NUS Head & Neck Centre*

Deafness is a socially isolating disease; the patient is alone in his/her silence. At the same time, the parents of the deaf children are devastated at not being able to communicate with their children, to be able to tell them that they love them. That sort of family separation is really heartbreaking. So to be able to restore hearing to children like Callen gives great meaning to the work I do.



Mandy Phua
*Principal Auditory-Verbal Therapist,
 Centre for Hearing & Ear Implants,
 SGH*

I feel privileged to be able to use my knowledge and training to enable someone to achieve his full potential, despite his hearing loss. I also enjoy working towards this goal with parents and caregivers, who are generous in sharing their lives with me. My colleagues are also passionate about what they do, and they are compassionate too, which makes working together a joy.



Leem Pei Shan
*Audiologist,
 Centre for Hearing & Ear Implants,
 SGH*

One day, Callen shared his holiday encounters with me. I was amazed by the richness of his vocabulary, clarity of speech and eagerness to converse. At that moment I looked back and realised that he has really come a long way. The work can be challenging, but the sense of joy is really priceless when I hear each child speak. The work we do has a lifelong impact on people's lives.

IMPRINTS OF HEALTHCARE

Tan Kai Ern



Tan Kai Ern has been living with Haemophilia A for as long as he can remember. A robotics enthusiast, Kai Ern now copes well with his condition and has volunteered to be part of a clinical study.

16-year-old Tan Kai Ern was diagnosed with severe Haemophilia A when he was just an infant. Living with this bleeding disorder, Kai Ern is unable to participate in vigorous activities such as Physical Education (PE) lessons in school as he might sustain bruises or injury resulting in internal bleeding.

"I used to feel left out and sad that I couldn't take part in PE lessons. It felt unfair. Whenever I played with friends, I also had to practise self-restraint and stop when things looked like they were getting too rough," said Kai Ern.

There were times when Kai Ern threw caution to the wind and the repercussions were painful. Once, internal bleeding in his knee left him bedridden for a couple of days.

Such painful lessons, coupled with his parents' counselling, helped Kai Ern acquire the self-discipline and commitment required for his participation in a clinical study by KK Women's and Children's Hospital (KKH).



"I used to feel that I was of no value, and that I would not accomplish much because of my condition. Now, I am a bit more optimistic. My parents never once gave up on me so I can't give up on myself."

Assoc Prof Chan Mei Yoke, Head and Senior Consultant of the Haematology/Oncology Service, Department of Paediatric Subspecialties, KKH, suggested that Kai Ern participate in the "PROTECT" study, which allows him to try a new medication that reduces the frequency of injections needed.

"Kai Ern was the first patient to volunteer for the study! He is a model patient because he is very compliant with research protocol. He conscientiously keeps records of his bleeds, tracks the use of his study drug and sticks to every appointment," said Prof Chan.

Kai Ern has since come to terms with his condition. Despite the limitations posed by his condition, he remains positive.

"It is not that bad, honestly. It doesn't really affect me too much, as long as I administer my medication diligently," said the sensible teenager.

Currently, Kai Ern injects himself with medication once every few days. He recalled one particular occasion when he encountered some difficulty, "I could not get the needle into my vein. I called Sister Lim Chiew Ying for help, and she immediately came to my house to help me with the injection – on a weekend! She is really very dedicated, helpful and supportive."

Kai Ern is also thankful to his parents for their loving support. He said: "I used to feel that I was of no value, and that I would not accomplish much because of my condition. Now, I am a bit more optimistic. My parents never once gave up on me so I can't give up on myself."

Kai Ern will take his 'O' Level examinations this year and plans to study law or business in a polytechnic. "I hope to get a job with a stable income so I can have a roof over my head," he said with a grin.

Assoc Prof Chan Mei Yoke

Head and Senior Consultant, Haematology/Oncology Service, Dept of Paediatric Subspecialties, KKH

By empowering older children like Kai Ern with the know-how to administer their injections and by encouraging them to be proactive about physiotherapy and exercises, we hope that they can take charge of their conditions.

Despite having an incurable condition that requires life-long injections, Kai Ern has been a model patient who is positive and cheerful. He has been my patient since he was an infant and I will miss him when he transfers out of paediatric care for future treatment!



Dianna Sri

Clinical Research Coordinator, KK Research Centre, KKH

I am responsible for coordinating Kai Ern's clinic visits and ensuring that he receives the correct dosage of drugs during the study.

I believe Kai Ern's attitude contributes greatly to the stable condition he enjoys today. It has been inspiring to see him develop the courage, strength and confidence to deal with the uncertainty associated with his condition.

Lim Chiew Ying

Nurse Clinician, Haematology/Oncology Service, Dept of Paediatric Subspecialties, KKH

I have seen Kai Ern transform through the years to become the mature teenager he is now. He is responsible for his own treatment regimen and takes the initiative to update me whenever he encounters issues. He even motivates his peers to master self-infusion. Seeing my patients living life to the fullest gives me great satisfaction.



Prof Koo Wen Hsin
Chairman, Division of Medicine, SKH

I enjoy interacting with my students, patients, and their family members, which probably explains why I have been in healthcare for more than 20 years!

While it sounds impressive to say that I am inspired by a Nobel laureate or an Everest mountaineer, I find that few can emulate such characters. It is the people around me who shape and inspire me. For example, Mr Mohd Jalil Abbas, the gantry officer at SGH Block 4, always has a ready smile for everyone and is always full of warmth. He's shown me that it's possible to derive fulfillment and happiness from a seemingly routine job – it's really up to us to make the most out of what we do.



Dr Tan Kian Hian
Director and Senior Consultant, Pain Management Centre, Dept of Anaesthesiology, SGH

It is very easy to fall into a daily predictable routine but nothing is "routine" to the patients who see me in the operating theatre, just before major surgery. I constantly remind myself that each day at work is a chance to make a difference. I hope that with each interaction, I have made a difference to my patients and if I have done so, that becomes my best day at work.

The SARS outbreak in 2003 left a lasting impression on me. I was just a trainee then, but I got to witness how the medical community rallied together selflessly, in the face of uncertainty and even death. That made me really proud to be a member of this community and inspired me to be a better healthcare provider.



Lim Xin Yi
Senior Psychologist, Psychosocial Trauma Support Service, KKH

I have always had an interest to work in a helping profession. As a trauma psychologist in KKH, I enjoy helping children deal with their emotional, psychological and behavioural difficulties, as they work towards normalcy.

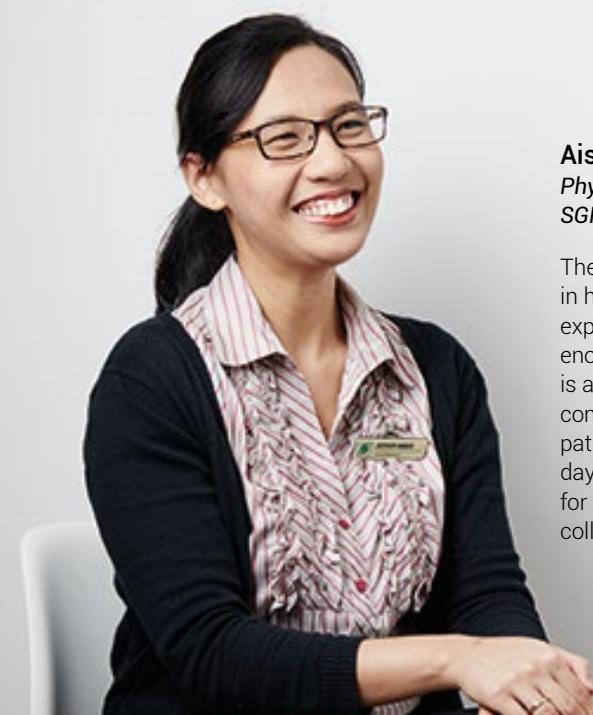
Once, I worked with a child who suffered post-traumatic stress after being involved in a car accident. Her parents and her were very committed to therapy and conscientiously followed up with what we taught them. The child's resilience and her parent's love and support for her left a lasting impression on me. After a few sessions of therapy, she recovered and even moved on to help other children who faced difficult events in their lives.

Looking forward, I hope we can build a strong network of trauma-trained professionals who are committed to helping children in schools, the community and hospital settings.



Aisyah Binte Omar
Physiotherapist, Dept of Physiotherapy, SGH

The amount of teamwork required in healthcare is something I never expected. Being good at your job is not enough. The best outcome for patients is achieved through collaboration and communication among healthcare staff, patients and their relatives. Not a single day passes, without me being thankful for the support and help I get from my colleagues and patients' relatives.



Yeung Chee Yan
Senior Staff Nurse, BVH

I have led a pretty sheltered life since young. Every day I encounter patients, young and old, suffering from severe illnesses, sometimes made worse by social issues. Being a nurse, I do all I can to ease their emotional and physical pain.



FACES OF HEALTHCARE

Gerard Joseph Tang

*Manager, Operations, General Services,
SGH*

Quitting did cross my mind when I first joined, as I had zero knowledge about healthcare and the learning curve was quite steep. But over time, the patients and visitors gave me strength and inspiration – simple thank-you notes from them make my work worthwhile.

I once came across a patient who had a fall along the walkway. I quickly grabbed a wheelchair and wheeled him to the clinic, where I ensured that he got the attention he needed before leaving. A few days later, I bumped into the same patient. He thanked me and we chatted for a while. Since then, we have become friends. That was a memorable and fulfilling encounter.



Assoc Prof Jodhbir Singh Mehta

*Head (Research) and Senior Consultant, Corneal and External Eye Disease Dept,
Senior Consultant, Refractive Surgery Dept,
Senior Consultant, General Cataract & Comprehensive Ophthalmology Dept, SNEC*

My grandfather died because he couldn't get access to medical care, so my dad decided to become a doctor and most of my siblings are in the healthcare profession. Ophthalmology covers both medicine and surgery, making it an attractive option for me.

I've had lots of memorable cases, and those that I enjoy the most, are the transplant cases as the patients often had very poor vision previously. When they can see again, it really makes our work worthwhile.

The people I deal the most with at work are the nursing staff. The dedication and commitment of the nurses in our Corneal and Refractive departments always amazes me. The care they offer to patients is outstanding, and always inspires me to do my best as part of the team.



Angela Chen

*Assistant Director, Development,
SingHealth*

I realised that after spending so much time fundraising, I gain increased satisfaction helping others in this area. My wish is for us to be self-sufficient in funding for AM research and education. It would be incredible to be able to have more than sufficient funds to invest in our people so they can take better care of our patients.



Angelina Tan

*Head of Pharmacy,
SKH*

One of my patients came back after his bone marrow transplant to thank me. He actually remembered my name and knew that I was the one reviewing his medications when he was in hospital. I was pleasantly surprised that he made it a point to thank me in person. It was very satisfying to know that the medication reviews I did were appreciated.



Dr Marjorie Foo

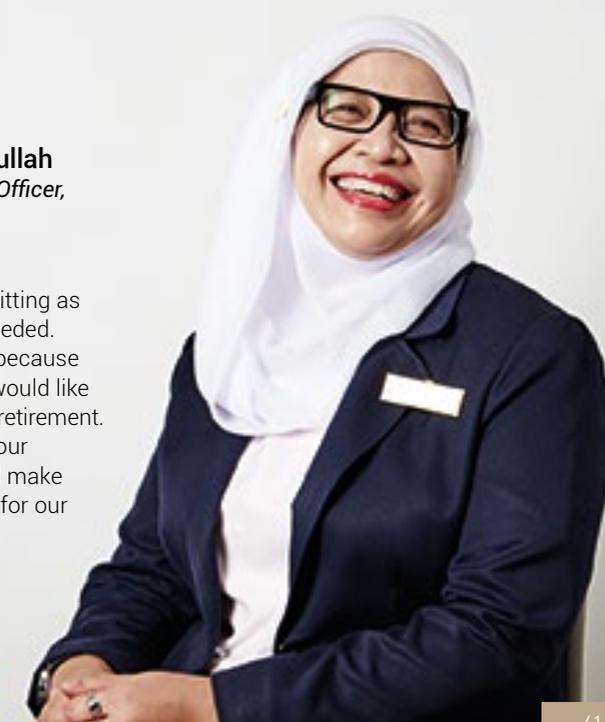
*Head and Senior Consultant,
Dept of Renal Medicine,
SGH*

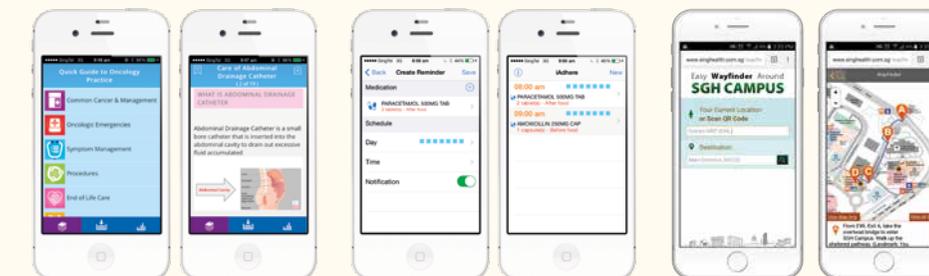
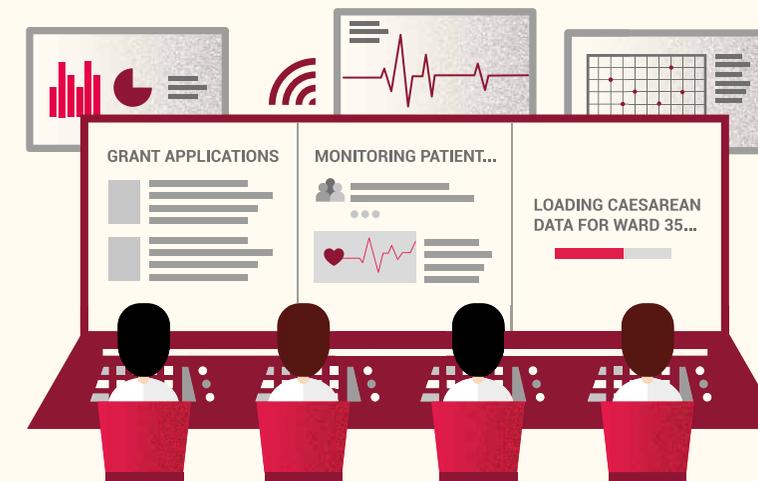
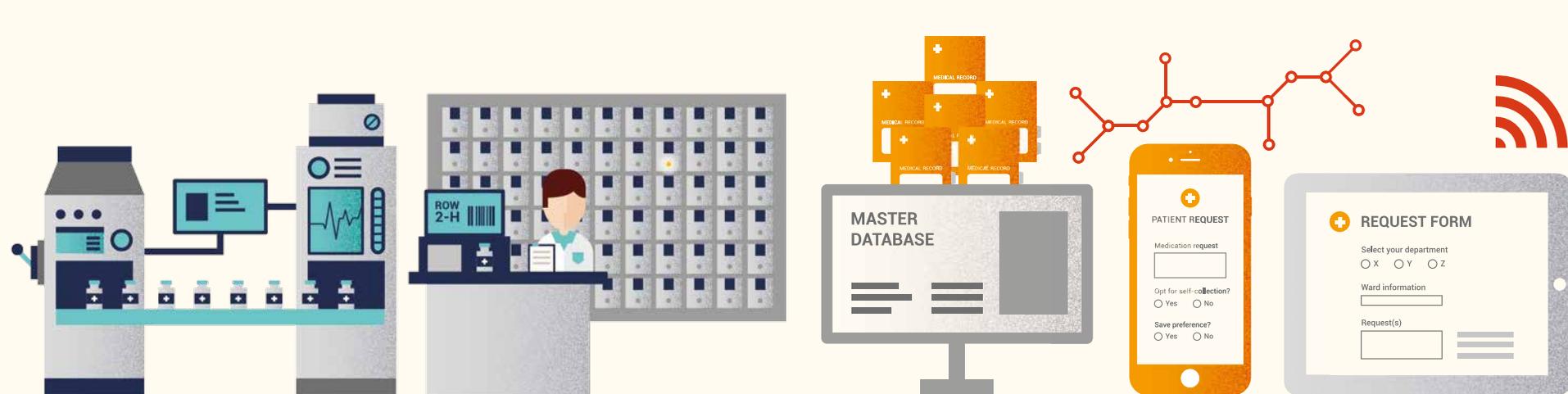
I believe that we should give back to the community what we've received, so guiding the younger generation to be better clinicians and teachers is one of my life goals. Although they have technology at their disposal, they should never forget the importance of human touch between doctor and patient.

Rosnani Binte Abdullah

*Lead Patient Relations Officer,
Clinic Operations,
NCCS*

I've never thought of quitting as long as my service is needed. I definitely will stay on, because I love my patients and would like to render my service till retirement. I hope we can improve our healthcare services and make it even more affordable for our patients.





Quick Guide to Oncology Practice

iAdhere

Easy Wayfinder Around SGH Campus

PATIENT SERVICES

KKH Outpatient Pharmacy Automation Systems

More than 90% of medication at KKH Children's Emergency and O&G (24-hour) Clinic is automatically packed, assembled and barcoded during peak hours, helping staff serve patients faster.

SMART-LED Guided Picking System at NHCS Pharmacy

An LED light on the correct drug bin lights up when a pharmacist scans the drug label, to guide the packing of medication from the correct bin. This improves patient safety and work efficiency.

ELECTRONIC MEDICAL RECORDS

Cross-Cluster Scanned Medical Records

A common system that shares scanned medical records across SingHealth and Eastern Health Alliance ensures timely patient care, as clinicians can easily access patients' records online.

Campus Drug eRequest Form

To improve the accessibility of medication for inpatients at SNEC, NCCS and NHCS, the SingHealth Availability and Accessibility to Medication Workgroup introduced the eRequest Form in May 2014, which eliminates faxing of forms and improves traceability.

Electronic Nursing Orders

These replace the hard-copy forms nurses previously used to request for allied health services at SGH and NHCS inpatient wards, as well as SGH outpatient clinics. These also eliminate the need to call or fax orders to the respective allied health departments.

CLINICAL SUPPORT SERVICES

SingHealth Integrated Systems in Healthcare Research

A central platform for research stakeholders in SingHealth to track, monitor and manage their research portfolios was launched in September 2014. Applications to the SingHealth Centralised Institutional Review Board are now paperless.

NHCS TrustedCare for Coronary Artery Bypass Grafting

By capturing patient data in four templates, it is now easier for clinicians to monitor how patients on the TrustedCare pathway are doing. Manpower to compile and analyse patient data is also reduced.

KKH and SGH TrustedCare for Elective Caesarean-Section

Multidisciplinary teams can access and monitor patient data electronically, and measure outcomes more accurately.

SGH TrustedCare for Total Knee Replacement

By sharing electronic assessment documents of patients along a structured pathway spanning pre- to post-operation, the multi-disciplinary team can gain greater clinical insights and reduce variability in care outcomes. "KneeBuddy" the mobile app was also developed to equip knee replacement patients with the knowledge and tools they need to improve post-surgery functional outcomes.

MOBILE APPLICATIONS

Quick Guide to Oncology Practice

With comprehensive information on common oncology topics, this app equips clinicians with a basic understanding to manage patients with oncology symptoms.

iAdhere

This proof-of-concept mobile app allows users to schedule medication reminders, and sends reminders to users to promote medication adherence. This app was developed in response to SGH's research study on the effectiveness of mobile apps to improve medication adherence among patients with Type 2 Diabetes Mellitus in Singapore.

SingHealth mDirectory

All staff with this mobile app can search for and access contact details of colleagues across the cluster, on the go.

Easy Wayfinder Around SGH Campus

This app provides step-by-step walking instructions for visitors to find their way around SGH Campus.

INNOVATION IN HEALTHCARE

To serve Singapore's ageing population and complex healthcare needs, our clinicians and administrators need to be creative with the use of resources to achieve good patient outcomes. This requires innovative thinking and the ability to look at issues from different perspectives.

To this end, SingHealth's Innovation and Quality Management and the Duke-NUS Programme in Health Services and Systems Research have been looking at developing new solutions to systemic problems, streamlining work processes, and optimising the use of resources to improve patient safety and outcomes.

Apr 2014: SingHealth Innovation and Quality Management set up to strengthen the quality framework and facilitate projects that improve work processes and patient outcomes across SingHealth institutions

Jun 2014: Redesigned the SingHealth EPIC Programme

- Expanded capacity for Quality Innovation (QI) through the development of sustainable in-house capability and expertise

Feb 2015: Co-organised the inaugural SingHealth Quality and Innovation Day with Duke-NUS

- 16 speakers
- 543 attendees

Health Services and Systems Research (HSSR) is one of five Signature Research Programmes at Duke-NUS. It aims to promote humane, effective, sustainable healthcare through research that informs complex clinical and public policy decisions.

Its main research areas are: health systems, economics of health behaviors, ageing and long-term care, obesity, and chronic and complex diseases. Completed projects include:

1 Pilot study on smartphone app Diabetes Pal

AIM:

- To investigate the feasibility of using a patient-centred smart phone application for insulin self-titration on glycaemic control

2 Self-Care of Older Persons in Singapore (SCOPE)

AIM:

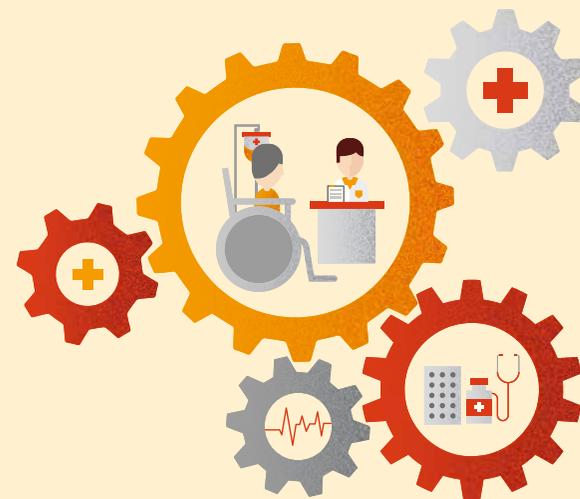
- To evaluate a self-care intervention programme designed to enhance the ability of low-income, mildly-disabled and healthy older people in Singapore to improve health knowledge and better manage chronic conditions

More about this study on Page 16

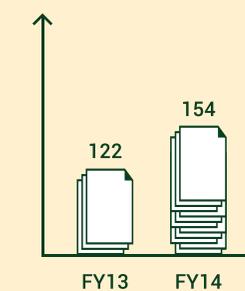
3 Strategic Planning to Reduce the Burden of Stroke in Singapore

AIMS:

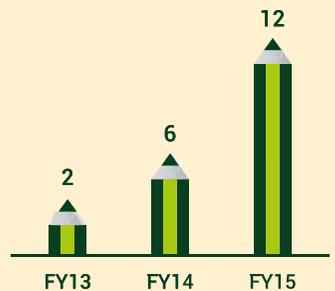
- To reduce the burden of stroke on patients, their family members, as well as the healthcare system
- To prioritise clinical interventions and policies to maximise patients' outcomes and properly allocate the available resources



Number of SingHealth QI projects



Number of in-house workshops

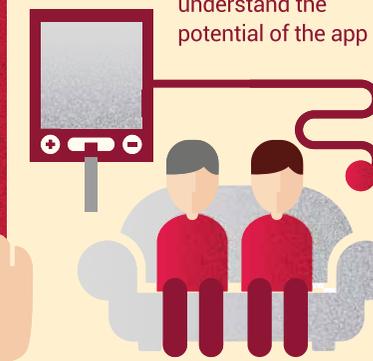


Result:



Findings: It is technically and clinically feasible to use an app for insulin self-titration

A trial comparing the app with usual care in the primary care setting is planned to fully understand the potential of the app



Result:

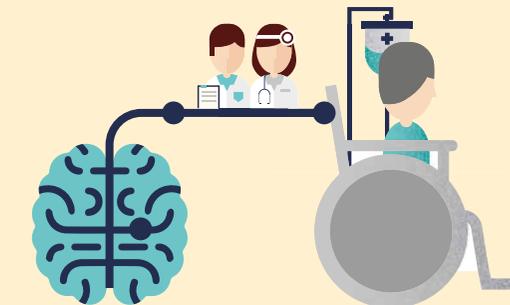


Participants' health-related self-efficacy and confidence improved and they detailed more productive and proactive visits with doctors

Besides improved health behaviour and everyday habits, participants reported feeling happier and less lonely as a result of the intervention sessions



Result:



In collaboration with the Ministry of Health, HSSR has developed a system dynamics model to support policy formulation and implementation as well as programme planning for stroke care in Singapore

The project identified potential approaches to reduce the risk of secondary stroke, improve patient care, and help stroke survivors in Singapore reach the best possible post-stroke outcomes at acceptable costs



IMPRINTS OF HEALTHCARE

Jay Sng

A passionate educator, Jay is constantly looking for ways to help his pupils lead healthy lifestyles. Through partnering Sengkang Health (SKH) to develop and implement its Millennia Kids Programme, he hopes to get his pupils to spend more time outdoors and not become over-reliant on mobile devices.

Mr Jay Sng, Head of Physical Education and Co-Curricular Activities at Compassvale Primary School recalled having reservations at the first meeting between community partners and the SKH team, where the latter shared plans to collaborate on promoting healthy living in the community.

"The meeting went all the way past 10 o'clock at night. I gave very honest feedback on their plans and ideas; describing to the committee members the situation on the ground, and suggested what can and cannot be done. I could still recall their dejected expressions after hearing me out."

Jay thought that that would be the last he would hear from SKH. He was surprised when contacted the following year to help conceptualise and launch the Millennia Kids Programme. Pupils in the programme are encouraged to pick up healthy living habits through fun activities.

"I felt that they took our feedback into consideration, and that the revised plans complemented my school's curriculum, instead of duplicating it. We decided to partner SKH as we felt that the Millennia Kids Programme would enrich and supplement our pupils' learning."

Piloted last year, the programme involves three schools, Compassvale Primary being one of them. It was well-received by the pupils, who particularly enjoyed the assembly talks by invited guests.

Jay recalled: "A surgeon gave an assembly talk on the health risks of smoking. All he did was to say, 'I am a real doctor' and all the pupils went, 'Wow!' The kids were mesmerised and paid great attention to what he had to say."



"Satisfaction comes from the fact that the pupils are exposed more to the world beyond school. Through this programme, they hear first-hand from healthcare professionals on healthy living and potential health risks."



All 240 pupils who took part in the programme last year completed the activity booklet issued to them and earned a badge at the end. Jay feels that the home environment is most important in getting children to adopt and continue practising healthy living habits, which is why he hopes to get parents more involved.

After last year's pilot run, the team at SKH and volunteers like Jay came together to revise the programme and the activity booklet issued to the pupils has since been changed to a task card. It now includes more activities that pupils can complete with their parents.

"We planned activities that are fun and short in duration. These bite-sized activities encourage parents to get active on weekends and spend some quality bonding time with their children, which is a better way to keep children occupied than giving them an iPad. Research has shown that children with sedentary lifestyles do not develop as well cognitively and emotionally because they interact less with others. These kids tend to have anger management issues and are unable to work in teams," said Jay.

The revised task card is also a result of open communication between SKH and its community partners. Jay finds the team very receptive of feedback from the ground.

"I felt the team's perseverance. They were genuinely interested in working with schools to benefit the community – not in doing what sounds good on paper or looks good on photos. When the intention is right, things will fall into place."

While it takes a fair amount of commitment on Jay's part to keep the programme going, he finds it all worthwhile.

"Satisfaction comes from the fact that the pupils are exposed more to the world beyond school. Through this programme, they hear first-hand from healthcare professionals on healthy living and potential health risks. They also see that exercising together with their families can be fun and meaningful."



Frank Choo
Senior Executive, Communications and Service Quality, SKH

All our partners share the belief that we need to keep our community healthy. Because of this belief, everyone is willing to work together with an open mind to make the Millennia Kids Programme a success.

The challenge is getting the parents involved. With the help of educators like Jay, we came up with ways to achieve this while not appearing pushy. I want the kids to cultivate healthy habits from young and be able to influence the people around them. I hope that they can put whatever they have learnt from the programme to good use and eventually lead by example.



Ho Whei Chern
Manager, Communications and Service Quality, SKH

We believe that to truly build a healthy community, kids are vital in our upstream initiatives as they are excellent influencers. What are the chances of a person getting out to exercise if his doctor told him to, versus his kids cajoling him to join in? We have seen children dragging clueless parents to our events and having a good time through our obstacle course.

Any multi-partnered programme will have its set of challenges to work through. But once it is clear that our objective is the same – improving family ties and building healthier communities – things will fall into place. We hope to expand the programme and make it more meaningful and engaging.



IMPRINTS OF HEALTHCARE

Brinda Kumari Shanmugam Naidu

An inspiring person used to caring for others, Brinda won the battle against cancer with the tireless support of her loved ones and the care team at National Cancer Centre Singapore (NCCS).

A professional counsellor, Brinda touches the lives of many people by helping them deal with their issues. In 2012, she found herself having to apply what she does professionally to her personal life, when she was diagnosed with Stage 2 Breast Cancer.

Post-surgery, Brinda received treatment at NCCS. While her battle with cancer was arduous, Brinda was grateful for the care she received from staff at NCCS.

"My care team was just amazing! I can't thank them enough. Words are not sufficient, because they gave me my life back," said Brinda.

Brinda's journey to recovery was extremely difficult and emotional. Weakened by the debilitating side effects of treatment, on top of not being able to move her left shoulder and arm, Brinda recalled an incident when she broke down in front of Dr Wong Fuh Yong, her radiation oncologist.

"I was petrified and worried that I would never be able to get my body in the correct position on the monstrous machine. Dr Wong consoled me and reassured me that I would eventually be able to do so."

"I take great comfort in knowing he is my doctor. He is the kindest doctor I have ever met and I like that he is upfront and provides clear and consistent information without sugar-coating the truth."

Life dealt Brinda another bad hand and she had to battle with the difficult decision to have her ovaries, fallopian tubes, uterus and cervix removed.

"Cancer mutilated my body and stripped me of my courage. However, I refused to serve up my dignity to it; I am more than the scars on my body. I am perfect in my imperfections. Whatever is inside my body and whether I can bear children or not, doesn't make me any less a woman."



"Cancer mutilated my body and stripped me of my courage. However, I refused to serve up my dignity to it. I am more than the scars on my body. I am perfect in my imperfections. Whatever is inside my body and whether I can bear children or not, doesn't make me any less a woman."



With a gregarious personality, it was challenging for Brinda to cope with her illness and the changes it had on her lifestyle.

"My life came to a standstill. I could not go to work. I was so weak; I could barely lift my head."

Her loving parents, both retired nurses, cared for her tirelessly at home. Her family and friends provided much support and understanding. She also received empathy and care from her medical oncologist, Dr Toh Han Chong.

"He took me seriously. He always makes the effort to answer my queries. I feel safe because I know I am in trustworthy hands."

"Once I bumped into Dr Toh after my chemotherapy session. I can't remember what we said to each other, but I will never forget the look of compassion he gave me. I felt that he connected with me then and understood my pain."

Expressing gratitude for Nurse Flordeliza Garcia Barnacha, Brinda said, "She was my first Chemotherapy nurse. She was infinitely gentle and caring, tending to my needs and even taking time to reassure my elderly parents who accompanied me. She understood my fear of needles and would hold my hands, telling me she was with me. She was an angel."

Today, Brinda is living her life to its fullest. A Public Service 21 (PS21) Distinguished Star Service Award recipient, she has since returned to work and continues to write poetry, drawing strength from it. A local capella group, *Budak Pantai*, was inspired by her tribute to Mr Lee Kuan Yew and wrote a song using her poem as lyrics. The song was performed at the Budak Pantai and Friends Charity Concert in aid of the National Kidney Foundation at the Esplanade in June.

"I am privileged to be alive. Life is never meant to be easy. There will always be challenges, disappointments. Yet, there are also opportunities, possibilities and hope."

Dr Wong Fuh Yong
Senior Consultant,
Division of Radiation Oncology,
NCCS

I appreciate that Brinda has felt sufficient comfort and trust in us to express her emotions in tears. I feel I was privileged to be allowed a glimpse into her true self and feelings at that time. The aftermath of these "breakdowns" is often when patients can give voice to their most private thoughts and fears, providing a valuable opportunity for us to help them in a more meaningful and effective way.



Assoc Prof Toh Han Chong
Medical Oncologist,
NCCS

I believe everyone responds well to a smile and a kind word. I grew up as a medical student in England where many of my medical teachers and nurses displayed such warmth, grace, compassion and wonderful bedside manner that I wanted to treat patients like that too. Being a doctor is a privilege for which I am grateful. There is so much satisfaction in interacting with and being able to help another – irrespective of status, skin colour or belief.



Flordeliza Garcia Barnacha
Staff Nurse, ATU Wing,
NCCS

One thing that struck me about Brinda is her great personality and her hopes to return to the life she was used to. Being able to go through the journey with my patients and providing assistance is very satisfying. Despite patients having pain and discomfort, they can still put on a smile and express their thanks. These moments are priceless.



Rosnani Bte Abdullah
Lead Patient Relations Officer,
Clinic Operations,
NCCS

Brinda's determination was admirable and inspirational. No matter how painful the journey was, she showed no fear and there was this huge smile on her face from cheek to cheek. Through my exchanges with her, I realised her great positivity and attitude and I guess this became a tremendous asset that helped her recovery.



FACES OF HEALTHCARE

Dr Lui Jeen Nee

Head and Senior Consultant, Endodontic Unit, Dept of Restorative Dentistry, NDCS

As highly skilled clinicians, we tend to think oral diseases can be controlled or healed with technological advances. In actual fact, a clinical procedure is merely an instrument to facilitate healing as the patient is the main factor who determines the outcome. Without patients' cooperation, treatments can only go so far. More often than not, patients need a compassionate dentist who is not only skilled but has a warm heart to engage and encourage them to maintain good oral hygiene for the best clinical outcome.

Working as an endodontist in a multidisciplinary team in NDCS, not only am I able to fulfil my clinical duties, I am also able to teach and train younger clinicians, as well as do clinical research with the aim of improving patient outcomes. This multi-faceted scope of work enables for a more impactful change to the future of dentistry. My wish is for more clinicians to see the relevance of Academic Medicine and opt to make their career in public service.



Michelle Li

Medical Technologist, Neurodiagnostic Laboratory, NNI

I enjoy meeting patients from all walks of life and having conversations with them. Sometimes, they open up about their life experiences which always gives me something to ponder on and self-reflect. As the population ages, I hope more passionate, young medical technologists will join our big allied health family, and for advanced and more affordable healthcare services to be made available.



Edwin Yang

Medical Student (Class of 2016), Duke-NUS

As a future healthcare provider, I hope that Medicine in Singapore can continue to make important breakthroughs and for us to make our mark as a hub for medical excellence.

More importantly, I want to be the change I wish to see, and help shape policies or causes which matter to me.



Mabel Tan

Advanced Practice Nurse, Senior Nurse Clinician, Dept of Nursing, NCCS

I've always been interested in first aid and healthcare, having joined the Red Cross Society in primary school and later the St John Ambulance Brigade in secondary school. At 21, I was inspired by a pictorial book that showcased nurses from the International Red Cross Society, who were able to cross borders to provide medical care to the needy. Though I have not joined the International Red Cross Society, I find that what I am doing now is equally meaningful. It is a calling, not just a job.

I am most passionate about providing care and support for patients with cancer. I primarily care for those with breast cancer. It is not solely a physical disease. The effects of a diagnosis of cancer and its treatment present emotional, psychological, spiritual, and social challenges for patients and their families. Nurse practitioners play an instrumental role to provide education, counseling and help patients gain positive perspective of their situations.



Norzana Binte Ayub

Senior Patient Services Officer, Cardiac Clinics, NHCS

I thought about quitting just three months into my job. But Ms Lim Suh Fen, my supervisor, encouraged me to push on and not give up so easily. She saw the potential in me and believed that I could do better. I am glad I stayed on, I will be celebrating my 16 years of service with NHCS this year.

Serving at the frontline, I have my fair share of ups and downs, but I overcame them with the support of my family, colleagues and supervisors. The thought of them being there for me somehow turns even my worst days into good ones. I have had many memorable moments with patients. When clinic consultations run late, some patients would offer my team snacks as they were worried we would be hungry. Their kind gestures touched my heart and made my day so many times.

EDUCATION

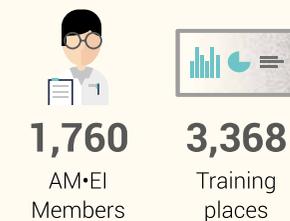
Academic Medicine Education Institute (AM•EI)

Find out more



<http://bit.ly/1JG0U8l>

Key statistics



- 60 interprofessional healthcare educators have successfully completed the Fellows programme since inception
- 15 Pioneer Fellows appointed as educators at AM•EI
- Third intake saw 33 educators from ACPs, nursing and allied health groups – the largest intake to date
- >\$40,000 Education Innovation Grant awarded to 10 teams with scholarly projects that focus on innovative curricular programmes
- New cohort of 40 participants joined the Fellowship in Team-based Learning programme. 40% of the participants came from 6 countries across the region
- Launched the Educational Leadership (AMLead) programme which trained 10 key ACP educational leaders
- Conferred Golden Apple Awards to 13 educators across the healthcare professions



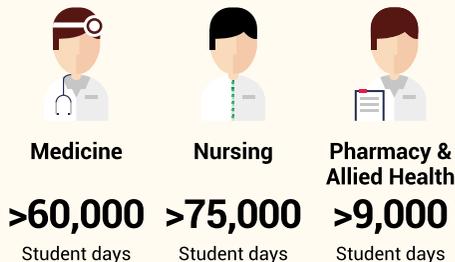
Cluster Education Office (EDO)

Average No. of Students on Clinical Postings Per Day (AY2014)

Cluster Clinical Postings (AY2014)



>700



SingHealth Academy

Find out more



<http://bit.ly/1N3zj87>



April 2014

Introduced the medical illustration service to convert complex medical information into clear and effective images, enhancing the teaching and learning process



May 2014

Worked with Duke-NUS to conduct thesis writing workshops for Masters students



July 2014

Introduced three-way live video streaming. Real-time surgical images were transmitted from an SGH operating theatre to Academia's wet lab and to overseas participants in Holland, fostering collaboration and exchange of best practices among surgeons. In FY14, a total of eight live surgical sessions were successfully beamed from SGH or KKH to Academia and overseas institutions during key conferences and seminars



January 2015

Worked with Duke-NUS to conduct thesis writing workshops for PhD students



March 2015

Introduced journal article writing workshops to help SingHealth Residents improve writing skills for publication in medical journals

SingHealth Residency

Find out more



<http://bit.ly/1KWkIVT>



26 awards given to medical officers, house officers and registrars in recognition of excellence in clinical work at the 8th annual SingHealth Best Junior Doctor Awards



More than 300 awards given to honour outstanding residency faculty and top-performing residents at the Residency in SingHealth Excels! (RiSE) Awards 2014

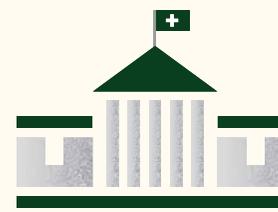


34 residents graduated from the Transitional Year and Family Medicine programmes

Key statistics (July 2014 - June 2015)



308
New resident intake



1,196
Faculty



890
Total residents in training



34
Residency programmes



12
Programmes achieved continued ACGME-I accreditation



9
Programmes received local JCST accreditation

Allied Health Training and Education

Find out more



<http://bit.ly/1Un4QRp>

No. of staff involved in active teaching

- 18 AM•EI Pioneer Fellows
- 225 AM•EI Members
- 45 SGH-Postgraduate Allied Health Institute (PGAHI) Faculty

No. of Allied Health Professionals trained

- 2,130 training places in FY14 offered at PGAHI
- Since its launch in 2003, PGAHI has offered a total of 20,145 training places

No. of international and local collaborators

16 Institutions of Higher Learning

1. Curtin University (AU)
2. University of Sydney (AU)
3. University of Melbourne (AU)
4. Flinders University (AU)
5. University of Western Australia (AU)
6. University of Queensland (AU)
7. Queensland University of Technology (AU)
8. Shinshu University (JP)
9. Hong Kong Polytechnic University (HK)
10. University of Southampton (UK)
11. London South Bank University (UK)
12. University of Illinois (USA)
13. University of Nebraska Medical Center (USA)
14. Singapore Polytechnic (SG)
15. Ngee Ann Polytechnic (SG)
16. James Cook University Singapore (SG)

Alice Lee Institute of Advanced Nursing

	FY14	FY13
No. of professionals trained	8,959	9,896
No. of courses conducted	53	49
No. of international professionals trained	699	867
Nursing student days	49,911	50,109

Transition to Care Programmes

Introduced to equip new nurses across the cluster with current knowledge and skills to deliver quality patient care amidst a rapidly changing healthcare landscape. It has improved the bonding and spirit of collaboration among nurses from the ten SingHealth institutions.

More than 1,000 new registered nurses and enrolled nurses have been trained since March 2014 in the Level 1 programme. As at August 2015, 60 newly promoted nurse clinicians, senior nurse managers, senior nurse clinicians, and assistant directors of nursing have completed the Level 3 programme.



Patient Navigators Course

Patient navigators support the SingHealth Regional Health System by delivering person-centric and seamless care to patients with complex and/or chronic conditions. The course equips nurses with knowledge of integrated care, discharge planning and linkage to community services so that patients can transit successfully to the community and be supported in their care while in the community or home. The third intake of 31 nurses will graduate in October 2015, bringing the number of trained patient navigators across the cluster to 73.

The intervention by patient navigators reduced A&E attendances by about 50% within six months, for 1,232 SGH patients enrolled between June to August 2014.

Resident Nurse Training Programme

The third intake of resident nurses commenced on 30 March 2015, with the introduction of three new specialties: geriatric medicine, plastic surgery and otolaryngology. The 19 participants will undergo a year-long programme that expands their role in managing patients, in close collaboration with physicians. Six of the 40 resident nurses trained since 2012 have progressed to do their Master of Nursing at NUS.

Postgraduate Diploma in Wound, Ostomy and Continence Nursing

Offered by the School of Nursing and Midwifery at Curtin University and the Alice Lee Institute of Advanced Nursing, this 16-month course equips nurses with the skills necessary to assess and manage complex wounds. The first intake of 16 nurses commenced in February 2015. There are plans to run this course annually.

Find out more

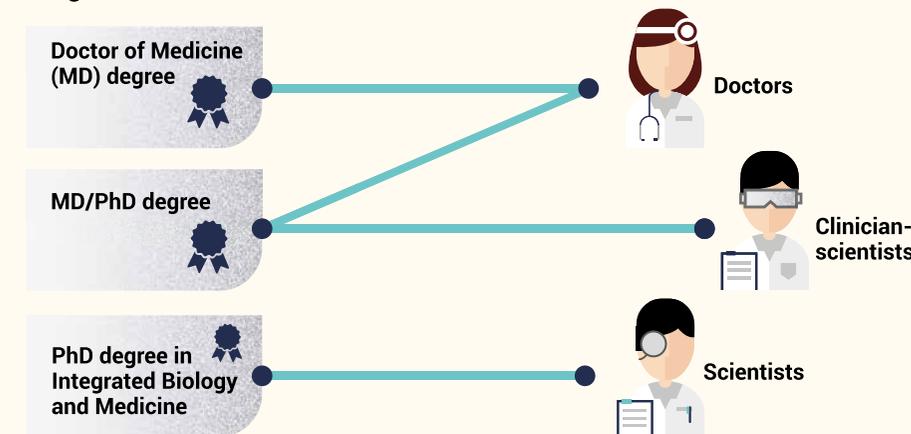


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Duke-NUS Graduate Medical School

Established in 2005, Duke-NUS Graduate Medical School is Singapore's first US-style graduate-entry medical school. It has pioneered a medical training programme based on Duke University School of Medicine's curriculum, with an annual enrolment of over 60 medical students.

Programmes



Key figures



As at 31 March 2015, Duke-NUS has enrolled 446 students (MD, MD/PhD, PhD). This includes students who have graduated from the school. They hail from more than 20 countries and over 80 universities.



Students have also excelled in the area of medical research, with more than 170 student publications from the five classes that have since graduated.



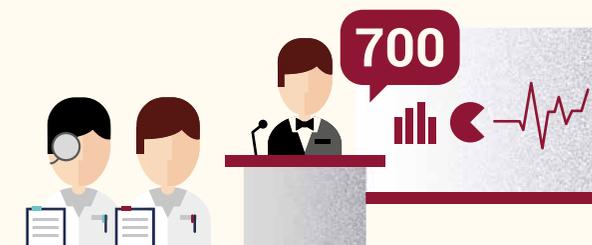
>1,000 full-time and adjunct faculty engaged in research and education

Find out more



<http://bit.ly/1MfAsDX>

Singapore Healthcare Management Congress



More than 700 healthcare administrators attended the three-day event in August 2014



30 speakers from Singapore, Australia, South Korea, the UK and the US shared best practices in operations, human resources, service quality, finance, healthcare communications, supply chain management and risk management



209 posters submitted by institutions from SingHealth, National Healthcare Group, Eastern Health Alliance and Alexandra Health

Find out more



<http://bit.ly/1QcpXF4>



IMPRINTS OF HEALTHCARE

Mary Sin



Not being able to have solid food for two years was a truly testing time for the food lover. But Mary's positive attitude, support from her loved ones as well as quality care given at NDCS and SGH helped her regain her former bubbly self and return to what she loved.

Watching Mary going through her *Tai Chi* routine, one would never guess the ordeal she had gone through eight years ago when a tumour growth resulted in the removal of her hard palate.

Post-surgery, Mary could not have solid foods for close to 18 months. She lost eight kilograms in the process. A food lover, who counts *lor mee*, *mee pok* and Japanese food as some of her favourites, Mary was reduced to drinking *lor mee* gravy to satisfy her food cravings. Her speech was also impaired and even simple tasks like going to the market became a chore.

"They couldn't understand what I was saying and the hawkers would shout at me," Mary recalled.

She was referred to NDCS and got an obturator (a dental prosthesis to plug an opening in her hard palate) fitted. With the help of speech therapists and Clinical Assoc Prof Teoh Khim Hean, Deputy Director (Clinical), Senior Consultant and Head of Restorative Dentistry, NDCS, Mary was soon on her road to recovery.

"I want to let people know that even if they have a condition like mine, it's not the end of their lives."



"Dr Teoh is very helpful and encouraging. He would always check if I was still in pain and advise me not to be fearful as there are cases worse than mine. What's also heartening is the group of medical students in the room with us. It feels good to be able to contribute to their learning," said Mary.

Despite the difficult experience, Mary persevered and never once thought of giving up. She attributes this to her strong faith and support from family and friends. She wants to encourage other patients to be courageous and not give up easily.

"I want to let people know that even if they have a condition like mine, it's not the end of their lives."

Two years after surgery, Mary was back to her active self, practising *Tai Chi* regularly. She even went on to win Gold and Silver awards at *Tai Chi* competitions.

These days, Mary eats whatever she fancies and proudly announces that even chewing on peanuts is not a problem. She especially looks forward to her annual holidays with her family and enjoys food from all over the world, especially Japanese food.

"Without all the help from the doctors and staff from NDCS and SGH, I would not be where I am today, enjoying my life and time with everyone around me."

Clinical Assoc Prof Teoh Khim Hean
*Deputy Director Clinical,
Senior Consultant and Head of Restorative Dentistry,
NDCS*

My first encounter with Mdm Sin was in 2006. She came alone and was very positive, taking the prognosis of her condition in her stride. Because of her positive outlook, she had a shorter recovery period to regain her speech and swallowing functionality.

My approach to patient care is to show empathy, being mindful of what is going on in their minds. My years of experience in handling patient cases have enabled me to establish a trusting relationship with all my patients. Having acceptance, understanding and trust, patients will then be able to cope with their condition better.



Nur Azera Johana
*Senior Dental Surgery Assistant, SOC – Nursing,
NDCS*

Mdm Sin stood out from the rest of the patients I have encountered mainly because of her cheerfulness and positivity. She didn't allow her condition to take over her life in a negative way. She was always coming into the clinic with a smile on her face.

To me, there are no 'good' or 'bad' patients. Every patient has their own demands and expectations, just like any of us. I think the best is to treat patients with respect and understand the individual's situation, so we can deliver what they need accordingly. It is rewarding to be able to touch lives in a way I never thought I could.





IMPRINTS OF HEALTHCARE

Lek Kwang San

The first man in Asia to undergo minimally invasive surgery for a heart assist device to be implanted, Mr Lek Kwang San is a cheerful full-time volunteer. With the Left Ventricular Assist Device (LVAD), Mr Lek's lifestyle has improved dramatically and he is grateful for the support and assistance from the National Heart Centre Singapore (NHCS).

Diagnosed with Dilated Cardiomyopathy at the young age of 35, Mr Lek Kwang San was told he would never recover and would be dependent on drugs for the rest of his life.

"It was shocking but I came to accept it. I must say, it was a huge turning point in my life," he shared.

Eager to improve his lifestyle, Mr Lek got a referral to the National Heart Centre Singapore, to explore the possibility of being implanted with a Left Ventricular Assist Device (LVAD).

"The first time I heard of the mechanical heart, I went, 'no way'. I was terrified! However, after Dr David Sim explained how it works and that it can help to prolong life, I was convinced. He also shared stories of other patients with LVAD. NHCS organises gatherings for patients with LVAD. Meeting these patients and having first-hand information helped a lot," Mr Lek confided.

After discussing with his family, Mr Lek decided to go for the surgery and underwent pre-surgery counselling.

He shared candidly, "We're talking about a major procedure, so I was definitely anxious. NHCS helped me in all aspects of the surgery and gave me a lot of assistance to allay my fears. I am also thankful for the sessions with NHCS medical social worker Eugene Tan. Being unemployed, finances were a big worry, but he was very reassuring and explained the various payment options and financial assistance schemes to me."

Mr Lek also expressed gratitude for the professionalism of the other members of his care team. "They follow up closely and constantly remind me to take care of myself. I know that they are always on standby and that can contact them for assistance when I need it."



"I was a very stern man and my friends used to say that seeing a smile on my face was like striking the lottery. Since my diagnosis, I have become more positive and cheerful. I have no regrets in life."



Not that he needs much assistance in his daily life now. With the LVAD, Mr Lek's lifestyle is greatly enhanced and he no longer tires easily.

"I used to be out of breath climbing the stairs, but with the LVAD, I can do that easily without panting," he said.

Mr Lek regularly attends physiotherapy sessions, and is very active in the support groups for patients with LVADs, sharing his experiences and tips including how he developed a customised vest tailor-made with pockets to help him carry the LVAD around easily.

These days, Mr Lek volunteers full-time, teaching character development and relationship management and he has found new meaning in his volunteer work. He attributes his current positivity to his work.

"My work requires me to be approachable and it is my principle to maintain an optimistic mindset at all times. I was a very stern man and my friends used to say that seeing a smile on my face was like striking the lottery. Since my diagnosis, I have become more positive and cheerful. This journey has changed me dramatically. I am very happy with my volunteer work as it is fulfilling and now, I am also grateful for a relatively fuss-free lifestyle with the LVAD. I can honestly say, I have no regrets."



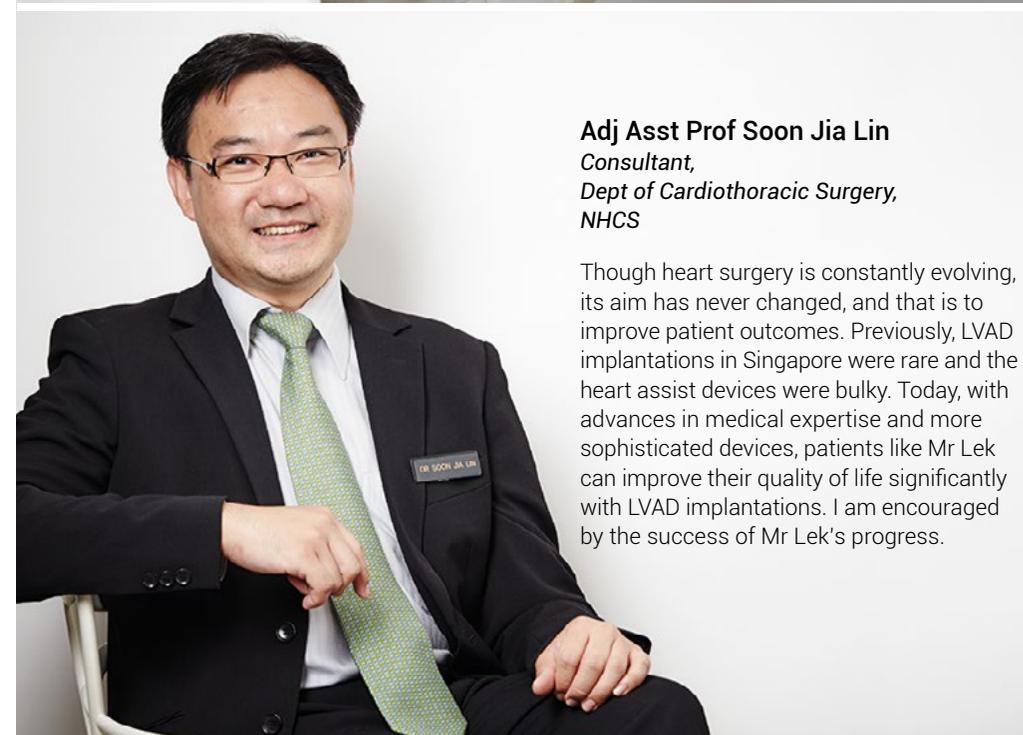
Sharon Neo Chia Lee
Senior Clinical Coordinator,
Mechanical Circulatory Support,
Heart and Lung Transplant Unit,
NHCS

I feel privileged to be part of the care team behind Asia's first minimally invasive LVAD implantation surgery. With this method, the recovery progression is faster and Mr Lek's mobility improved significantly. When he was discharged, Mr Lek was walking at a relatively fast pace and getting in and out of the car easily, without pain hindering his movement. The progress he made was surprising!



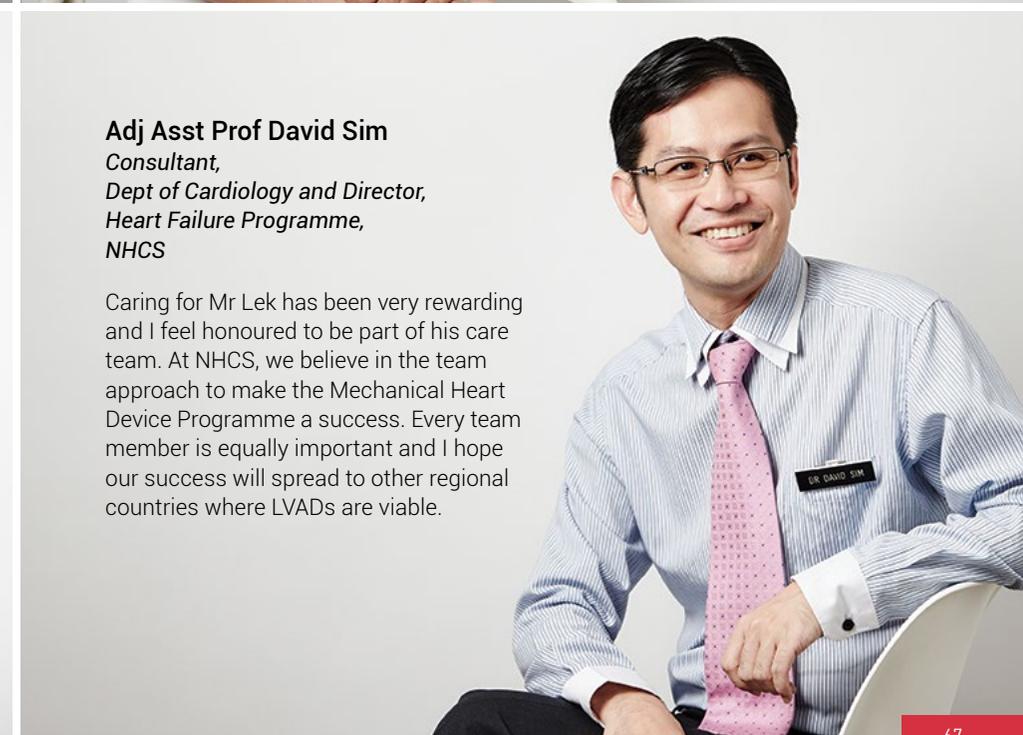
Suriah Binte Mahmood
Senior Staff Nurse (Clinical), Ward 56,
NHCS

I first spoke to Mr Lek when he was recuperating in the ward. Our interaction was brief but warm and I even teased him about giving his tenant a rental discount in exchange for help with his wound dressing. I feel motivated when I see patients like Mr Lek recovering well. Their courage in accepting their medical conditions is inspiring.



Adj Asst Prof Soon Jia Lin
Consultant,
Dept of Cardiothoracic Surgery,
NHCS

Though heart surgery is constantly evolving, its aim has never changed, and that is to improve patient outcomes. Previously, LVAD implantations in Singapore were rare and the heart assist devices were bulky. Today, with advances in medical expertise and more sophisticated devices, patients like Mr Lek can improve their quality of life significantly with LVAD implantations. I am encouraged by the success of Mr Lek's progress.



Adj Asst Prof David Sim
Consultant,
Dept of Cardiology and Director,
Heart Failure Programme,
NHCS

Caring for Mr Lek has been very rewarding and I feel honoured to be part of his care team. At NHCS, we believe in the team approach to make the Mechanical Heart Device Programme a success. Every team member is equally important and I hope our success will spread to other regional countries where LVADs are viable.

FACES OF HEALTHCARE

Assoc Prof Ong Sin Tiong
*Programme in Cancer & Stem Cell Biology,
Duke-NUS*

I consider myself very fortunate to be able to do both clinical and laboratory work in my position. In both settings, it has been the excitement and importance of making the correct diagnoses and unexpected discoveries that motivate me to go the extra mile.

Despite the myriad technological advances in health care, the human touch remains paramount at the point of delivery. Unlike clinicians or scientists, patients don't care so much about how discoveries or new medicines come about, all they want are treatments which improve their lives and doctors who deliver care with compassion and thoughtfulness. I appreciate being able to work at both bench and bedside to continuously improve patients' lives.

My current work involves understanding mechanisms of resistance to cancer-targeted therapies. The majority of cancer patients continue to die of drug resistance. It is important to understand the underlying mechanisms precisely, in order to develop rational approaches to overcome it. Each step forward in overcoming cancer drug resistance can lead to better treatments and improved patient survival.



Dr Francis Chin
*Senior Consultant, Radiation Oncology,
NCCS*

My MBBS is from the previous millennium, since then, medicine in oncology has changed dramatically. However, some things don't go out of fashion – the focus on your patients, compassion and the comforting role a good physician should play.

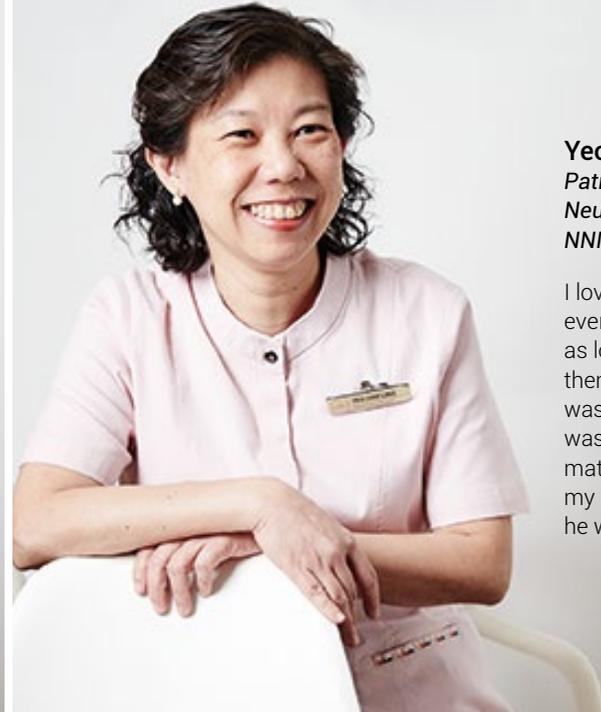
As we achieved better patient outcomes in oncology, we realised that the quality of care and life after treatment are equally important. We now do more minimally invasive surgery, more function sparing surgery, and administer more targeted chemotherapeutics. We also use more conformal radiation treatment by giving high doses to tumours and sparing normal organ tissues.

Every day at work is exciting, different and wonderful. It's great to work with a dedicated team that places patients at the forefront of what we do. No other profession comes close.



**Muthulechmi
D/O Veerasamy**
*Health Care Attendant,
Central Sterile Supplies Department,
SGH*

My supervisor, SSN Ng Choon Luan appears strict but she is kind at heart. She listens to my feedback and gives me the opportunity to be a mentor to new staff. I am grateful for being entrusted with this responsibility as I contribute towards patients' safety and recovery.



Yeo Siok Ling
*Patient Service Assistant,
Neuroscience Outpatient Clinic,
NNI*

I love to bring happiness to others, even if what I can do is minimal, as long as it makes a difference to them. I once helped a patient who was not from NNI and his wife was really appreciative. It doesn't matter that he wasn't a patient of my institution, what matters is that he was a patient who needed help.

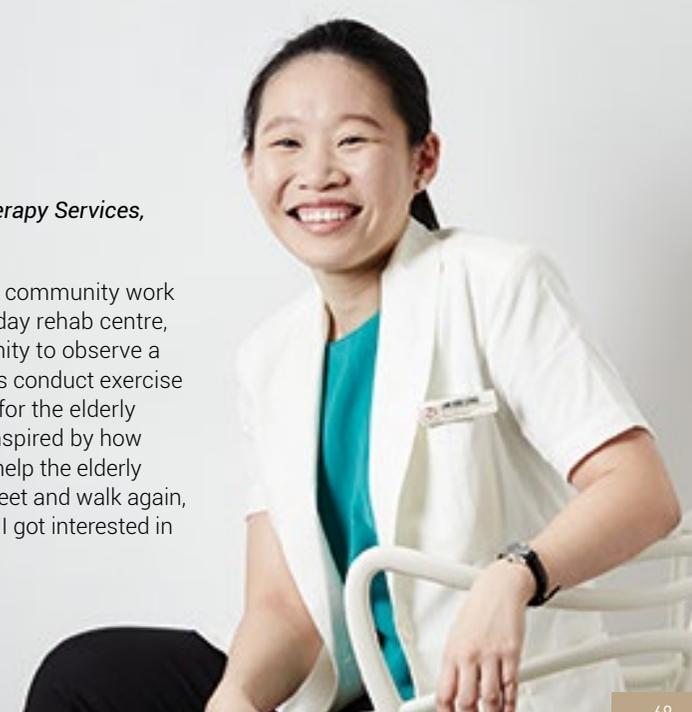
Carol Lai
*Administrative Assistant,
Business Office,
KKH*

The daily interactions I have with my colleagues, superiors and patients are very enriching and fulfilling. This cannot be traded for anything else. For me, the best day at work is when we are able to work together as a team to resolve patients' issues and concerns.



Lim Xue Ling
*Physiotherapist,
Cardiac Physiotherapy Services,
NHCS*

When I was doing community work as a student at a day rehab centre, I had the opportunity to observe a group of therapists conduct exercise therapy sessions for the elderly residents. I was inspired by how they managed to help the elderly get back on their feet and walk again, and that was how I got interested in physiotherapy.





Assoc Prof Chua Yeow Leng
*Group Director, International Collaborations Office, SingHealth
 Senior Consultant, Cardiothoracic Surgery, NHCS*

I am involved in several healthcare manpower capacity building projects. These projects give me the opportunity to teach professionals in the region and enhance their level of healthcare delivery.

I experienced the great healthcare we have in Singapore first hand. I developed appendicitis while operating in a hospital in Myanmar. I returned early to Singapore for its removal and really appreciated all the help I got from my boss Prof Tay and our Myanmar friends who arranged for my early return. I wish that many more people in our region could enjoy the great healthcare that we often take for granted.



Sy Li Chin
*Clinic Pharmacy Manager,
 SHP–Outram*

When I was young, I used to help my mum collect her medication from the pharmacy. I was very impressed by the pharmacist's patience, professionalism and above all, the genuine concern she had for her patients. That inspired me to become a pharmacist.

Over the years, my role has expanded to include more clinical duties such as providing Medication Review Services and Anti-Coagulant Therapy Management Services. I am also a member of the SingHealth Polyclinics' Quality Improvement Committee and I undertake quality improvement and research projects. It's especially rewarding when patients trust me enough to seek my advice about their medications.

Adj Assoc Prof Audrey Chia
*Senior Consultant and Deputy Head, Paediatric Ophthalmology & Adult Strabismus,
 Senior Consultant, General Cataract & Comprehensive Ophthalmology,
 SNEC*

Never say never in healthcare; you think that it cannot happen but it does. It is important to have the flexibility to deal with this unpredictability. I don't think it's possible to teach residents this, but you can teach them how to get the facts.

Education has changed so much. We used to read books, but now everything is on the internet. The idea then is to teach them how to find information, how to assess the information, how to use it and how to ask questions and continue to change. Because everything is going to change and it's going to change real fast. Whatever we teach them now may be inappropriate for the future with the advent of new technology and science. But all this change keeps things interesting.



M. Nirmala Devi
*Patient Services Clerk,
 SHP–Sengkang*

Since young, I have been passionate about helping people in need of care and assistance, such as my elderly neighbours and the physically handicapped. Working in healthcare gives me the opportunity to care for and help others every day.

Xu Yi
*Nurse Clinician (Patient Navigator),
 Medical Oncology,
 SGH*

An advanced-stage cancer patient requested to fly home despite his unstable condition. After making arrangements for the patient's transfer, his wife came to say goodbye to me. I shared my personal experience on end-of-life care and told her to call me if she needed help. I was relieved when the patient reached home safely. This encounter helped me realise what patient-centred care is all about – connection with patient and family, personalised coordination and reassurance.



DIABETES & METABOLISM CENTRE

Diabetes care from head to toe

The new Diabetes and Metabolism Centre on SGH campus offers integrated, comprehensive care for diabetes

Diabetes is a lifelong condition that can lead to serious, debilitating complications. It puts patients at risk of complications with the eyes, heart and kidneys. Low blood sugar levels can also cause confusion, blurred vision or loss of consciousness.

The expertise and care of different specialists are often needed to keep the condition in control. This means multiple medical appointments, which can be costly and time-consuming for patients.

The new Diabetes and Metabolism Centre or DMC, located at the former National Heart Centre Singapore (NHCS) building, was created to address this. Since May, endocrinologists, nephrologists, internists, vascular surgeons, Singapore National Eye Centre (SNEC) ophthalmologists, podiatrists and specialist nurses have been housed under one roof to offer a new model of care for diabetes.

"We want to provide diabetes patients with quality care by having every aspect of their illness seen to by the right specialist," said Dr Goh Su-Yen, Senior Consultant, and Head, Department of Endocrinology, SGH.

In 2013, there were 400,000 Singaporeans diagnosed with type 2 diabetes and this number is expected to rise to 600,000 by 2030. Type 2 diabetes is the most common form of the condition, and is increasingly being diagnosed in younger adults before they are 40 years of age.



"Taken together, these statistics suggest a greater burden on healthcare resources in the years ahead, and a greater priority for diabetes and chronic disease management," said Dr Goh.

Studies have shown that early, intensive diabetes control helps reduce diabetic complications, and this will be a priority at the Centre. "Patients who are newly diagnosed with diabetes will undergo initial assessments at the Centre, where they will be taught the importance of a healthy diet, regular exercise and other lifestyle modifications, and the need for regular screening to prevent complications," said Dr Bee Yong

Mong, Senior Consultant, Department of Endocrinology, SGH, and Head, SingHealth Duke-NUS Diabetes Centre.

Doctors and other healthcare professionals will draw up a plan to manage patients' diabetes conditions after consultations, and this will include meeting certain targets for weight, exercise, blood glucose levels, blood pressure and lipids, Dr Bee added.

The Centre will also pursue research in areas of diabetes treatment and care with a focus on the local context.

**Article first published in Singapore Health, July – August 2015*

OUTRAM COMMUNITY HOSPITAL

The Outram Community Hospital (OCH) will be an essential component of an enhanced integrated model of care that will provide the optimal level of care at each stage of a patient's healthcare journey.

Providing holistic, team-based and multidisciplinary care in a warm and personal environment for patients in a community hospital setting, it aims to integrate early rehabilitation with continuing care so that patients will benefit from quicker recovery and a faster return to the community.

The Outram Community Hospital will also play a key role in supporting the needs of our nation's growing and ageing population by delivering the appropriate care at the right time and the right place.

Find out more



<http://bit.ly/1PYIS69>

19-storey building, housing:

- 4 levels with outpatient services, F&B outlets and a podium
- 550 beds, 6 levels of wards, inpatient rehabilitation and a roof garden
- 14 levels of admin offices and staff amenities
- 2 basement levels for campus support operations and an additional 1,000 parking lots

Designed with rehabilitation in mind, slated for completion by 2020

Links from SGH acute wards to community hospital wards for staff to seamlessly transfer patients

Located within SGH Campus. Easily accessible by public transport such as the Outram Park MRT station





IMPRINTS OF HEALTHCARE

Wan Nor Binte Shaikh Dawood

Once gregarious and outgoing, the onset of dementia has greatly limited Mdm Wan's mobility. However, daughter and main caregiver, Sofiah Wan, is taking it in her stride, choosing to focus on enjoying her mum's company while she is still lucid.

Retired educator Mdm Wan has always been conscientious in going for regular health check-ups. At the age of 75, she was still going for check-ups on her own.

Mdm Wan's daughter, Sofiah, was proud of her independent and active mother, who was always involved in community activities. However, a phone call from the doctor five years ago set alarm bells ringing. Mdm Wan was diagnosed with dementia.

Sofiah, as the eldest of three children, had to step in to be her mum's main caregiver.

"I didn't see it coming because she always nags, and often shouts from time to time, so I just thought it was part of her character."

Sofiah recounted a particularly difficult episode with her mother in 2013 that left her feeling helpless.

"I remembered it first happened around midnight, in August during Ramadan. I was watching TV and suddenly, she screamed and shouted while she was alone in her room. I went to check on her and she started to direct her screaming at me, accusing me of throwing out her furniture set," Sofiah recalled.



*"As caregivers, whenever we smile,
it is one ounce of stress released."*

This was all in Mdm Wan's mind and part of her imagination. It was a very stressful period for Sofiah, leaving her in tears at times as it seemed nothing she did could placate her mother.

The emotional stress Mdm Wan experienced eventually caught up with her, and she came down with shingles. Sofiah then counselled her mum, constantly telling her to relax and come to terms with her condition. Mdm Wan's shingles got better and her screaming episodes finally stopped. Since then, regular consultations at the NNI have helped to keep Mdm Wan's condition in check.

With her dad bedridden after a fall and suffering from dementia as well, the caregiving responsibilities eventually took a toll on Sofiah. She was happy to have joined the Caregiver Support Group, where she learnt helpful tips such as not to talk to dementia sufferers in the dark as it confuses them. She also found emotional support from other caregivers who are in similar predicaments.

Sofiah especially looks forward to bringing her mum to NNI for her appointments and meeting her mum's doctor, Dr Nagaendran, as he is witty and humorous.

"As caregivers, whenever we smile, it is one ounce of stress released."

These days, Sofiah has found some balance, having gone back to working part-time. During her free time, to relieve stress, she picks up the microphone at home and sings her heart out, at times with her mum.



And while Mdm Wan may not remember what she did for the day, she still fondly recalls her time in England on a scholarship as well as her days playing badminton and hockey – events that happened more than 40 years ago.

It is this side of her mum that Sofiah wants to hang on to.

"I pray that my parents' conditions remain stable. One day, they may no longer recognise us. I just hope and pray that it's not until we're ready. I always believe in miracles, maybe one day they will get better. We make sure we give them 100% because they gave us the best to become who we are."

Dr Nagaendran Kandiah
*Senior Consultant, Dept of Neurology,
NNI*

Patients and their caregivers are often under a lot of stress due to the chronic and progressive nature of the disease. A kind and engaging approach goes a long way in gaining the family's confidence and this often results in better compliance with treatment. Getting support from the whole family, medical team and community resources also helps the patient cope with the disease.



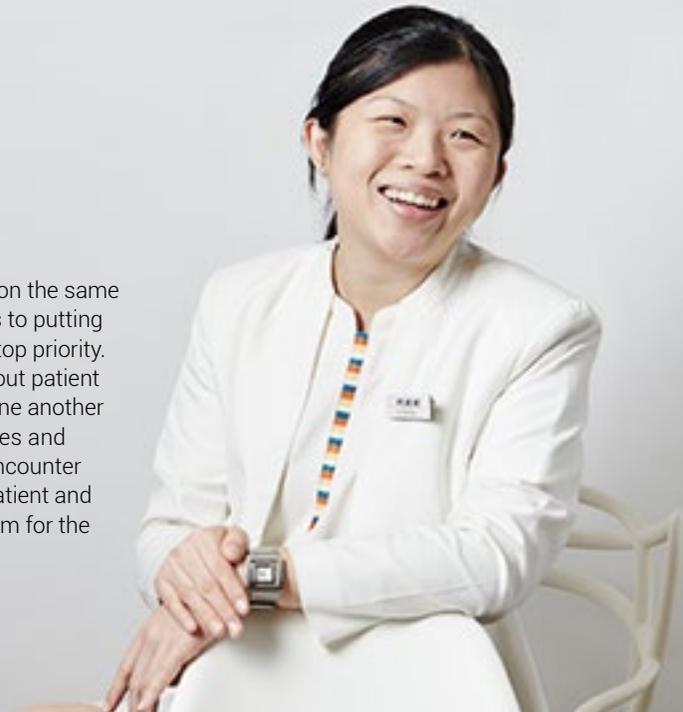
Tanya-Marie Choong
*Staff Nurse,
Dept of Neurology,
NNI*

I try to render a listening ear as caregivers often have no one to share their feelings and thoughts with. All they need is someone to spend some time listening to them. Empathy is prevalent in the team I work with and all of us, in our own ways, offer the patients and families support.



Nyu Mei Mei
*Senior Staff Nurse,
Dept of Neurology,
NNI*

The NNI team is all on the same page when it comes to putting our patients as our top priority. We always think about patient care first. We help one another by highlighting issues and problems that we encounter when caring for a patient and discuss or brainstorm for the best solution.



Eveline Silva
*Senior Psychologist,
Dept of Neurology,
NNI*

We do not know when a caregiver is at the brink of breaking. I would like caregivers and patients to know that they are not alone, and that staff from the Cognitive, Assessment and Rehabilitation (CARE) Programme have their interests at heart. We also encourage them to participate in support groups where they can tap on the coping mechanism of those who are in similar predicaments.





IMPRINTS OF HEALTHCARE

Sta Maria Joseph

Despite being diagnosed with Age-Related Macular Degeneration (AMD) 7 years ago, 78 year-old Mr Joseph still leads an active and full life, with no plans to slow down. Having had several brushes with death in his younger days, Mr Joseph has learnt to live and let live, and continues to influence people around him with his positive attitude.

Fisherman, road sweeper, policeman, taxi driver, civil servant and security guard. These are but some of the jobs that Mr Joseph has done over the years. At 78 years old, he can take it slow, but the energetic man said: "As long as I've got good health, I'll go on."

Mr Joseph's fighting spirit was evident since he was young. Originally from Malacca, Mr Joseph made his way to Singapore at the age of 14 and has never looked back. He was a fisherman in his hometown, but could only find work as a road sweeper when he first came to Singapore. However, with a stroke of luck, he found his way to the Police Academy where he eventually entered the riot squad.

"I need something physical, so I asked to join the riot squad."

Those were tumultuous times, when Mr Joseph witnessed many historical events, including the Hock Lee bus strike and riots, the Chinese Middle Schools riots, Singapore Glass Factory strike and more. Post-independence, it was gangsterism that they had to deal with. Mr Joseph had his first brush with death during one of those operations.

He suffered three gunshots, one of which struck the back of his head. The bullet missed a main artery, allowing him to escape death. Subsequently, he was assigned to stand guard outside the Istana until he retired from the Force at the age of 45.

Mr Joseph then became a taxi driver where he had yet another brush with death.

"Two men hailed my taxi and said they wanted to go to Tampines, to the jungle. When I was driving, they took out a knife. I told them to take whatever they wanted and just spare my life as I have a wife and kids to look after."



*"One must not take things for granted.
Once you take things for granted,
you'll demand more and more."*



After that experience, he decided to go the safer path and landed a job with the Ministry of Foreign affairs where he stayed for almost two decades.

After retirement, Mr Joseph started to feel that there was something wrong with vision in his right eye and was diagnosed with Age-Related Macular Degeneration, something that he takes in his stride.

"I just have to live with it. I can't complain."

He now sees Senior Consultant Ian Yeo regularly in order to keep his condition in check. Treatment includes injections to his eye. Ever the grateful patient, Mr Joseph has only good things to say about the team at SNEC.

"Dr Ian is so full of compassion. He treats me like a friend. And the nurses really take care of me and respect me."

To Mr Joseph, every visit to the clinic feels like visiting family and he takes the effort to write letters of commendation for the staff for, in Joseph's words, "the VIP treatment" he gets every time.

"I encourage my daughters to follow my example, to learn to appreciate what people do for you. One must not take things for granted. Once you take things for granted, you'll demand more and more. If you're satisfied, make others satisfied too. This is how I view life."

Other than slightly blurred vision in his right eye, Mr Joseph says his condition has not caused any other inconvenience in his daily life and he still works part time as a security guard. He continues to keep fit by taking four-kilometre walks around the neighbourhood while also working on his hobbies of banknote and coin collection.

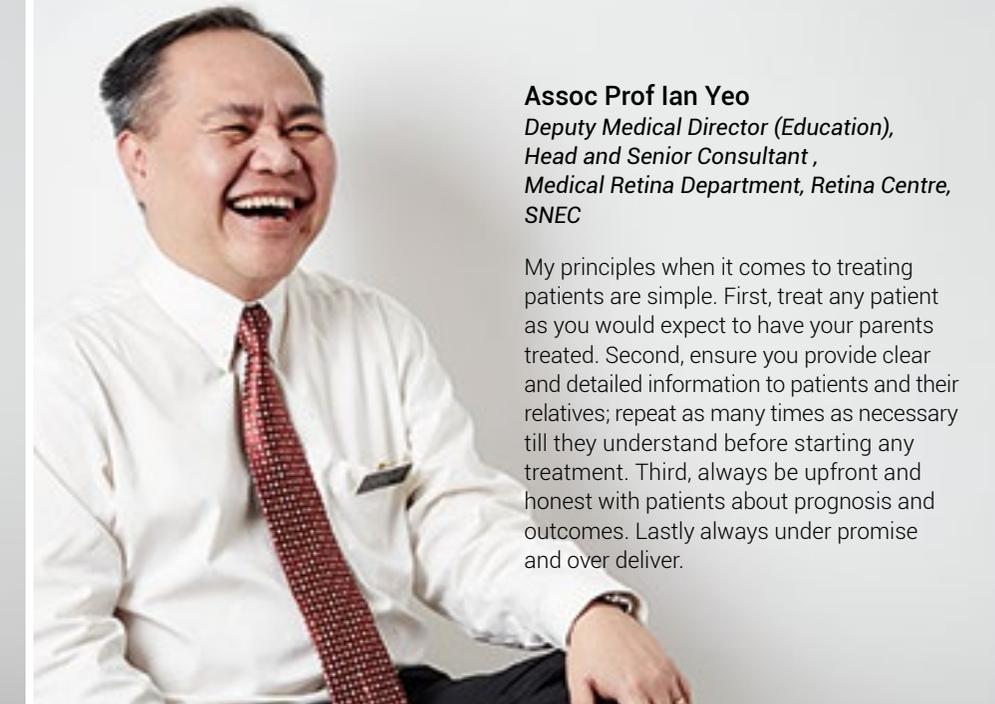
With a sharp mind and a strong physique, Mr Joseph has no plans to take things slow anytime soon. He said: "My daughter wants me to live to a hundred."

And he seems on track with that goal.



Dawn Chua
Enrolled Nurse,
SNEC

As a nurse, one of my main duties is to provide the best care possible for my patients. This means being sensitive to their individual needs.



Assoc Prof Ian Yeo
Deputy Medical Director (Education),
Head and Senior Consultant ,
Medical Retina Department, Retina Centre,
SNEC

My principles when it comes to treating patients are simple. First, treat any patient as you would expect to have your parents treated. Second, ensure you provide clear and detailed information to patients and their relatives; repeat as many times as necessary till they understand before starting any treatment. Third, always be upfront and honest with patients about prognosis and outcomes. Lastly always under promise and over deliver.

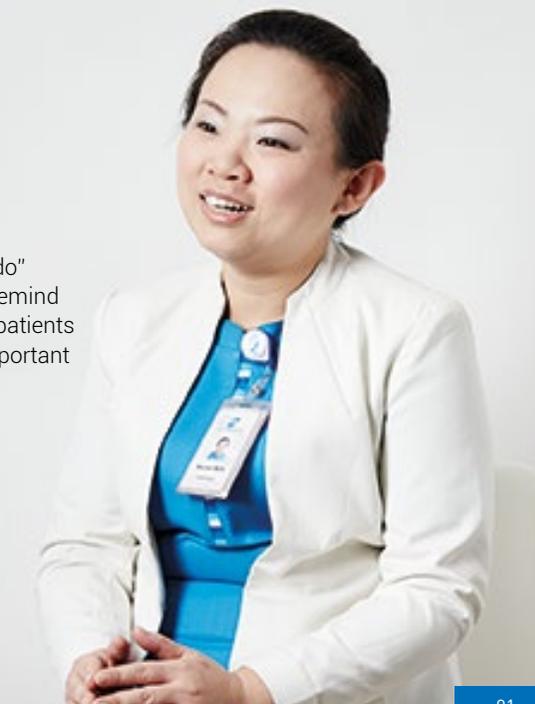
Kasi Sandhanam
Senior Ophthalmic Imaging Specialist,
SNEC

I believe in treating patients like treating family members. We have to be patient with them as they may not be able to see clearly because their eyes are dilated or due to eye problems. I always try to make some small talk with them to make them more comfortable and relaxed. I also like the challenge of treating complicated cases as a team.



Maureen Mok
Nurse Manager,
SNEC

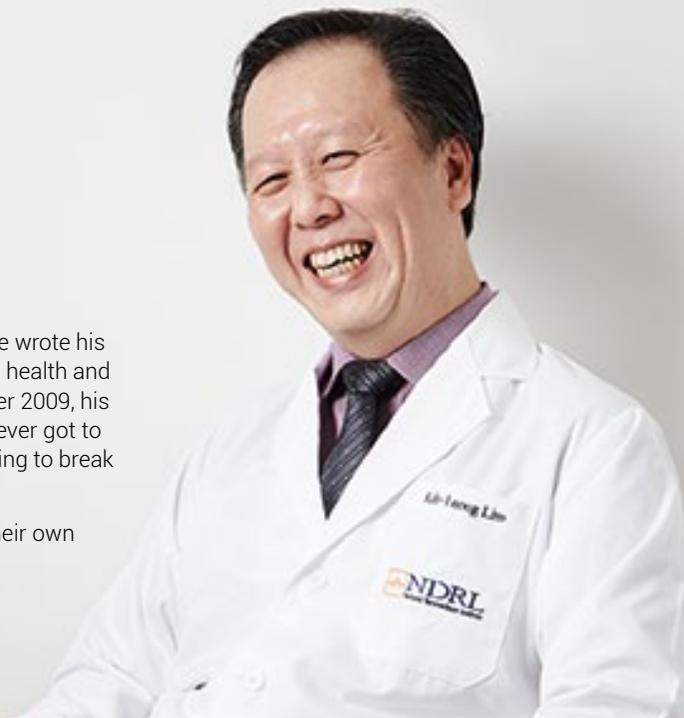
"Patients at the heart of all we do" – is a common purpose that I remind my team and myself often. Our patients have vision problems, so it is important to empathise with them.



Assoc Prof Lim Kah Leong
Assistant Director,
NNI

I used to have a research assistant named Shaun Mok. In his application letter to my lab, he wrote his career objective as such: 'To serve humanity by contributing to ongoing research in human health and disease'. An energetic and funny guy, Shaun brought much laughter to the lab. In September 2009, his first co-authored paper was published by the Journal of Neuroscience. However, Shaun never got to see it in print as he had passed away in a bicycle accident just before that. I remember having to break the news to the lab, it was heart wrenching...

I thought to myself then: 'Within the realms of science, we have real individuals chasing their own dreams. What have we done to fulfil their dreams when they worked hard to fulfil ours?'



Dr Juriyah Yatim

Senior Nurse Clinician (Advanced Practice Nurse), Speciality Nursing,
SGH

I chose nursing over teaching as a career as the knowledge and skills acquired can be life-saving. As for teaching, my other passion, there's no lack of opportunities to teach as a nurse!

I once cared for a renowned cardiothoracic surgeon. It was his first hospitalisation and he was very anxious. He found it difficult to switch into a patient's role but eventually managed to pull through with his family's support. He later shared that he became more empathetic towards his patients through this experience and that he learnt a lot from me.

I want to encourage young nurses to be a force for positive change, to go out of their comfort zones and practice self-care. Nursing will continue to evolve but the basics won't change – nurses are patients' advocates. Though challenging and sometimes frustrating, nursing is richly rewarding.



Munahwarah Binte Mokhtar
Senior Staff Nurse,
SHP-Bedok

I joined nursing with minimal knowledge of the nursing job scope – I thought it was all about dispensing medication! After almost forty years, I have learnt that nursing has so much more to offer. I am still learning new ways to improve patient care and I love what I do.

Vivian Lee
Deputy Director, Leadership
& Organisation Development,
SingHealth

I get most re-engaged to what I'm doing when at the end of the leadership programmes, I hear participants telling the class that they've renewed their passion for healthcare. They were thinking of leaving but after the course, they're once again reminded of their reasons for joining healthcare and decided to stay and make a difference.



Dr Veronique Tan
Consultant, Division of Surgical Oncology;
SingHealth Duke-NUS Breast Centre,
NCCS

I am constantly humbled by the grace with which patients and their families face disease and suffering. Life can be really, really, difficult and painful for some patients, but they are able to soldier on, accept the circumstances and still be gracious and kind in the face of it all. These patients always remind me how much I have to be grateful for.

**Iskhandar Zulkarnain
Bin Abdul Rahim**
Dental Technician, Orthodontic Unit,
NDCS

I'm blessed to work with extraordinary seniors who are willing to share their knowledge and experience with younger peers. When I was first posted to the orthodontics laboratory department, Madam Huang Ngoi Yin, Principal Dental Technician, selflessly shared the tricks of the trade with me. She encouraged me when the chips were down and taught me how to communicate with orthodontists effectively so we can work seamlessly as a team. Madam Huang is my mentor who moulded me into the person I am today.





Dr Emily Ho
*Director, SingHealth Regional Health System,
 Consultant, Dept of Endocrinology,
 SGH*

I have a patient in his sixties who spent the last ten years caring for his wife with cancer. When his wife passed away, he was suddenly overwhelmed by his own illnesses which he had neglected while caring for his wife. He was seeing at least four other specialists and had to be brought in each time by volunteers on a wheelchair.

He had no money to buy food, had only one meal which he tried to spread through the day, and sometimes skipped his medications.

He did not reveal this to me till I had spent a longer time probing into his day to day life. I felt the system had failed him. This patient and many more I see inspire me constantly in my work on integrated care.



Lynn Chong Lai Har
*Medical Social Worker,
 BVH*

In my third month as a medical social worker, I saw an elderly patient who was visually impaired and living with a flatmate in a one-room flat. After his stay at BVH, he insisted on going home although he clearly needed assistance with his daily activities and should have gone to a nursing home. He expected his neighbours, friends and flatmate to take care of him although they couldn't.

As a last resort, we decided to do an experiment at his home to convince him that he needed help with daily activities. We had to resist helping him when he called for help! Finally, he agreed to go to a nursing home. It was a really fulfilling experience for me, helping him to accept the right placement of care.



Ye Tun
*Senior Ophthalmic
 Investigation Technologist,
 Ophthalmic Investigation Services,
 SNEC*

There was a case where an inpatient who recently had brain surgery came for visual assessment and had a seizure during his visual field test. I called for help and code blue was activated. It was the first time I was involved in an emergency situation like that.



Maryani Binte Abdul Wahab
*Nurse Clinician,
 Paediatric Homecare Programme,
 KKH*

I am happy to have received positive feedback from parents and caregivers who are able to provide better care for their children at home through the paediatric homecare programme. With their loved ones around them, the children's conditions improve. Gradually, they are able to thrive without technological support. It is very encouraging and fulfilling to see this change in our homecare patients.



Dr Edwin Liu
*Manager, Research, Academic Clinical Program (ACP) Office,
 NDCS*

I am most passionate about our current pre-clinical studies for the development of novel devices for bone bio-engineering. If they are successful, patients can benefit from a faster recovery process through the elimination of autogenous bone harvest and bone transplant which could cause donor site morbidity. Additionally, patients can also benefit in terms of cost-savings as these novel devices may be synthesised from cheaper materials. This makes it a more cost-effective alternative to the animal-derived bone grafts currently available in the market.

I have been working in healthcare for one and a half years now and the thing that surprises me most is the openness of senior management to feedback and their will to implement good suggestions.

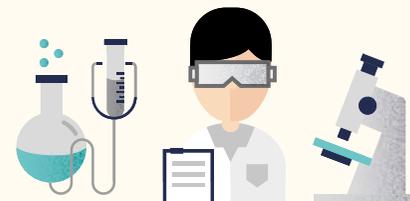
My wish is for our healthcare system to be more patient-centric in delivering quality clinical care and to constantly seek better, more cost-effective therapies through research to benefit our patients.

RESEARCH

STAFFING

Number of Clinician-Scientists (CSs)

SingHealth & Duke-NUS



45 National CSs
 • 11 STaR Investigators
 • 20 CSA
 • 14 TA

9 Faculty CSs
31 Cluster CSs

Number of Clinician-Investigators



139

Number of Principal-Investigators leading ongoing research



442

RESEARCH ACHIEVEMENTS

Publications in international peer-reviewed journals (FY07-CY14)



SingHealth
>5,000
 research papers in peer-reviewed journals



Duke-NUS
>2,000
 from faculty members since 2006, and >170 from students in the last 4 years

Competitive funding

SingHealth & Duke-NUS (FY07-CY14)

\$875.88M

Competitive funding

\$152.69M

Pharma/Industry funding

Awards (SingHealth and Duke-NUS)



- 2** President's Technology Award (PTA) Teams
- 1** National Research Foundation (NRF) Investigatorship Award

ALLIED HEALTH PROFESSIONALS

Number of staff involved in active research

185

Allied Health Researchers, of which:



36
PhDs



19
PharmDs

Total number of papers published

There are a total of **440 AHP Publications** from FY10 to FY14:



Total grants received

AHPs received a total of **\$9,609,290** in research grants from FY10 to FY14, with the following breakdown:



NURSING

	Number of presentations	Number of publications	Number of research projects with nurses as PI	Number of Grants	Quantum of Grants awarded
FY14	103	17	26	6	\$195,782
FY13	87	21	31	6	\$116,346

Highlights

Factors influencing decision making in weaning diet: Asian mothers' perspective

The research explores factors influencing the decision of multi-ethnic Asian mothers in Singapore in selecting a weaning diet for their infants. Results show that the Internet was the most common source of information to guide mothers' decision-making in weaning diet. They preferred web-based portals to gather information.

This project won 2nd runner up for oral presentation at WONCA Asia Pacific Regional conference. Kuching, Sarawak on 24 May 2014.

Heart Failure Patient's Knowledge on Disease and Self Care Management

The team from NHCS conducted a study to explore the factors that influence patients' knowledge on the disease and self-care management amongst patients with heart failure in Singapore. The study also assessed the effectiveness of the current patient education programme. Based on the research findings, a team of nurses worked on initiatives to enhance the current patient education programme and caregiver participation.

Understanding the socioeconomic impact and quality of life (QOL) of TB patients on Directly Observed Therapy (DOT) in Primary Care: A cross sectional survey

Result have shown that patients' careers, living expenses and QOL were adversely affected by DOT. The healthcare professionals had gained an unprecedented insight into the psychosocial, financial issues faced by patients on DOT. It will be invaluable to the design of future modality of care delivery.

The project won the 2nd prize for oral paper competition at CGH Annual Scientific Meeting, Singapore (6th November 2014) and presented at WONCA Asia Pacific Regional conference, Taipei, Taiwan (6th March 2015)

All information correct as of Dec 2014



IMPRINTS OF HEALTHCARE

Tan Mooi Kai



Elderly diabetic patient Mdm Tan had trouble keeping her blood sugar level in check. Since enrolling in the Case Management Programme at SHP-Marine Parade, her condition has improved and she enjoys the additional interaction she gets with her care team.

83-year-old Mdm Tan Mooi Kai is wheelchair bound and suffers from multiple chronic conditions, including diabetes, hypertension, and high cholesterol. The diabetic patient of more than two decades goes to SHP-Marine Parade regularly for follow-ups, but still has problems keeping her blood sugar level in check. Because of this, she has been under the care of a multi-disciplinary team since January 2014.

Under the Case Management Programme at SHP-Marine Parade, a multidisciplinary team comprising doctors, nurses and medical social workers work in partnership with GoodLife!, a community outreach programme by Montfort Care, to closely monitor patients' medical conditions and provide them with timely care and social assistance.

The team finds that this gives them deeper insights into how patients' psychosocial conditions might affect their health, enabling them to actively involve patients in achieving their health goals.

*"The community social worker acts as our eyes and ears on the ground. She makes regular home visits and alerts us if patients like Mdm Tan need medical attention. We work very well together."
— Jinnat Bte Ahmad Marican*



Nurse Clinician Jinnat Bte Ahmad Marican, part of the multidisciplinary team taking care of Mdm Tan, said the programme aims to prevent frequent hospitalisations.

"What we'd like to do for patients like Mdm Tan is to prevent their conditions from worsening, keep them healthy at home, and help them improve their quality of life."

Mdm Tan relies on her domestic helper, Fia for help with daily chores such as grocery shopping, cooking and cleaning. Fia also reminds Mdm Tan to take her medication, and administers insulin injections for her. Nurses at SHP taught Fia the right techniques for that, as well as how to monitor Mdm Tan's blood sugar level.

Despite that, Mdm Tan's blood sugar level is still unstable – she admits to not being disciplined in controlling her diet. "Sometimes I control, sometimes I forget to. When I drink coffee I will add Equal (an artificial sweetener). But I still eat fruits like oranges and strawberries."

Because of this, Jinnat relies on the community social worker from the family service centre to keep a close eye on Mdm Tan. "The social worker acts as our eyes and ears on the ground. She makes regular home visits and alerts us if patients like Mdm Tan need medical attention. We work very well together," said Jinnat.

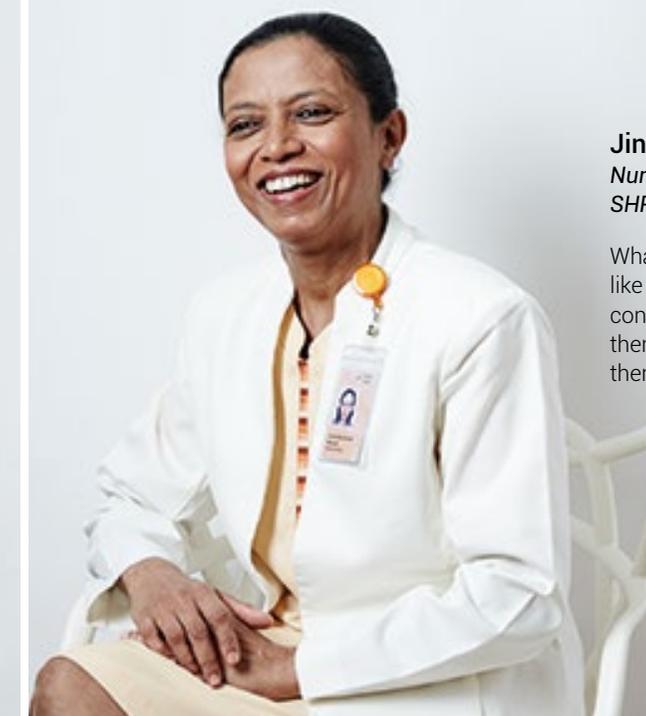
With her limited mobility, Mdm Tan's only form of entertainment is to watch television programmes. She hardly gets out of her house these days, other than for visits to the polyclinic or to the market nearby. This is why she especially looks forward to her interactions with polyclinic staff when she goes for her appointments every two months.

Mdm Tan said: "I like the staff there. The nurses call me to remind me about my appointments and take good care of me when I'm at the clinic. They are all very polite and friendly. They also arrange for me to see the doctor and get my medication quickly."



Irmawati Bte Ardzi
*Assistant Nurse Clinician,
SHP-Marine Parade*

Being a part of the Case Management Programme has broadened my perspective on the management of patients with complex issues. The discussions we have as a team also trigger me to think out of the box. I find it rewarding when I see improvement in the well-being of my patients and smiles on their faces when they come back to the clinic.



Jinnat Bte Ahmad Marican
*Nurse Clinician,
SHP-Marine Parade*

What we'd like to do for patients like Mdm Tan is to prevent their conditions from worsening, keep them healthy at home, and help them improve their quality of life.



Esther Lim
*Medical Social Worker,
SHP*

In this age of instant gratification, not many people are interested to understand the history and story behind every presenting problem. Medical social workers listen and seek to understand the social issues that patients are facing, and provide necessary intervention. Every team member in the Case Management Programme plays a vital role in devising a holistic care plan for the patient.



Dr Agnes Koong
*Clinic Director,
SHP-Marine Parade*

Mdm Tan was the first patient we co-managed with the community social workers from GoodLife! They visit Mdm Tan regularly to make sure that she follows her care plan. When they alerted us about Mdm Tan's high-sodium diet of instant noodles and anchovies, we focused on reviewing her diet plans and educating her about healthy eating. The Case Management Programme has brought about better health for our patients and increased job satisfaction for staff!



IMPRINTS OF HEALTHCARE

Desmond Lim



After a road traffic accident left him with a crushed pelvis, Desmond was told he would never be able to walk again. Refusing to accept the prognosis, Desmond fought hard to beat the odds. Today, he is able to walk, has taken a solo camper van trip to New Zealand and aspires to don national colours as a disabled athlete.

It was just another trip for Mr Desmond Lim, an avid globetrotter who has seen the world in his job as an air steward. Together with three friends, he embarked on a month-long motorcycle road trip to Thailand, Laos and Myanmar. However, on their return journey, tragedy struck.

“While I was waiting at the traffic light, a truck ran over me and drove off. I lay there for six hours – fully conscious – before the ambulance finally came,” Desmond recalled.

The accident left him with a badly crushed right pelvis, fractured left leg and spinal fractures. Desmond was flown back to Singapore, where he spent the next ten months warded at SGH. Doctors said he would never walk again.

“I was used to flying around the world. Now, I was told that I would never be able to walk. Whenever nurses or doctors tried talking to me, I would silence them by asking, ‘Are you able to help me walk again?’ Everything was negative to me.”

However, things took a turn for the better when he was transferred to Bright Vision Hospital (BVH) for rehabilitation.

“I felt that I shouldn't give up because people were not giving up on me, especially my family and the staff at BVH. The cheerful nurses helped me out of depression and my physiotherapist Firdaus was very patient with me despite my grumpiness. I am especially thankful to the wound nurse who meticulously tended to my pressure sores every day,” said Desmond.

Wanting to walk on his own again, Desmond pushed himself hard and did his rehabilitation exercises diligently during his two-month stay in BVH. After that, he continued his physiotherapy and occupational therapy at the Day Rehabilitation Centre for a year.



"I've seen disabled people do amazing things, so I thought there's no harm trying. I had been run over by a truck - I didn't think anything worse could happen to me!"

"The team at Day Rehab was very helpful and supportive. I can walk again thanks to their encouragement."

By September 2014, though he still needed a walking stick to get around, he felt he was ready to challenge himself – by taking a road trip around New Zealand on his own.

"I've seen disabled people do amazing things, so I thought there's no harm trying. I had been run over by a truck – I didn't think anything worse could happen to me!"

On the three-week road trip, he drove around New Zealand in his camper van, trekking, fishing, and glacier watching along the way – proving to himself and everyone else that he was capable of taking care of himself.

But the trip was not without its challenges. As Desmond was not able to squat, draining wastewater from his camper van became an issue. He adapted by lying on his back to reach the tank, even though that meant getting dirty in the process.

With the help of therapists at BVH, Desmond has just a slight limp in his gait today and is working full-time for a rehabilitation equipment supplier.

"With my condition, it was difficult to find a job but my boss gave me the opportunity and took very good care of me. Even now, he offers to help me get lunch as he doesn't want me to get tired out."

With one wish fulfilled, Desmond has set himself another goal – to qualify for the upcoming ASEAN Para Games. He now trains five evenings a week after work, with fellow swimmers from the Singapore Disability Sports Council.

Having overcome his health challenges, Desmond feels the need to help others in a similar predicament. He is currently looking to set up a trauma support group to help those who face sudden physical disability.

"Through my personal experience, I want to show fellow trauma patients that they can lead normal lives, just like me."



Muhammad Firdaus Bin Mohamed Zin
Physiotherapist, BVH

When we listen deeply to patients' wishes and worries, we are clearer about what matters to them, and are better able to tweak the interventions and choose the right motivational words to say.

In Desmond's case, he preferred to focus on the present, so I focused on what he was capable of at that point in time and compared his progress to previous sessions instead. As he saw his own improvement, his mood got better and he became more open to new challenges!



Jose Domingo Casiano
Staff Nurse, BVH

I constantly remind myself to view patients holistically, and to provide care that caters to their individual needs while involving them in taking charge of their own well-being. There are no bad or good patients but there can be demanding ones. We should still care for them without any bias.



Chong Sin Tzun
Dietitian, BVH

Good nutrition ensures that a patient has the necessary nutrients needed to recover. It gives me great satisfaction to see my patients heal faster when they comply with the meal plans I prescribe. As I'm only three years into the job, I think there's a lot more to learn so that I can give my best to patients.

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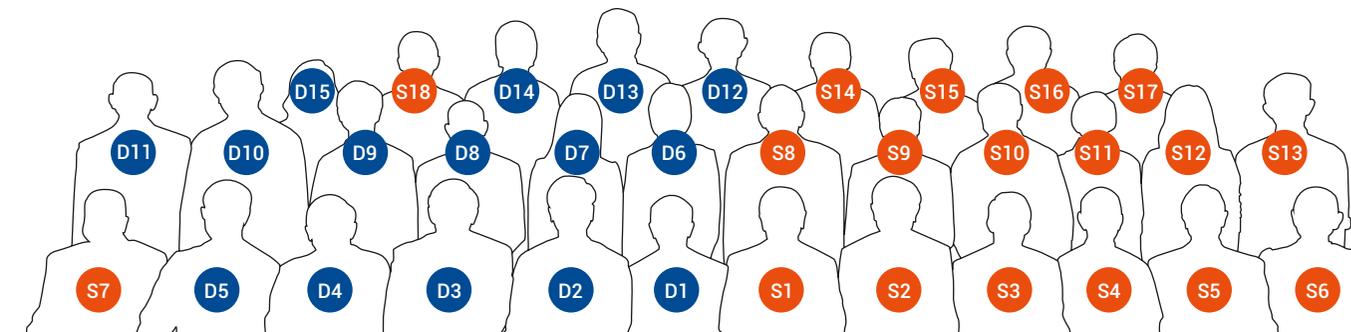
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SingHealth

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Bright Vision
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SINGHEALTH GROUP OVERALL STATISTICS



Job Group	Year Ended 31 Mar 2015	Year Ended 31 Mar 2014
Medical	2,519	2,318
Dental	145	124
Nursing	7,575	7,262
Allied Health Professionals	3,959	3,507
Others	6,706	6,054
Total	20,903	19,265

*Staffing figures refer to filled posts, in terms of full-time equivalent, and may not add up to total due to rounding. FY2014 figures include MOH-funded positions.

SingHealth—Overall	Year Ended 31 Mar 2015	Year Ended 31 Mar 2014	Change
Size			
Beds (as at Mar)	2,753	2,639	4.3%
Workload per annum			
Bed Occupancy Rate	81.2%	79.7%	1.5% pts
Inpatients	160,026	156,312	2.4%
Total Patient Days	744,728	734,419	1.4%
Average Length of Stay (days)	4.7	4.7	-
Day Surgeries	110,371	109,203	1.1%
Inpatient Surgeries	72,103	65,778	9.6%
Specialist Outpatient Clinic Attendances	1,855,664	1,813,941	2.3%
Accident & Emergency Attendances	309,163	318,292	-2.9%
Dental Attendances	207,791	190,629	9.0%
Dental Procedures	292,933	255,696	14.6%
Polyclinic Attendances	1,719,892	1,732,797	-0.7%

FINANCIAL INFORMATION



ASSETS BY MAJOR CATEGORIES	Year Ended 31 Mar 2015 (S\$ million)	Year Ended 31 Mar 2014 (S\$ million)
Plant and Equipment	607	558
Trade and Other Receivables	534	459
Other Assets	1,111	1,066
Total	2,252	2,083



REVENUE BREAKDOWN BY MAJOR CATEGORIES	Year Ended 31 Mar 2015 (S\$ million)	Year Ended 31 Mar 2014 (S\$ million)
Clinical Revenue	1,275	1,219
Subvention	1,360	1,224
Other Revenue	477	377
Total	3,112	2,820



LIABILITIES BY MAJOR CATEGORIES	Year Ended 31 Mar 2015 (S\$ million)	Year Ended 31 Mar 2014 (S\$ million)
Trade and Other Payables	900	792
Other Current Liabilities	108	124
Non Current Liabilities	493	418
Total	1,501	1,334



EXPENDITURE BY MAJOR CATEGORIES	Year Ended 31 Mar 2015 (S\$ million)	Year Ended 31 Mar 2014 (S\$ million)
Manpower	1,751	1,551
Supplies and Consumables	435	412
Other Operating Expenses	757	725
Depreciation and Amortisation	162	134
Total	3,105	2,822

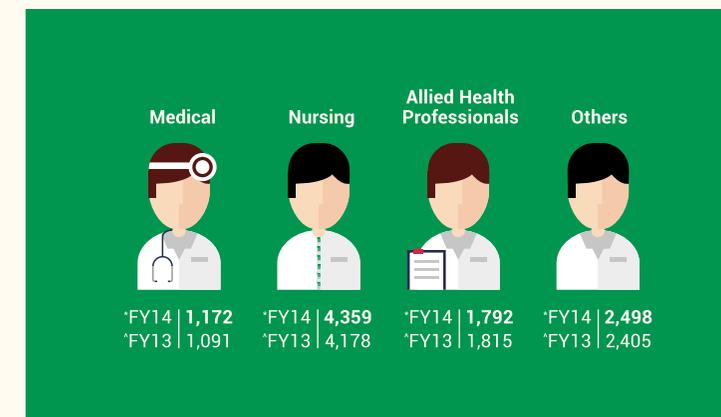
TOTAL EQUITY **751** **749**

INSTITUTION KEY FIGURES & STATISTICS



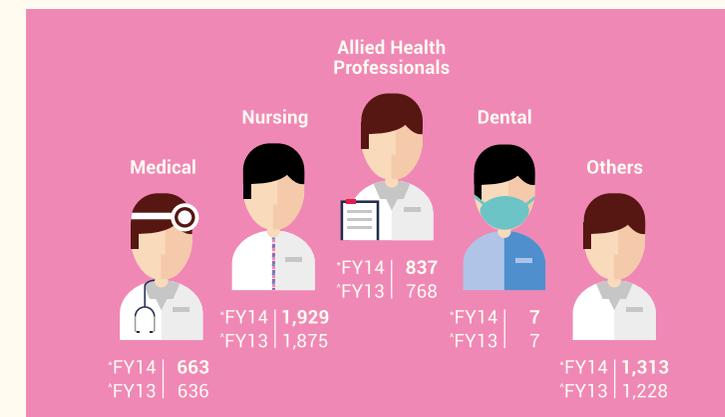
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Outram Road, Singapore 169608
Tel: 6222 3322 • www.sgh.com.sg



KK Women's and Children's Hospital

100 Bukit Timah Road, Singapore 229899
Tel: 6225 5554 • www.kkh.com.sg



TOTAL STAFF

*FY14: 9,821 *FY13: 9,489

Size	Year Ended 31 Mar 2015	Year Ended 31 Mar 2014
Beds (as at end Mar)	1,731	1,597
Workload per annum		
Bed Occupancy Rate	82.9%	81.6%
Inpatients	79,842	78,422
Total Patient Days	481,938	475,355
Average Length of Stay (days)	6.0	6.1
Day Surgeries	43,729	43,687
Inpatient Surgeries	45,824	38,779
Specialist Outpatient Clinic Attendances	693,751	687,737
Accident & Emergency Attendances	136,119	144,346

TOTAL STAFF

*FY14: 4,750 *FY13: 4,514

Size	Year Ended 31 Mar 2015	Year Ended 31 Mar 2014
Beds (as at end Mar)	837	857
Workload per annum		
Bed Occupancy Rate	80.3%	77.5%
Inpatients	71,227	68,229
Total Patient Days	215,861	210,285
Average Length of Stay (days)	3.0	3.1
Day Surgeries	13,130	14,945
Inpatient Surgeries	20,441	20,153
Specialist Outpatient Clinic Attendances	553,870	538,553
Accident & Emergency Attendances	173,044	173,946

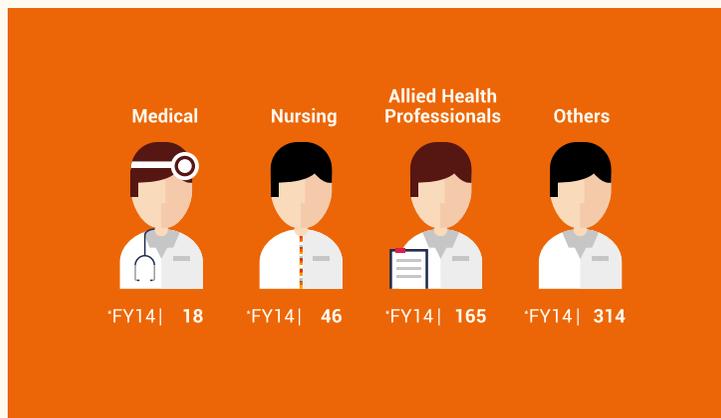
NOTE Staffing figures refer to filled posts, in terms of full-time equivalent, and may not add up to total due to rounding. FY2014 figures include MOH-funded positions.

*Year Ended 31 Mar 2015
^Year Ended 31 Mar 2014

INSTITUTION KEY FIGURES & STATISTICS



378 Alexandra Road, Singapore 159964
Tel: 6716 2000 • www.sengkanghealth.com.sg

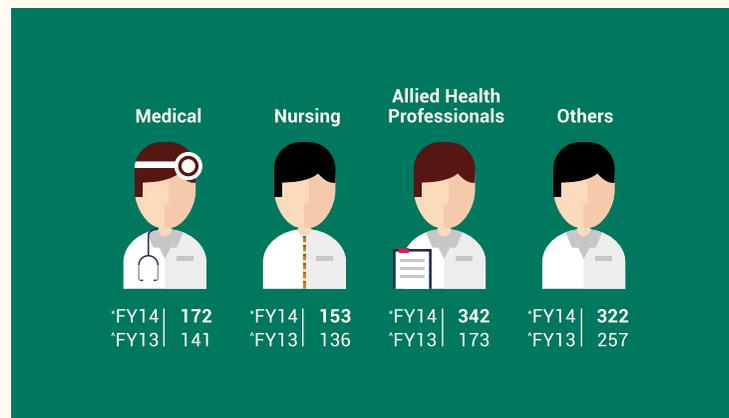


TOTAL STAFF *FY14: 543

Statistics not available as Sengkang General and Community Hospitals are not in operation yet.



11 Hospital Drive, Singapore 169610
Tel: 6436 8000 • www.nccs.com.sg



TOTAL STAFF *FY14: 989 *FY13: 707

	Year Ended 31 Mar 2015	Year Ended 31 Mar 2014
Workload per annum		
Day Surgeries	10,535	9,967
Specialist Outpatient Clinic Attendances	140,219	135,818

Workload per annum

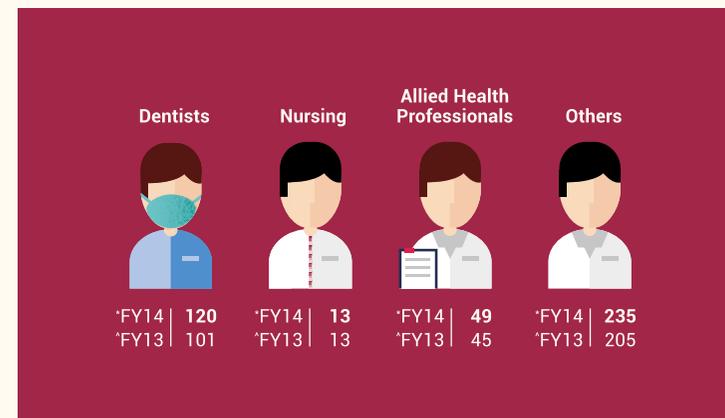
Day Surgeries	10,535	9,967
Specialist Outpatient Clinic Attendances	140,219	135,818

NOTE Staffing figures refer to filled posts, in terms of full-time equivalent, and may not add up to total due to rounding. FY2014 figures include MOH-funded positions.

*Year Ended 31 Mar 2015
^Year Ended 31 Mar 2014



5 Second Hospital Avenue, Singapore 168938
Tel: 6324 8802 • www.ndcs.com.sg



TOTAL STAFF *FY14: 417 *FY13: 364

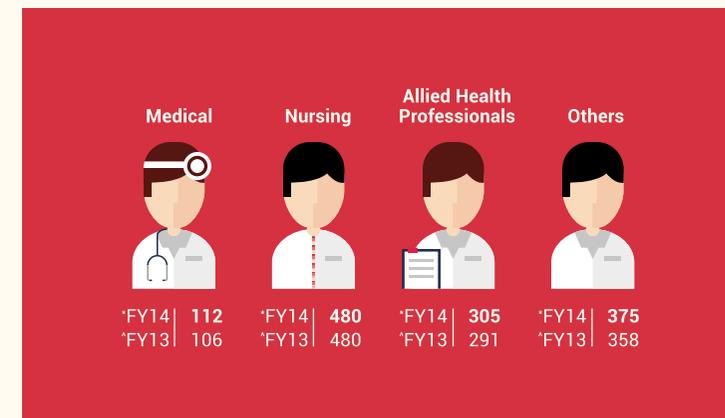
	Year Ended 31 Mar 2015	Year Ended 31 Mar 2014
Workload per annum		
Day Surgeries	7,291	6,567
Dental Attendances	165,250	152,069
Dental Procedures	187,961	161,575

Workload per annum

Day Surgeries	7,291	6,567
Dental Attendances	165,250	152,069
Dental Procedures	187,961	161,575



5 Hospital Drive, Singapore 169609
Tel: 6704 8000 • www.nhcs.com.sg



TOTAL STAFF *FY14: 1,273 *FY13: 1,235

	Year Ended 31 Mar 2015	Year Ended 31 Mar 2014
Size		
Beds (as at end Mar)	185	185
Workload per annum		
Bed Occupancy Rate	69.5%	72.2%
Inpatients	8,957	9,661
Total Patient Days	46,929	48,779
Average Length of Stay (days)	5.2	5.0
Day Surgeries	962	22
Inpatient Surgeries	5,838	6,846
Specialist Outpatient Clinic Attendances	120,024	109,811

Size

Beds (as at end Mar)	185	185
Workload per annum		
Bed Occupancy Rate	69.5%	72.2%
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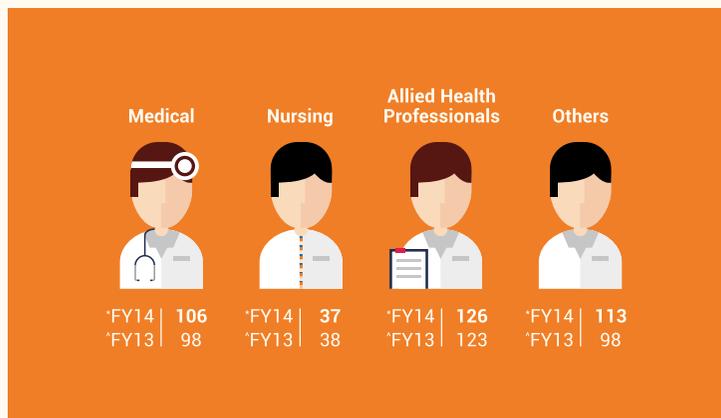
NOTE Staffing figures refer to filled posts, in terms of full-time equivalent, and may not add up to total due to rounding. FY2014 figures include MOH-funded positions.

*Year Ended 31 Mar 2015
^Year Ended 31 Mar 2014

INSTITUTION KEY FIGURES & STATISTICS



11 Jalan Tan Tock Seng, Singapore 308433
Tel: 6357 7153 • www.nni.com.sg

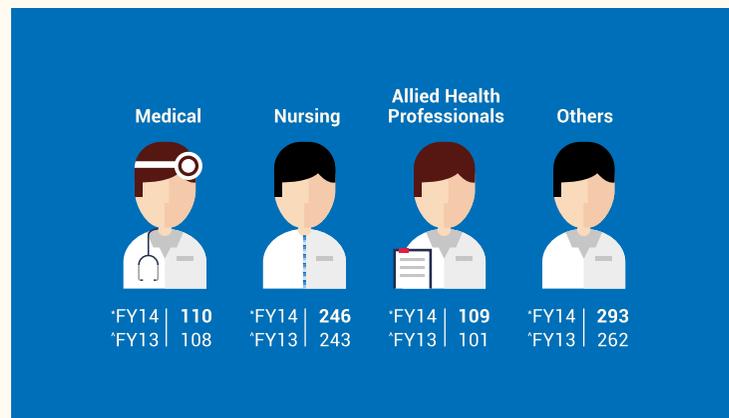


TOTAL STAFF	*FY14: 381	*FY13: 357
	Year Ended 31 Mar 2015	Year Ended 31 Mar 2014

Workload per annum		
Specialist Outpatient Clinic Attendances	41,735	42,784



11 Third Hospital Avenue, Singapore 168751
Tel: 6227 7255 • www.snec.com.sg



TOTAL STAFF	*FY14: 756	*FY13: 713
	Year Ended 31 Mar 2015	Year Ended 31 Mar 2014

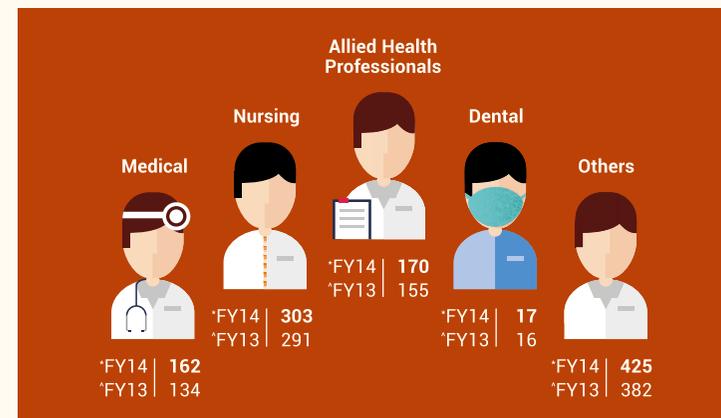
Workload per annum		
Day Surgeries	34,724	34,015
Specialist Outpatient Clinic Attendances	306,065	299,238

NOTE Staffing figures refer to filled posts, in terms of full-time equivalent, and may not add up to total due to rounding. FY2014 figures include MOH-funded positions.

*Year Ended 31 Mar 2015
^Year Ended 31 Mar 2014



167 Jalan Bukit Merah, Tower 5, #15-10, Singapore 150167
Tel: 6236 4800 • polyclinic.singhealth.com.sg

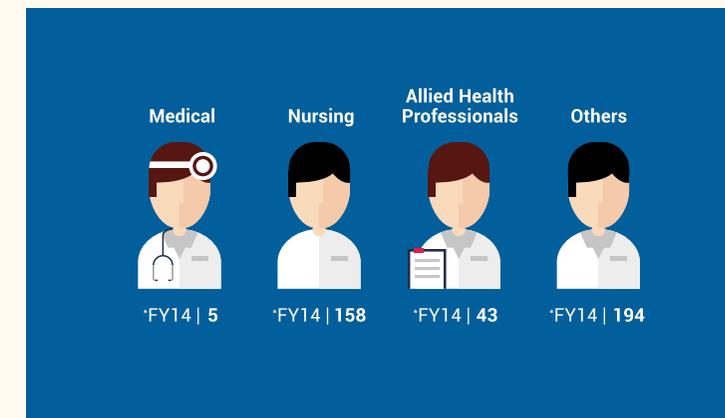


TOTAL STAFF	*FY14: 1079	*FY13: 978
	Year Ended 31 Mar 2015	Year Ended 31 Mar 2014

Workload per annum		
Polyclinic Attendances	1,719,892	1,732,797
Dental Attendances	42,541	38,560
Dental Procedures	104,972	94,121



5 Lorong Napiri, Singapore 547530
Tel: 6248 5755 • www.bvh.org.sg



TOTAL STAFF	*FY14: 400
	Year Ended 31 Mar 2015

Size	
Beds	318
Workload per annum	
Bed Occupancy Rate	82%
Inpatients	1,497
Total Patient Days	80,741
Total number of hours volunteered (Corporate & Individual donors)	24,632



8 College Road, Singapore 169857
Tel: 6516 7666 • www.duke-nus.edu.sg

MD Students excluding graduates at Duke-NUS Graduate Medical School (as at end March 2015) 245

Full-time and Adjunct Faculty in Research and Education >1,000

NOTE Staffing figures refer to filled posts, in terms of full-time equivalent, and may not add up to total due to rounding. FY2014 figures include MOH-funded positions.

*Year Ended 31 Mar 2015
^Year Ended 31 Mar 2014

