

# MediCine

A publication of the Yong Loo Lin School of Medicine • Issue 21 / February 2017



**NUS DONS  
PRODUCE AN  
INTERNATIONAL  
BESTSELLER**

# DEAN'S MESSAGE



Dear Readers,

February 4 is World Cancer Day. It is commemorated annually in many countries, because cancer remains a global scourge, killing more than 8.2 million people in 2012. These mortalities will rise by about 70% over the next two decades, according to World Health Organization data.

Dismal as the numbers are, there is cause for hope. Scientists are discovering and learning more about the nature of the hydra-headed beast, and developing new treatment options. Beginning with this issue, we take a look at some of the work that is being done by our own scientists here at NUS Medicine. We also hear from a cancer patient, who shares how a diagnosis of Stage 4 breast cancer has re-shaped her outlook on life and priorities.

Palliative medicine, so integral in the care of the very ill and the dying, is little understood and seldom appreciated

in Singapore. In the first of a series, Dr Noreen Chan talks about the misperceptions that hinder patients and their families from receiving the kind of palliative care that would help to ease pain and discomfort.

To round off this first issue of 2017, meet a long-serving staff member of the School, Mr Krishnan s/o Kumaniar. In the four decades that the administration officer has worked here, he has seen generations of medical students come and go, worked through the tenure of seven deans and along the way, raised a family between him and his wife. He says job satisfaction and the fellowship of friends and colleagues are the reasons he has stayed: the School is grateful to him and the 106 other staff who have given so many years of their lives in service to the institution, and who still serve faithfully and competently.

Khay Guan



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# THE ASIA-PACIFIC'S BIGGEST MEDICAL EDUCATION CONFERENCE RETURNS TO SINGAPORE IN 2017

*By Professor Matthew Gwee,  
Department of Pharmacology*

The Centre for Medical Education (CenMED) hosted the 14th APMEC in January 2017. The APMEC series was initiated in 2003 with the motto, "Think BIG, Start Small, ACT NOW". CenMED has built the APMEC series and has progressively developed it to its current status as a major conference in the field of medical education. In fact, we now have more than 1,200 participants from 33 countries, making APMEC the biggest medical education conference in the Asia-Pacific region. We are pleased that APMEC has become a premiere educational conference for the educational scholars around the world.

We live in a globalised knowledge-based economy in which there are unprecedented and almost unhindered movement of people (including healthcare practitioners), goods (including healthcare products) and services (including healthcare delivery) across national borders. Globalisation has spawned the development of global medicine and medical tourism, which have become billion dollar

enterprises. Singapore has become a major participant in this aspect of healthcare delivery.

This is the context for the theme for APMEC 2017 – "From Globalisation of Education to Globalisation of Healthcare". Key members of the Accreditation Council of Graduate Medical Education (International) of U.S.A. participated in the deliberations at APMEC 2017. They provided educational leadership at plenary talks, workshops and panel discussions at APMEC 2017. As always, key opinion leaders in the field of medical education shared their expertise, experience and wisdom with participants. In particular, our invited plenary speakers reviewed global trends, issues, priorities and strategies current in medical education.

We also subscribe to the global view that education and healthcare are two interdependent systems. Disruptive forces such as advances in medical knowledge, sciences and technology; changing demographics and patient profile; greater emphasis on patient-centred care, patient safety and the team-care of patients have made it imperative for healthcare to match practice requirements that can meet the healthcare needs, demands and challenges of 21st century healthcare delivery. In this context then, medical education must, therefore also carry out reforms to ensure that the end-products of education (i.e. the new generation of healthcare practitioners) will be competent and equipped to deliver 21st century healthcare.

We hope our global view of medical education will not only serve to educate our community of educational scholars and teachers from around the globe, but that it will also serve as inspiration to them to stay current for the benefit of our students and, ultimately, for our respective nations.





The Department of Community, Occupational & Family Medicine in 1987.

## CELEBRATING 30 YEARS OF FAMILY MEDICINE

*By Dr Lim Fong Seng, Head, Division of Family Medicine*

Undergraduate training in Family Medicine in Singapore began in 1971 as a one-week posting to a general practice (GP) clinic and 10 lectures on Introduction to General Practice, which were organised voluntarily by the College of General Practitioners, Singapore.

On February 13, 1987, Family Medicine was given academic recognition by the Faculty of Medicine at the National University of Singapore (NUS). Resulting from a joint memorandum between the Ministry of Health, the College of General Practitioners, Singapore, and the NUS Department of Social Medicine & Public Health (SMPH), the Department of SMPH was tasked to teach Family Medicine as a formal discipline. With this, the Department of SMPH also took on a new name - the Department of Community, Occupational and Family Medicine (COFM).

Establishing Family Medicine as an academic discipline within the University reflected a global trend in medical education. Practising general practitioners (GPs) or Family Physicians were invited to be actively involved in teaching and promoting high standards of Family Medicine practice in Singapore. Among them was Associate Professor Goh Lee Gan, who left private practice to teach Family Medicine to medical undergraduates in NUS. In the 1980's, at least half of all medical graduates became GPs or Family Physicians. For students who moved on to specialty training, a good exposure to Family Medicine practice allowed them to see the management of patients in the context of family and community as well as from the hospital to the ambulatory setting.

In addition to undergraduate education, the Family Medicine Academic unit became a base for the development of novel Family Medicine teaching programmes and postgraduate Family Medicine training, in the process raising the standards of teaching and the practice of Family Medicine in Singapore.

In 2008, the Division of Family Medicine was established within the Department of Medicine. The Family Medicine training curriculum in the Division continues to evolve and transform to meet the health needs of Singapore in delivering high quality, patient-centred care.

As 2017 begins, the Division of Family Medicine is delighted to commemorate 30 years of Academic Family Medicine in Singapore by organising a celebratory 30th Anniversary Dinner on February 25.





## NUHS BECOMES NEW INTEGRATED HEALTH CLUSTER

The National University Health System (NUHS) is merging with Jurong Health Services (JurongHealth) as part of a reorganisation of the public healthcare system in Singapore announced by the Ministry of Health. Six existing regional healthcare systems will be reorganised into three integrated clusters, each with its own network of polyclinics, to better meet Singaporeans' future healthcare needs.

The NUHS currently comprises the National University Hospital, National University Cancer Institute, National University Heart Centre, National University Centre for Oral Health, Yong Loo Lin School of Medicine, Faculty of Dentistry and Saw Swee Hock School of Public Health.

With the reorganisation, NUHS will retain its name, and the new healthcare cluster will include its close partner JurongHealth, as well as a new entity, the National University Polyclinics (NUP). The NUP will have seven polyclinics by 2020, located in Bukit Batok, Clementi, Choa Chu Kang, Queenstown, Jurong, Pioneer and Bukit Panjang. Pioneer and Bukit Panjang polyclinics are upcoming developments. The new NUHS cluster will serve Singaporeans in the western region.

NUS President Professor Tan Chorh Chuan will remain as Chairman of NUHS during this period of transition. Professor John Eu-Li Wong, NUS Senior Vice President (Health Affairs) and Isabel Chan Professor of Medical Sciences, will be Group Chief Executive of the NUHS.

Associate Professor Yeoh Khay Guan, Dean of Yong Loo Lin School of Medicine, will remain as Deputy Group Chief Executive of NUHS, together with Mr Chua Song Khim and Adjunct Associate Professor Joe Sim. The current CEO of JurongHealth Mr Foo Hee Jug will be appointed Deputy Group Chief Executive of NUHS. Prof Tan, Prof Wong, Assoc Prof Yeoh, Mr Foo and Mr Chua are NUS alumni.

Drawing on the combined strengths and talents across the clusters, the country's new integrated clusters are expected to deliver more comprehensive and patient-centred health promotion, disease prevention, curative and rehabilitative care for the community they serve. It will also allow better use of resources, as well as more career options and professional opportunities for those serving within the systems.

The restructuring comes as Singapore's healthcare needs grow in volume and complexity due to an ageing population and increased chronic disease burden.

Said Prof Wong, "This reorganisation allows long standing partners in the western part of Singapore to come together as a fully integrated team to provide seamless care from prevention to home care, and with our academic institutions, to continue to develop solutions for Singapore's healthcare challenges, and nurture the next generation of healthcare professionals.

"With our partners across Singapore, we continue to dedicate ourselves to our patients and the community we live in as one public healthcare system," he added.

The reorganisation of the public healthcare system is expected to be completed by early 2018.

*Read the news release from the Ministry of Health at <http://bit.ly/2jAS8Ha>*





Project Sukacita volunteers teaching personal hygiene practices to Pekanbaru children.

## CROSS-CULTURAL HEALTH AND HYGIENE EDUCATION

*By Mr Jaron Koh Jun Jie,  
MBBS Phase II*

The rural folk of Pekanbaru lead a very simple way of life, compared to the relatively luxurious lifestyle of many Singaporeans. Some problems they face include the lack of access to healthcare and health information. When they fall ill or develop health conditions, it is not instinctive of them to seek medical attention or visit a doctor as the nearest medical centre is often miles away. The people of Pekanbaru also have relatively little knowledge about nutrition and the importance of proper

hygiene practices. With these issues in mind, Project Sukacita wants to address these challenges through programmes and activities that serve to educate the people in this community and also address health concerns of the children. Out of the total of 25 students in Project Sukacita, 15 of us came from the NUS Yong Loo Lin School of Medicine, while 10 came from the Singapore Management University and Nanyang Technological University's IndoClub. While the medical students contributed

knowledge about health, diseases and nutrition, the Indonesian students were our translators to convey our messages to the locals. Some of the healthcare problems that the local people commonly face are illnesses such as dengue, malaria, rashes, epistaxis (nose bleed), infections, diarrhea, vomiting, fever and flu. Many kids were also growing too slowly for their age and this could be a result of malnutrition.

Thus, we designed a health talk for the nannies of the children to address these conditions, shared simple ways of managing these problems and also taught them important warning signs that indicate an urgent need for medical attention. I also conducted basic Nutrition Education sessions for the kids, who learned about important nutrients they should find in their diet, like vitamins, proteins and fibre.



## DOSSIER

As all of the children and their nannies could only speak and understand Bahasa Indonesia, there was a huge language barrier to overcome. I managed to facilitate simple activities like washing hands or brushing teeth after picking up some basic Bahasa Indonesia, but it was simply beyond me to conduct Health and Nutrition Education talks on my own. Thankfully, the Indonesian students helped to translate the talks and sessions so that the people and children could understand.

The most memorable moments for me were during the personal hygiene education sessions, where we taught the children how to wash their hands thoroughly with soap and how to properly brush their teeth. It was a really heartening experience to see the bright smiles on these adorable faces when they became so pleased on learning how to tend to their personal hygiene.

Taking part in this project allowed me to appreciate how much I have learnt since entering medical school and how everything I have learnt had such important application. For instance, as a second-year medical student, I could apply the knowledge that I have gathered so far and share this with the nannies. From simple recognition of signs and symptoms of common tropical illnesses, to the use of life-saving Oral Rehydration therapy in the case of severe watery diarrhea, I am very certain that these tips would go a long way to benefit the children of this community.

"Sometimes you can't pay it back, so you just have to pay it forward."

Tanoto Foundation, founded by Indonesian entrepreneur and philanthropist Sukanto Tanoto, gave me a helping hand when I needed it the most and I owe the foundation a huge debt of gratitude. As such, I hope to cherish every moment and opportunity I have to pay it forward, and Project Sukacita was such an opportunity.

When we extend kindness, we also inspire the people around us to do the same. The recipient too will also be galvanised to pass on this act of kindness. I believe in the "Virtuous Cycle", where a simple act of kindness can kick-start an endless ripple.

With no doubt, each and every one of us has been a recipient of altruism or kindness at some point in our lives and it is never too late or early to give something back to society.



Phase II Medicine student Jaron Koh teaches a boy to wash his hands.





The NUS Medicine Class of 1995 commemorated their 20th anniversary in 2015 by setting up a class bursary.

## HARNESSING THE POWER OF CLASS GIVING

The Dean of the NUS Yong Loo Lin School of Medicine, Associate Professor Yeoh Khay Guan (Class of 1987), is a firm believer in the power and enduring impact of class giving.

"Throughout our history, NUS Medicine has been a medical school started and supported by the local community. Our students come from all levels of society to pursue medical education. While many are financially supported by their parents and families, there are about 200 students every year who need financial assistance. Unfortunately, we do not have enough bursaries to help every one of them," he explains.

Prof Yeoh initiated the establishment of the MBBS Class of 1987 Bursary and championed the cause among his classmates.

"We want to do this because we want to make sure that no deserving student is deprived of a medical education because of financial constraints. The Bursary not only helps bright young men and women to achieve their dreams of becoming doctors but also serves as an enduring, meaningful legacy for those who come after us. It is a collective gift that espouses what we believe in and preserves the memory of our time and friendship as the Class of 1987," he affirms. Besides helping future generations, giving as a class is a statement of the values the classmates uphold. It also affirms their strong belief in their alma mater.

At a well-attended 20th anniversary dinner of the NUS Medicine Class of 1995, alumni immensely enjoyed catching up on the good

old days. At the same time, fundraising efforts for an endowed bursary began in earnest, thanks to the enthusiastic efforts of Associate Professor Gerald Koh (Class of 1995) and other classmates.

"As beneficiaries of heavily subsidised fees ourselves when we were medical students, my class wanted to help ensure that our best, brightest and most deserving students could access a quality medical education regardless of financial background. So on this special occasion, we decided to leave a meaningful legacy in the form of an endowment fund, the NUS Medicine Class of 1995 Bursary, which will help worthy but needy medical students become doctors," says Prof Koh, who is currently teaching at the NUS Saw Swee Hock School of Public Health.

Class alumni Dr Lye Tong Fong (Class of 1995), who is firmly committed to the fundraising, is proud of his class and appreciates the champions who made the Fund possible.

"We have probably reached the age when it is time to contribute back to society in whichever way we can. At this stage of life, most of us are in the prime of our careers. Giving back is a small part we can do for society. I also had a great time getting together with my classmates and talking about the good old days," shares Dr Lye, the Founder and Medical Director of Central 24 HR Clinic group.

"We were a small class but we managed to pull it off and establish a named bursary. I hope we can inspire future generations to do the same. It would be great if beneficiaries become donors one day," he added.

*Considering a class bursary? Visit our [online donation portal](https://giving.med@nuhs.edu.sg), contact us at [giving\\_med@nuhs.edu.sg](mailto:giving_med@nuhs.edu.sg) or call 6772 3737.*

*Story reproduced with permission of the NUS Development Office.*



## FRIENDS AND STUDENTS RALLY TO HONOUR LEADING SURGEON

One of Singapore's most-respected surgeons, and an inspiring teacher who has trained many of the surgeons in practice in the country was honoured through the establishment of a professorship at the National University of Singapore (NUS) Yong Loo Lin School of Medicine.

Colleagues, alumni, former students and friends of Adjunct Professor Abu Rauff collectively made gifts to set up the Abu Rauff Professorship in Surgery at NUS Medicine. Fundraising for the Professorship, which also marked NUS Medicine's 110th anniversary, was led by Profs Lee Chuen Neng, Ngoi Sing Shang, Walter Tan and Wong Peng Cheang.

The Professorship will accelerate the development of surgical expertise through education and mentorship of undergraduate and postgraduate students, as well as through translational research, to deliver better, safer and more affordable healthcare to the Singapore community and beyond.

"This Professorship recognises a master surgeon, a dedicated teacher and a great mentor who has served the University for over 30 years. It will assist in improving the healthcare we offer the community by promoting professionalism and world class standards in surgical specialties, providing an excellent education for our undergraduates and supporting translational research," said Prof Lee, who teaches at the Department of Surgery at NUS Medicine.

Prof Rauff is known as the 'go-to surgeon' whenever there are difficult and complex surgical situations. Generations of surgeons who have worked and trained under him testify to his inspirational teaching skills and his knack for making complex issues simple, Prof Lee added.

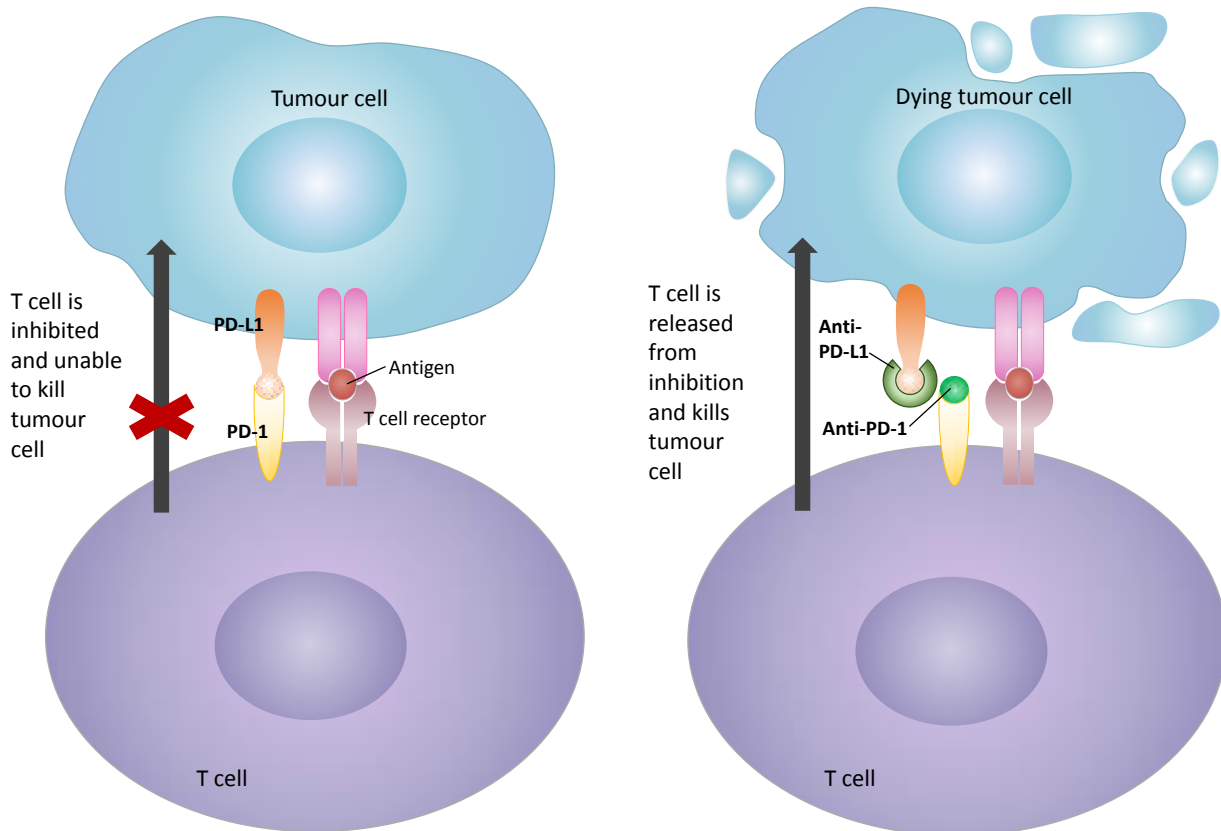
The man in focus said he was touched by the recognition. "It has been an honour for me to play a part in shaping Singapore's young surgeons through the Medical School. It is my sincere hope that this Professorship will help advance knowledge in the field of surgery by supporting world-class research and foster high standards of teaching to allow NUS to continue as one of Asia's leading medical schools," Prof Rauff said.

Prof Rauff joined NUS in 1972, was Chair of Surgery at the Singapore General Hospital from 1985 to 1988 and later at the National University Hospital (NUH) from 1988 to 1992. Now in private practice, Prof Rauff teaches clinical surgery skills to undergraduates and postgraduates, and participates in research projects at NUH as a senior visiting consultant at the Department of Surgery.

*Story reproduced with permission of the NUS Development Office.*

Adjunct Professor Abu Rauff in surgery at NUH





Credit: Dr Koh Shimin Grace, Department of Paediatrics, NUS

## CANCER IMMUNOTHERAPY

### IMMUNE SYSTEM UNPLUGGED: RELEASING CANCER'S GRIP ON IMMUNE CELLS WITH CHECKPOINT INHIBITORS

By Dr Khor Ing Wei, Department of Medicine & Ms Cher Boon Meng, Clinician-Scientist Unit, NUHS

*Using the body's immune system to attack cancer cells has been a focus of intense research for several decades, but recent breakthroughs in the field have moved immunotherapy to the forefront of new cancer treatments. This article about antibodies that release "checkpoints" in immune cells marks the first in a series about different types of cancer immunotherapy.*

Antibodies are known as "magic bullets" in cancer treatment because of their many possible functions. Unlike the conventional big three of cancer treatment – chemotherapy, radiotherapy, and surgery – the fundamental characteristic of an antibody is its specificity. All antibodies are alike in this aspect, but each group attacks cancer cells in its own way. Some block signalling pathways that cancer cells depend on to grow. Some act as signposts to the immune system, directing them to kill cancer cells through a process known as antibody-dependent cell-mediated cytotoxicity (ADCC). Others carry chemotherapeutic drugs or radioisotopes to the target cancer cell, where they offload their toxic payloads. The newest

group of antibodies currently making headlines for its amazing effects in various cancers is the immune checkpoint inhibitors.

Unlike the other types of antibodies, checkpoint inhibitors do not directly target cancer cells. Rather, their modus operandi involves "releasing the brakes" on the immune system. In healthy people, the immune system is carefully regulated by a balance of activating and inhibitory signals. In cancer patients, however, a preponderance of inhibitory signals upsets this balance, rendering their immune systems dazed. These inhibitory signals come from checkpoint proteins expressed on cancer cells, telling approaching immune cells to halt their attack. Checkpoint inhibitors block these proteins. With the inhibitory signals removed, the immune cells are free to kill.

Currently, at least four checkpoint inhibitors have been approved by the U.S Food and Drug Administration and at least 17 more are being tested in clinical trials. The two most commonly targeted checkpoints proteins are CTLA-4 and PD-1/PD-L1. Indeed, the first checkpoint inhibitor to be approved (Yervoy® or ipilimumab) targets CTLA-4 and was the first drug in history to extend the survival of patients with metastatic melanoma. Since then, focus has shifted to targeting the PD-1/PD-L1 pathway, as these proteins are found within the tumour and tumour microenvironment and antibodies against them may not incite a generalised immune response compared to anti-CTLA-4 antibodies, and hence may be more tolerable. Three antibodies targeting PD-1/PD-L1 have been approved: Opdivo® (nivolumab), Keytruda® (pembrolizumab), and Tecentriq® (atezolizumab).

While checkpoint inhibitors are very promising, they are not a panacea and have been approved only for selected cancers such



as advanced melanoma, non-small cell lung cancer, kidney cancer, Hodgkin lymphoma, squamous cell head and neck carcinoma, and bladder cancer. Worldwide, trials on checkpoint inhibitors in a broad range of cancers have shown a 20% to 40% response rate.

At the National University Cancer Institute, Singapore (NCIS), several trials are ongoing to test the effectiveness of these and other antibodies targeting other immune checkpoint proteins for a range of cancer types. According to Adjunct Professor Goh Boon Cher, Head of the Department of Haematology-Oncology, NCIS, the average response rate is around 20%, although better rates may occur in patients with higher levels of the checkpoint proteins. At first look, this figure may not seem high. However, trials have only been conducted in patients with advanced, metastatic, or relapsed cancers that do not respond to any conventional treatment. Not only that, the response achieved by checkpoint inhibitors may be durable, with prolonged progression-free survival rates in patients.

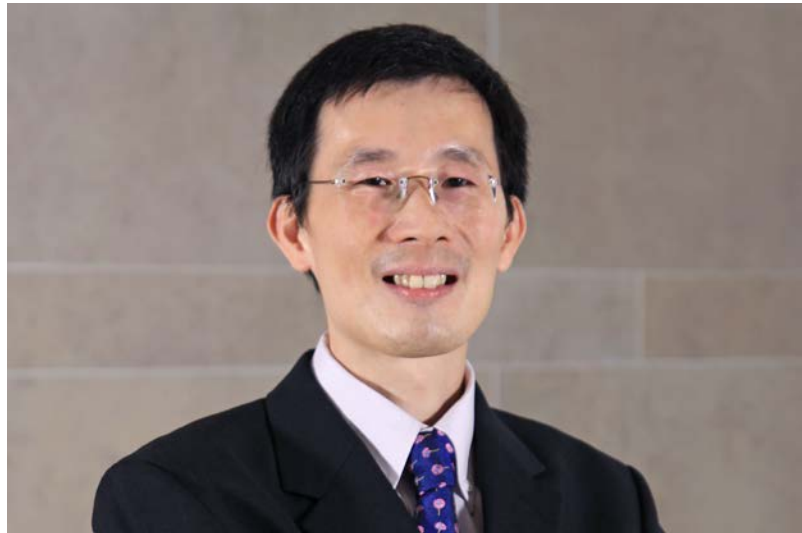
***“Using checkpoint inhibitors is similar to training up an army to fight against the cancer instead of employing mercenaries, which are what chemotherapies are like – you send them in to do the job, then they leave.”***

***-Adjunct Professor Goh Boon Cher***

Another benefit of checkpoint inhibitors is that they are easy and convenient to administer, requiring intravenous infusion for just 30 minutes, every 14 to 21 days in the case of anti-PD1 antibodies. Patients do not require premedications and the antibodies are usually administered as outpatient therapy. In addition, anti-PD1 checkpoint inhibitors are relatively safe, and do not cause the usual side effects as chemotherapy. When side effects do occur, they are usually immune-related (eg, joint pain, colitis, diarrhoea, and thyroiditis) and can usually be treated with steroids. Only in rare cases (<5%) do severe adverse events occur, although these can be unpredictable and difficult to treat, Adj Prof Goh cautions. Some of these side effects require consultations with specialists from other disciplines, like immunologists, endocrinologists, gastroenterologists, and dermatologists. However, there have been reports of higher rates of serious side effects in trials elsewhere, ranging from 20% to 50%, although those were also largely manageable\*.

On the other hand, antibodies are costly; currently, each dose of checkpoint inhibitors set patients back around \$9,000, and doctors do not yet know the best way to predict responses, and the most optimal scheduling and the duration of treatment. While patients on clinical trials are treated for free, most patients will have to pay out of pocket when checkpoint inhibitors are brought into the clinic as standard treatment. As more are approved and therapy is standardised, insurance plans should be put in place to lessen the financial burden.

Like any other cancer therapy, patients can develop resistance to immune checkpoint inhibitors. Each checkpoint inhibitor is, after all, targeting just one pathway. A cancer cell needs only to depend on another pathway to inhibit the immune system again. Thus, cancer treatment requires a multi-targeted approach. Recognising



**Adjunct Professor Goh Boon Cher, Head of the Department of Haematology-Oncology, NCIS.**

this, NCIS is heading several trials that combine more than one checkpoint inhibitor, or a checkpoint inhibitor with chemotherapy, or small molecule inhibitors.

Much research is still needed to improve and standardise therapy for patients. We need to better understand the immune system in both normal and cancerous states. Modulating the tumour microenvironment is another area to focus on as that can affect how cancers respond to therapy and understanding mechanisms of resistance. In the clinics, biomarkers for response and prognosis will be critical to guide clinicians in administering treatment.

*\*Footnote: In one trial using ipilimumab (Yervoy) in advanced melanoma, adverse events occurred 20% of the time. Combination therapy led to more side effects. In another group of melanoma patients, the combination of ipilimumab and nivolumab (Opdivo) lead to adverse events in 54% of the patients.*

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### Facts Box:

- Lung squamous cell carcinoma (SCC) is particularly responsive to checkpoint inhibitors
- Previously, patients with this cancer type were usually resistant to chemotherapy, and fared poorly
- Although doctors cannot yet predict who will respond to checkpoint inhibitors, generally, cancers harbouring many mutations are more likely to respond well because they are more “visible” to the immune system
- Examples of such cancers are melanoma, lung cancer, and bladder cancer; the three that respond best to checkpoint inhibitors
- Other such cancers are stomach cancer, colorectal cancer, head and neck cancers, and cervical cancer



## THE SUMMIT RESEARCH PROGRAMMES

*High-calibre investigators leading distinctive, collaborative research programmes that aim to produce new knowledge of diseases, improve clinical practice and train talented researchers. These are the aims of the Summit Research Programmes, says the initiative's advisor, Professor Lee Eng Hin.*

In recent years, the NUS Yong Loo Ling School of Medicine has earned the reputation of being a leading academic medical centre in Asia. This achievement can be attributed to the fact that we have a strong team of dedicated teachers, highly competent clinicians and a critical mass of excellent scientists, clinician-scientists and clinicians working together in multidisciplinary research programmes. With this strong foundation, NUS Medicine is in a good position to be a global forerunner in biomedical research. It is with this in mind that we have established the Summit Research Programmes (SRPs) which will address unmet healthcare needs by translating scientific findings into improved disease understanding and better clinical practice, and pioneering innovations that will improve health outcomes, and bring social and economic benefits for Singapore.

NUS Medicine already has many research programmes that are doing well and have secured substantial amounts of competitive funding. By providing additional discretionary funding and research infrastructure support, we expect the SRPs to leverage on this to secure larger grants from national and international funding agencies. This will enable them to foster greater collaboration with the research community in Singapore and beyond. In so doing, we hope to propel some of our stronger research programmes to the next level, to be competitive on the international stage.

With strong multidisciplinary research programmes, we will be able to fulfil another very important aim – to nurture our next generation of clinician-scientists to excel in translational and clinical research. This is an extremely important mission if we are to grow and sustain our development as an academic medical centre.

In this initial phase, five SRPs have been launched, focusing on Cancer, Cardiovascular Disease, Tuberculosis, Metabolic Disease and Synthetic Biology.

### **CANCER**

This SRP is headed by Professor Chng Wee Joo, Director of the National University Cancer Institute, Singapore. The programme focuses on Cellular Immunotherapy and Antibody based treatment, with the aims of developing improved treatment methods that lower treatment resistance and long term side effects. This end-





to-end approach enables the team to establish a world-leading programme that will produce novel cancer immunotherapies. The team will also aim to create a renewable pool of expertise through training clinician-scientists in this exciting field.

## **CARDIOVASCULAR DISEASE**

Led by Professor Mark Richards of the Cardiovascular Research Institute, it is centered on two major areas; heart failure and coronary artery disease. The core team is made up of a strong base of established clinician-scientists, focusing on epigenetics, biomarker discovery and the roles of long non-coding and circular RNAs in cardiovascular disease. The programme aims to develop novel diagnostics and treatments, and conduct the first-in-man testing within the next five years.

## **METABOLIC DISEASE**

This SRP is helmed by Professor Tai E-Shyong and targets East-Asian Insulin Resistance Diabetes. It focuses on areas with specific clinical needs, aiming to develop novel medical therapies for diabetes, such as glucose-lowering agents and nutritional therapies. The team is also working on creating new healthcare delivery models that improve healthcare provision to diabetic patients.

## **TUBERCULOSIS**

Tuberculosis (TB) is a highly prevalent disease in Southeast Asia. Infectious diseases expert Professor Nicholas Paton and his team aim to develop new TB treatments and shorten treatment procedures. In the long run, the team aims to discover new drugs and mouse models to study TB.

## **SYNTHETIC BIOLOGY**

In this SRP, the team led by Associate Professor Matthew Chang aims to enhance and deploy microbiome therapy to new disease areas. They will also work with industrial partners to develop new probiotics and methods for sustainable production of therapeutic chemicals.

The SRP is the medical school's flagship research programme. The goal of the SRP is to gain a deeper understanding of disease processes and develop innovative solutions to diagnose and treat patients. This will ensure a better health outcome as well as societal and economic benefits.

The SRP will also build a strong mentorship culture that will enable the next generation of clinician scientists to further advance the development of medical science.



# NUS DONS PRODUCE AN INTERNATIONAL BESTSELLER

Associate Professors Peter Manning (left) and Shirley Ooi (right) at the NUH Emergency Medicine Department.

A textbook on Emergency Medicine techniques by two professors at the NUS Yong Loo Lin School of Medicine has become an international bestseller.

Titled 'Guide to the Essentials in Emergency Medicine', the textbook is the work of Drs Shirley Ooi and Peter Manning, both senior doctors at the NUH Emergency Medicine Department (EMD) and also associate professors at the NUS medical school. The Guide contains practical instructions that help emergency physicians tackle the most life-threatening and common conditions. Besides hospitals, the textbook is also used by general practitioners to diagnose and treat patients in their clinics, and

medical students to learn about illnesses. The NUH is the primary teaching hospital of the School.

All the chapters in the book were put together by the two doctors and a team of NUH emergency physicians together with a few guest authors. The multi-disciplinary content includes practices and approaches adopted in various medical disciplines and applied under trauma conditions.

"Each chapter has got one, two, or even three authors and we would ask them for various redrafts. Then both of us would proof read and edit the chapters. But time is the issue, because all of us





A patient being wheeled into the NUH Emergency Medicine Department for treatment. Photo: NUH

wear three hats – clinicians, teachers and administrators as well,” said Associate Professor Manning.

The first edition was released in 2004. It sold more than 15,000 copies and enjoyed multiple reprints. The second, current edition, which was released in 2014, has sold close to 10,000 copies so far, and reached the shores of countries such as Malaysia, Hong Kong, Japan, Taiwan, the United States, the United Kingdom and Australia.

The Guide’s popularity was a surprise to both doctors, who said they produced the textbook to help colleagues.

In the late 90s, Associate Professor Ooi noticed that the standard of care in the EMD at NUH was not uniform, with doctors adopting varying practices and approaches. She and Assoc Prof Manning felt a common or universal approach that was in keeping with the best practices in Emergency Medicine was important.

This also applied to staffing arrangements, added Assoc Prof Manning. “In the early days, there might have been shifts with just medical officers running the show,” he said.

Assoc Prof Ooi got the ball rolling, producing a list of common conditions. She then got her colleagues to pen down the best methods to treat them. After rounds of peer review, they circulated multiple copies of these guidelines in yellow and red files placed throughout the EMD.

“I found that it was quite popular, sometimes the whole file got missing, or portions of it. Or descriptions of conditions got missing. So because of that, around early 2000s, I thought maybe why not come up with a book?” she recalled.

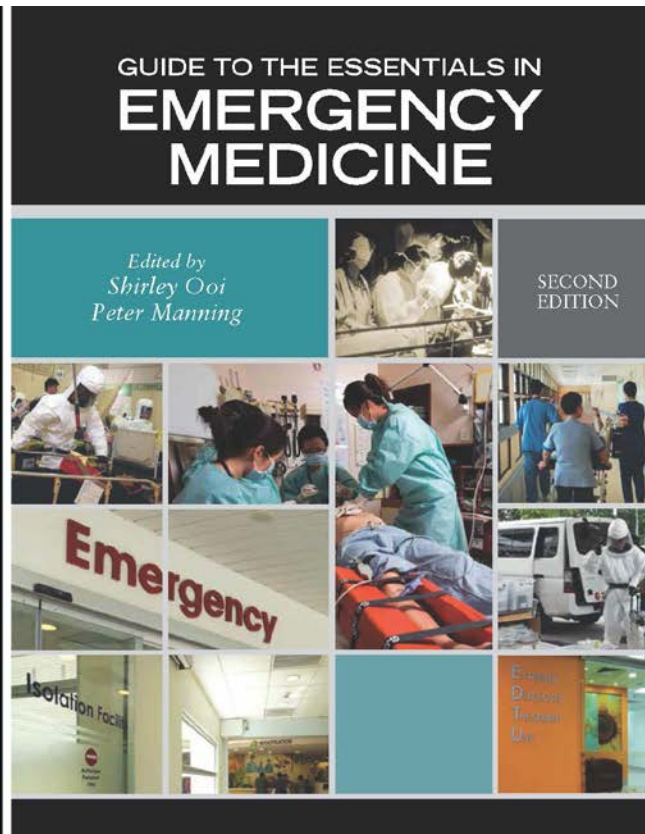
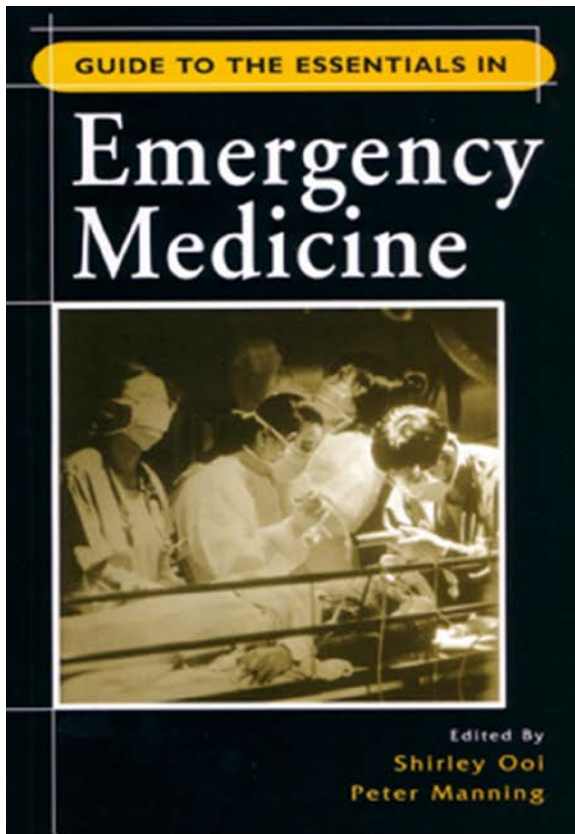
Neither she nor Assoc Prof Manning expected the Guide to become a best seller and she was surprised to learn about its popularity during a medical conference in Malaysia, where some participants stopped her for a photograph and autograph.

She also recalled a remark by NUS Medicine Dean, Associate Professor Yeoh Khay Guan, who wrote the foreword for the second edition. “I remember when the book first came out and after it sold a significant number of copies, Khay Guan told me that no textbook written in Singapore had ever sold so many copies internationally other than Singapore math textbooks.”

While the book was produced to meet local needs, Dean Yeoh noted the relevance it held for international practice and patient care. “The high-quality instruction and practical information in this excellent text book will in turn lead to improved care of emergency patients all over the world,” he said.

On another occasion, an emergency physician practising in Indonesia told Assoc Prof Ooi that the techniques taught in the textbook had helped doctors to bring about a drop in maternal mortality numbers in hospitals in his province, a rate that is one of the lowest in Indonesia.





1<sup>st</sup> (left) and 2<sup>nd</sup> (right) editions of the Emergency Medicine textbook.

"I was glad that the information helped to save lives," she said.

If the editors could improve on the textbook's contents, it would be adding a section on the end-of-life care of patients. This is in face of the increasing number of ageing societies around the world.

"One area of Emergency Medicine that has really blossomed is end-of-life care. Ten years ago, nobody ever talked about that. Now,

end-of-life issues will have to be quite a big section in the next edition," Assoc Prof Manning said.

This section would reiterate current thinking on the subject, added Assoc Prof Ooi. "A lot of patients come in breathless, so we take measures like putting in that tube and committing them into an ICU bed. But now, we believe it's more important for them to feel comfortable, so we give them morphine for example, then we bring them to a private room where the family members can be with them."

## EMD SEES INCREASE IN FRAIL AND ELDERLY ILL

Doctors at the NUH Emergency Medicine Department (EMD) are seeing more elderly sick.

Associate Professor Peter Manning, who is an emeritus consultant, said with Singaporean society ageing rapidly, more older people with multiple illnesses are seeking treatment at the EMD.

"So much more than 15-20 years ago. Nowadays, our patients in the 80s are so common, even 90s. Some are even centenarians," added Assoc Prof Shirley Ooi, also a senior consultant at the EMD.

Common conditions include pneumonia, urinary tract infections and falls that result in hip fractures.

The severity and complexity of patients' cases have also increased.

"A lot of patients have eight to 12 conditions. In the past, when we were practising years back, there were at most two to four conditions. But now it's one whole long list," said Assoc Prof Ooi.

To reduce "over users" from taking up resources at the emergency wards, Assoc Prof Manning believes there is a need to persuade people to turn to polyclinics and general practitioners for help instead of calling at trauma centres.

An extreme over-user his team sees a few times each week is a man who visits the EMD with complaints of "chest pain". Despite a record of tests showing that he has no chest issues, the team has to attend to him whenever he comes.

"It depends on your philosophical attitude. Who should define the term 'emergency'? You should let the patient define whether it is an emergency or not. It's easy for us after the event to say, 'Well, that guy only had a little bit of a toothache, it wasn't even an emergency. Why didn't he take two Panadol at home and see the dentist?' But until he presents himself, and you examine him, and find that he does not have a periapical abscess, only then can you say, he shouldn't have been here."



Dr Le Van Dong (right) with Prof Gopalakrishnane during a visit to NUS with his son in 2013.

## NORTH-SOUTH NEXUS

*By Dr Le Van Dong, Head, Department of Toxicology & Radiology, Vietnam Military Medical University*

*Seventeen years ago, a Vietnamese military doctor arrived to commence postgraduate work at NUS Medicine. Senior Colonel Dr Le Van Dong reflects on his experience.*

I graduated from Vietnam Military Medical University (VMMU) as a military doctor in 1995 as the head of Class of 1989-1995. I had always been interested in research work and trained in immunology research.

I realised that as a young and newly graduated bachelor, I needed to master the English language and immunological techniques because those are keys to my future as a researcher and lecturer. I spent most of my energy and salary (it was quite modest then) to study English in the evenings and work on research techniques. At VMMU's Immunology department I translated an English book on wound healing and wound management into Vietnamese. That effort helped me gain confidence in studying and using English.

My mentor – Professor Pham Manh Hung, Head of the Immunology Department – then became Vice-Minister for Health of Vietnam and established very good international connections with other professors around the world. One of those, Professor John Bradley of Flinders University in South Australia, offered me a short training course at his department in 1998. That six-month visiting fellowship at the Immunology Department at Flinders Medical Center in Adelaide allowed me to learn immunological techniques which I later used for my research at NUS. More importantly, I gained the experience of working in an international academic environment. I believe my exposure in Australia had persuaded the NUS selection panel to award me with a research scholarship.

My supervisor in the Anatomy Department at the NUS Yong Loo Lin School of Medicine was Emeritus Professor P. Gopalakrishnakone, leader of the venom and toxin research programme. There were several PhD and MSc students doing research on snake, spider, scorpion and sea cone snail venoms, which involved venom extraction, toxin purification and characterisation, then gene cloning and recombinant toxin production. It was so exciting. I focused on immunological aspects of snake venoms and the development of an immunoassay kit for venom detection of four common venomous snakes of Vietnam. It was a research study that addressed the needs of my country.



I saw the growth of various sub-disciplines such as genomic and proteomic, as well as the introduction of many powerful technologies such as MALDI-TOF, microarray, biosensor at NUS. I wanted to learn and use many of these tools in my work. I would always be challenged by Prof Gopalakrishnone, who grilled me about the impact of such work. As a student, my answers were always yes (even though sometimes, I wasn't very confident!). Thanks to his mentoring and encouragement I wrote six chapters in my PhD thesis on different approaches of snake venom research, using three different formats of snake venom detection kit - ELISA, optical immunoassay and snake venom, and antibody microarray.

During my time in Singapore, Prof Gopalakrishnone gave me opportunities to lead by assigning me to leadership responsibilities in the lab.

My PhD work at NUS under his supervision also helped to build the foundations for the future bilateral relationship between VMMU and NUS. Thanks to his efforts, senior leaders of VMMU and the Ministry of Health of Vietnam were able to visit NUS and Singapore on academic missions. My bosses and teachers from VMMU were able to see how I was doing at NUS and they formed linkages that also helped to bring about close working relationships between NUS Medicine and VMMU. As such, when Lieutenant General Professor Nguyen Tien Binh assumed the post of VMMU director, his first trip overseas was to NUS Medicine, to get support for VMMU.

Thanks to the enthusiasm of Prof Gopalakrishnone and the kindness of Professor John Eu-Li Wong and the team at the Yong Loo Lin School of Medicine, we received financial support from Temasek Foundation and Keppel Care Foundation that enabled the collaboration between NUHS and VMMU since 2010. As an NUS Medicine alumnus I was thrilled to be able to help bring about the collaboration between both of my alma mater - NUS Medicine and VMMU.

I end by acknowledging the invaluable contribution of Prof Gopalakrishnone to VMMU, which he first visited in 2000. Subsequently, he visited VMMU every year to give lectures on immunology, toxicology and anatomy. During those lectures, he also demonstrated various teaching techniques such as active teaching and learning, problem-based learning, e-learning and simulation. In addition, he made the effort to talk to students at the English evening club to encourage them to learn English. He has made a lasting impact on all participants, inspired many students and we at VMMU are grateful for his friendship and that of NUS Medicine over the years.



Prof P. Gopalakrishnone speaking at VMMU, 2010.



Dr Le Van Dong (left) and his son posing with former head of department Prof Bay Boon Huat (right) and department staff during a visit to NUS Department of Anatomy, 2013.



Mr Krishnan on his twice-daily mail run.

## WALK A MILE IN HIS SHOES

You might have caught sight of him, hauling a black cabin bag and striding purposefully through the corridors and hallways of the NUS Medicine campus, moving from the Dean's Office in the Tower Block to University Hall on Upper Kent Ridge Road and then back again. Mr Krishnan s/o Kumaniar covers the same route twice daily, Mondays to Fridays, in all weather.

He does this as the daily despatcher for the School, delivering mail to and from the School and covering a combined distance of about 12km in 10,000 steps. He knows, because he's measured the trip out and back on his iPhone app. And if that's not enough of a workout, the 65-year-old throws in thrice weekly mail runs to the Singapore Post Office on Pasir Panjang Road. For these long haul

trips, he takes a bus – and walks some more. On those days, it's 14,000 steps by day's end.

Uncle Krishnan, as he is fondly known by staff at the Dean's Office, swears by his Nikes. He wears out three pairs every year doing the daily NUS Medicine mail run. It's a job he's been doing for as long as the School has been at Kent Ridge. "It gives me a good workout every day and I don't need any additional exercise," he chuckles.

While many people are aware that the School began at Sepoy Lines, few have direct, personal recollection of how the School was like when the heart of the institution was at the College of Medicine Building in Outram. Photographs and stories from alumni and commemorative books abound, but the man with the hearty chuckle has vivid memories of days before the School moved to Kent Ridge in 1985. He joined the School in 1974.

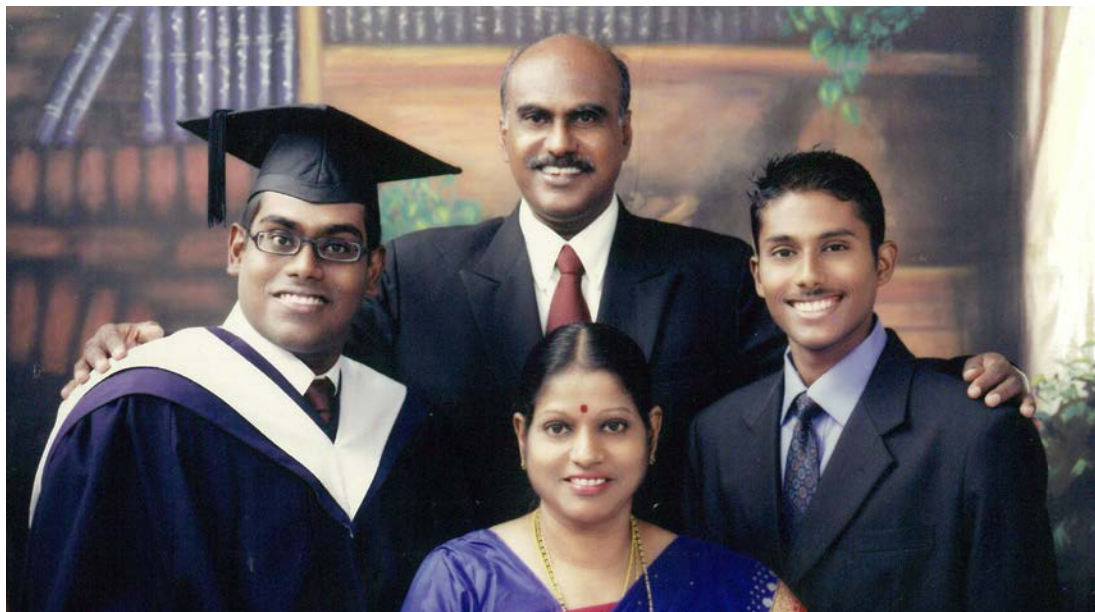
"When I first joined, we had only 10 staff in the Dean's Office. We worked closely together, everyone knew each other." He started as an administrator and the office was located on the first floor of





(Top)  
Mr Krishnan walks to Pasir Panjang Post Office thrice a week to mail registered articles. He prefers walking to taking a bus.

(Right)  
A family portrait taken in 2003: Mr Krishnan with his wife, Piremabathi, elder son Shankar (left), and second son, Murali.



the College of Medicine building. Examinations were held at the New Lecture Theatre on the third floor.

Pre-Internet, wifi, email, air-conditioning, mobile phones and all things electronic, office work literally meant getting hot and sweaty, and one's hands dirty, Mr Krishnan recalled. "Exam paper preparation, sorting, invigilation, and I was in charge of the printing of papers and meeting minutes. We had cyclostyling machines to make copies of documents for distribution. You type the words onto stencil paper and then you print. The paper was rough and I got ink on my hands all the time. No computers then," the veteran recounts with his trademark smile. "Ruby and I used to work together, she handled the coordination of materials and I collected them for printing." Mrs Ruby Foo is a colleague who began her career with the School two years earlier in 1972, and is the secretary to the Director for Administration.

"Krishnan joined us after his NS. We've worked together all these

years and I've never seen him get upset or angry. He's just such a kind man. He would go out of his way to help you," she said.

If his work is bracing, domestic life is nurturing for the confessed homebody who goes on holidays to India and Malaysia once every few years with his homemaker wife, Piremabathi – the childhood sweetheart he married 40 years ago and with whom he had two sons, Shankar, 39 and Murali, 34. Both are married: the elder is a regional manager in an oil firm and the younger is a manager in the sports retail industry.

The proud grandfather of a three-month-old boy is no couch potato: he's an active leader of the Sri Mariamman Chariot Procession, a Hindu ritual that takes place every year and which is attended by Hindu residents around the Jalan Bukit Merah area. The next time you see Mr Krishnan, give him a smile and a wave and watch him light up with that toothy grin. And then walk a mile or two with him.



Ms Lee's mother (left) accompanied her to the operating theatre for her eight-hour mastectomy and breast reconstructive surgery on March 30, 2016.

# BATTLING CANCER

A cancer patient shares about her personal struggle to cope with the disease.

New Year's Eve 2015 brought news that turned Ms Lee Siew Hoon's life topsy turvy.

A biopsy report from her breast surgeon at Mount Elizabeth Hospital confirmed that she had breast cancer. For months, the executive producer worried about a painful lump in her right armpit, though a mammogram scan earlier did not detect anything amiss.

The news left Ms Lee in a state of shock, and only when she reached home did it sink in. She was left pondering what was left of her life over the New Year.

"Even though I had a bad feeling, I never expected myself to have cancer."







It was hard to break the news to her mum, who has nose cancer, and in her 70s.

Within days, Ms Lee went for a positron emission tomography (PET) scan. It confirmed her cancer was Stage 4. It had spread to the lymph nodes near her collarbone and armpit, and the base of her spine.

Immediately on the same day, she was referred to an oncologist, who charted her treatment plan and discussed with her about the side effects that she would experience.

Over the next couple of months, she underwent a round of chemotherapy, and then mastectomy and breast reconstruction, followed by another round of chemotherapy and radiation therapy to treat her breast cancer. Soon after, she was given hormonal therapy drugs to stop her ovaries from producing oestrogen, and to prevent her

body from turning fat into oestrogen, which powers her cancer cells.

"When I started on the hormonal drug, it parachuted me into menopause without a transition, so I had very bad moods. I felt very low and had to take drugs to lift my spirits, happy pills as we call it," she said.

During chemotherapy, she also experienced periods of forgetfulness, a "mental fog" that clouds her train of thoughts. Conversations get disrupted, and fatigue sets in.

"I always tell my friends it is like a visit to hell. It's the best way I can describe chemotherapy. It's a living hell."

But cancer is as much a mental battle, as it is a physical one.

"I had to push myself and motivate myself to overcome all the side effects. In a way,

I felt very lonely during and even after the treatments. I felt that people around me don't understand what I am going through. This is one aspect which I am not prepared for. I find it difficult to connect with people sometimes."

Through her year-long battle with cancer, her close friends and family have been her constant source of support.

"Even though I was told it was a mental battle, I didn't expect it to be this tough. I am very grateful that I have a lot of friends: my Buddhist friends, my classmates, my colleagues. They send me gifts. They send me messages. They come and take me out for makan (meals). They send me soups. I think it helps in how you cope."

Siew Hoon's husband, a private tutor, is her primary caregiver.



On October 1, 2016, Ms Lee took part in her first Pink Ribbon Walk with her friends, who donned bandanas in support.

Although he accompanies Siew Hoon for her chemotherapy sessions and medical appointments, and takes care of her needs in hospital or at home, she felt that he was unable to fully comprehend what she was going through sometimes.

"Sometimes you feel very alone, because no one else can help you, not even the one closest to me, like my husband. He may see that I am suffering, but there is nothing he can do to alleviate my suffering," she said.

Still, it is a journey that the couple is willing to take on together.

"In a way, it is rediscovering each other, like how we deal with things in life. Every time I get into an emotional outburst, or feel sad, it strains our relationship. But after that we talk about it, and try to find a solution to it. It is a work in progress, because it is a new me, so it's difficult."

### I JUST LIVE EVERY DAY TO ITS FULLEST

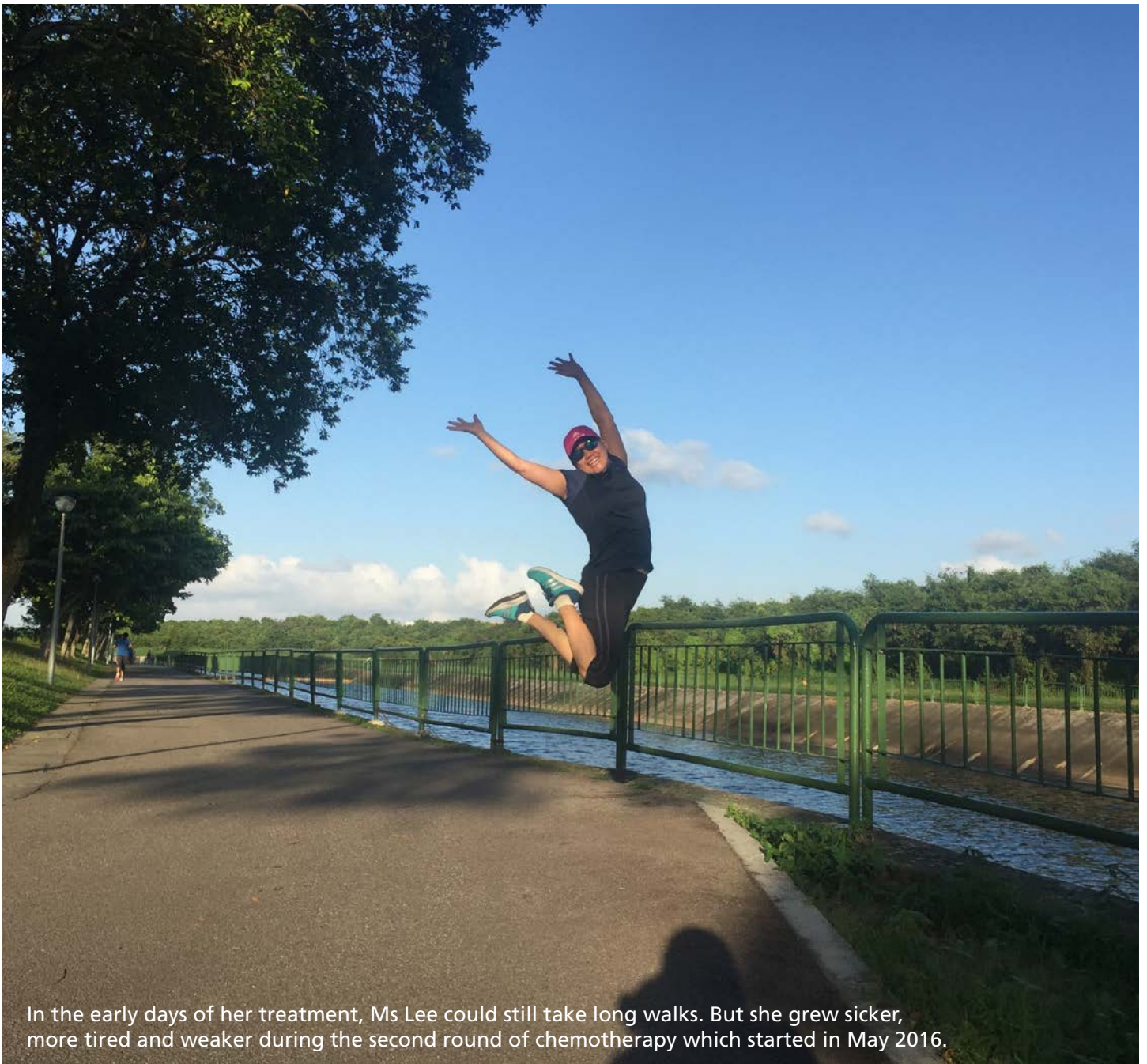
Amid the arduous battle with cancer, a silver lining: all her medical costs are fully paid for by the insurance coverage that she had bought.

Ms Lee is embarking on a new drug, which has just been approved for use in Singapore. Her oncologist told her the drug has helped women with metastatic breast cancer like hers to postpone relapse. The drug costs \$9,000 a month, but her insurance covers it.

After a hiatus of a year, she is also looking to return to work in early 2017 at broadcaster Mediacorp. She has made a will, but has stopped making plans for the long term, apart from short holidays. She spends her time exercising, copying Buddhist sutras, reading, making new friends and sharing her experience on social media to raise awareness of cancer. She also accompanied a friend to her first chemotherapy session for moral support.

"I just live every day to its fullest. I came out of cancer with a totally different attitude towards life. The only future plans I made





In the early days of her treatment, Ms Lee could still take long walks. But she grew sicker, more tired and weaker during the second round of chemotherapy which started in May 2016.

are for my funeral, I think that's important. You know a lot of us plan for birthday parties, weddings, but we almost never plan for our funerals, and it is going to leave our loved ones scrambling at the last minute on what to do. So I don't want that to happen. And for me it's like I don't know whether tomorrow will come first or my death will come first. I don't think I'm being morbid or pessimistic here, I'm just being a realist."

Ms Lee also maintains a doggedly positive frame of mind.

"Be grateful for what you have in life, and it's almost always the little things in your life, such as the ability to wake up in the morning, enjoy a simple meal, a nice book. Look for silver linings to help you get through the most difficult circumstances. It is hard to be positive all the time, allow yourself to cry when you feel in the pits, but pick yourself up again and soldier on.

"Cancer is a mental battle. So, have a religion, faith whether it is. Be strong about your faith. Accept your condition and don't ask questions like 'Why me? Why am I doing this?' There is this mantra that I learnt from a Buddhist monk Venerable Sheng Yen: face it, accept it, deal with it and let it go."

BE GRATEFUL FOR WHAT YOU HAVE IN LIFE, AND IT'S ALMOST ALWAYS THE LITTLE THINGS IN YOUR LIFE, SUCH AS THE ABILITY TO WAKE UP IN THE MORNING, ENJOY A SIMPLE MEAL, A NICE BOOK.

# PALLIATIVE CARE? NO THANKS

*By Dr Noreen Chan,  
Head & Senior Consultant, Division of Palliative Care,  
National University Cancer Institute, Singapore (NCIS)*

It is socially awkward when I am asked what my occupation is. It is never enough to say “doctor” anymore and once I mention “Palliative care specialist”, I can expect a few responses.

There’s always The Look, which could be a) bafflement (what’s Palliative care?); b) sympathy (it must be so sad); or c) sympathy mixed with admiration (that is so noble). Look A usually develops into B or C after I explain what it is that I do. After that, it’s 50-50 whether the conversation peters out.

Palliative care is often linked with death and dying, and as human beings are naturally death avoidant, they try to steer clear even if they do not know anything about Palliative care. We who work in the field understand it is all about LIVING the best and most meaningful life possible.

But the “bad rep” is hard to dispel, despite years of advocacy and awareness efforts. It remains an uphill battle, not least because of the myths and misperceptions that abound. Here are some of the more common ones:

### **PALLIATIVE CARE MEANS I AM DYING SOON**

True for some people who are referred to us very late in their disease course, but it does not have to be, as palliative care can be given at any age and any stage, alongside treatment to control the disease. In cancer, palliative care can come in with anti-cancer treatment like chemotherapy, even at the point of diagnosis.

### **PALLIATIVE CARE IS DEPRESSING**

A bereaved relative recently wrote in a thank you email “To us, your work appears depressing and we salute you for soldiering on.” That I can understand - as a loved one of someone who is seriously ill, or terminally ill, it is natural and appropriate to feel sadness, grief, helplessness, etc.. But as a healthcare professional facing sad situations, it is important to have awareness of one’s own responses – thoughts, feelings, bodily reactions – because if we find ourselves badly affected, we are the ones having the problem, not the patient.

### **PALLIATIVE CARE PROFESSIONALS ARE NOBLE**

We are fallible human beings like everyone else. Where we might be different from the majority is that we accept that our patients will die, that we enter into each patient/family relationship knowing that separation is inevitable. That isn’t the point. The point is, how do we create the conditions so that people can live in the most meaningful way in the time left?



## PALLIATIVE CARE IS COMPLICATED

Yes and No. It can be complicated because we deal with people, not diseases, and people are complicated. But few things help to bring clarity to priorities like a serious illness, or knowing that one's time is limited. Palliative care, through conversations about what matters most, is often able to help patients focus on what gives them the most meaning. So in that sense, sometimes Palliative care simplifies.

## PALLIATIVE CARE MEANS YOU ARE GOING TO GIVE ME MORPHINE

Only if you need it, and only if you agree with the recommendation. Same goes for any treatment.

## PALLIATIVE CARE IS FOR PEOPLE WITH CANCER

Palliative care is given on the basis of need, and not age, diagnosis nor timing. The modern concept of palliative care did develop around the needs of patients dying of advanced cancer, but in the last 50 years, it has evolved. People living and dying with non-cancer diseases can suffer terribly too.

## PALLIATIVE CARE MEANS STOP EVERYTHING, THERE WON'T BE ANY TREATMENT

This is a common myth that was "busted" by Atul Gawande in his book "Being Mortal". Palliative care means aligning treatment to patient goals. If the goal is quality of life, then treatments that do not work and may even disrupt one's quality of life, should be stopped. Treatments that enhance or maintain quality of life should be started or continued. So a cancer patient on chemotherapy which is causing bad side effects would be advised to stop that particular treatment. A heart failure patient who needs diuretics to manage fluid retention would be advised to continue.

## PALLIATIVE CARE IS FOR OLD PEOPLE

See above. As one of a handful of palliative care specialists who see children as well as adults, I can say with confidence that youngsters can benefit from palliative care too. The main difference is that children's diseases may run a much longer course, and so we talk about them having "life-limiting illnesses", meaning they may not survive until adulthood (or much beyond young adulthood). Also, in Paediatric Palliative Care, the family is an essential part of our focus of care, not just parents and siblings, but often grandparents too.

Even if the patient is an adult, Palliative care will always encompass the family in its circle of care, especially children and young adults. There are services and programmes such as Camp Simba which support children whose parents have cancer.

## PALLIATIVE CARE IS HARD

Sometimes true, but not for the reasons one might think. There is never any "bread and butter" because everyone is different. We need to "bring our game" every time we see the patient, be fully present to them and their needs. We need to recognise the potential in the worst situations, and when we can and cannot, "fix" things. And we need to try and get it right the first time, because there may not be the luxury of time, nor a second chance to go over and do it again.

So there are many myths, but there is one truth. Not all of us will get cancer, or diabetes, or stroke, not all of us will have a chance to grow old. But we are all born, and we will all die. In the 21st century, that will likely be of a chronic progressive illness (or combination of illnesses) which may run a protracted course.

Many of us will experience the stress and fulfilment of caregiving, and worry about being a burden to others when our time comes. We may worry about how to cope, whether there will be pain and suffering, how to talk to the children ... Palliative care is there to help with all that and more.

## WHITE WATER RAFTING AND PALLIATIVE CARE BY BRUCE DAWE

*If I had understood (when down the river  
you and I went swirling in that boat)  
that there were those who knew the ways of water  
and how to use oars to keep afloat  
– I might have been less deafened by the worry,  
less stunned by thoughts of what lay up ahead  
(the rocks, the darkness threatening to capsize daily),  
if I had only realised instead  
that help was all around me for the asking  
– I never asked, and therefore never knew  
that such additional comfort could have helped me  
in turn to be more help in comforting you.*

*I'd have found it easier then to simply hold you  
instead of bobbing to and fro so much,  
for it was you who seemed to be more tranquil  
– and I who death was reaching out to touch.*

*If only I had had sufficient knowledge  
in that white-water rafting I'd have learned  
that there are those around us (with life jackets)  
to whom I might have, in that turmoil, turned.*

*Instead, because I had not thought of rivers,  
or rocks, or rapids, and gave way to fears  
that seeking help might make a man less manly  
and liable to betray himself with tears,  
I was less useful then, as twilight deepened,  
that I might well have been, had I but known:  
however wild the waves that roll around us  
– no one needs to live (or die) alone ...*



### ETHICS REVISITED THE NEW MEDICAL CODE – WHAT HAS CHANGED?

*By Professor Alastair V. Campbell,  
Emeritus Director, Centre for Biomedical Ethics*

On January 1, 2017 the latest version of the Singapore Medical Council's Ethical Code and Ethical Guidelines (2016 ECEG) came into force, and accompanying it is a comprehensive Handbook of Medical Ethics, which is designed to provide more detail on best practice in following the Code and Guidelines. The previous version of the ECEG was published in 2002, since which a great deal of change has occurred in medicine and in the delivery of health care. The process of producing these new documents took more than five years, since it entailed a series of drafts with multiple rounds of consultation with, and feedback from, the medical community. The overall aim was to produce guidance that would ensure the full protection of patients and the public, while being fair to doctors, by not making unreasonable demands that could lead to unjustified medical litigation. The drafts were produced by a small working committee of nine members, chaired by Dr Tan Chi Chiu, the Chairman of the Medical Ethics Committee of the SMC. I was a member of the working committee, as were three other colleagues

from our Medical School, Professor Lee Eng Hin, Professor Chew Chin Hin and Associate Professor Roy Joseph.

So what has changed since 2002? Actually quite a lot, but in this short article I will mention only a few significant changes.

Firstly, we live in the age of the internet and social media. This means that patients are much better informed (though also in danger of getting false or misleading information), and that doctors can use a variety of modes of communication with patients, with the public and with colleagues. So the new code gives detailed guidance on how to share information in these different contexts appropriately, as well as how to ensure fully informed consent. There is also a major new section on telemedicine, and advice on the use - and dangers - of social media.

Secondly, there has been a massive increase in aesthetic practice, including in primary care settings. The new Code lays down clear requirements for adequate consent and for a cooling off period before any major procedures are carried out.

Thirdly, there is an increasing awareness of the need to respect the wishes of young people, even although they may be legally under the age of consent. This is reflected in a whole new section detailing the requirements for consent from both minors and persons with diminished capacity. The emphasis here is on respect for these patients' choices within the limits of their competence.

Finally, there is now a much more open and honest approach than there was in the past to the care of patients at the end of their lives. The new Code stresses the need to respect and enhance the autonomy of the dying patient, through good and honest communication, by respecting the decisions of patients who wish no further treatment, and by avoiding non-beneficial or harmful interventions in the terminal stages of their illness.

There are many more parts of this comprehensive document that I cannot deal with here. I strongly recommend downloading all of the ECEG and the Handbook from the SMC website to use as a reference when you have uncertainty about the right thing to do in your professional life. It is true, of course, that Ethical Codes do not ensure ethical behaviour – that depends on the genuine ethical commitment of each individual practitioner. But these new documents point out very clearly the best route to such good medical practice, and they provide a rich educational resource to help to stay on that route despite the realities and pressures of modern clinical practice.



## SCHEDULER

# FEBRUARY – APRIL

Date	Event & Venue
Feb 9	<b>Workshop: Grant Writing</b> Seminar Room T07-03, Level 7, NUHS Tower Block
Feb 21-22	<b>Workshop: Fundamentals</b> Centre for Healthcare Simulation, Level 3, Centre for Translational Medicine (CeTM), NUS
Feb 24	<b>Workshop: Debriefing</b> Centre for Healthcare Simulation, Level 3, Centre for Translational Medicine (CeTM), NUS
Feb 24	<b>Lunch Talk: The Role of Interprofessional Education (IPE) in Patient Safety</b> Seminar Room T08-03/04, Level 8, NUHS Tower Block
Feb 25	<b>Family Medicine 30th Anniversary Dinner</b> Orchard Hotel
Feb 27	<b>Oon Chiew Seng Distinguished Visitor Programme</b> <b>Public Lecture: Lifestyle Strategies for Dementia Prevention</b> Auditorium, Level 1, NUHS Tower Block
Mar 1	<b>Oon Chiew Seng Distinguished Visitor Programme</b> <b>Lunchtime Scientific Lecture: The Connections Between Sleep and Risk of Dementia</b> Auditorium, Level 1, NUHS Tower Block
Mar 11	<b>NUS Open Day</b> University Town, NUS
Mar 25-26	<b>Workshop: The Anatomy of Complications</b> Advanced Surgery Training Centre, Level 2, NUH

# FEBRUARY – APRIL

Date	Event & Venue
Mar 28	<b>7th Annual Graduate Scientific Congress (AGSC) &amp; Career Day</b> Auditorium, Seminar Room T01/02, Exhibition Area & Staff Lounge, NUHS Tower Block
Mar 31	<b>NUS Medicine Awards Ceremony 2017</b> Staff Lounge, Level 1, NUHS Tower Block
Apr 4	<b>Workshop: Lipidomics Introduction</b> Centre for Life Sciences (CeLS), NUS
Apr 5	<b>Workshop: Learning Outcomes and Entrustable Professional Activities (EPA)</b> Multi-Purpose Hall 1, Level 3, Tahir Foundation Building, MD1, NUS
Apr 6-8	<b>3rd Congress of The Society of Endometriosis and Uterine Disorders</b> Suntec Singapore Convention & Exhibition Centre
Apr 6	<b>Workshop: Teaching &amp; Learning Strategies for Healthcare Professionals in the New Millennium</b> Multi-Purpose Hall 1, Level 3, Tahir Foundation Building, MD1, NUS
Apr 17-18	<b>Workshop: Effective Course Design for Health Professional Education</b> Multi-Purpose Hall 3, Level 3, Tahir Foundation Building, MD1, NUS



# To shape the future of medicine, we're all ears.

The NUS Yong Loo Lin School of Medicine trains the nation's best and brightest to be competent and compassionate medical professionals. That is why our students listen attentively to the patient. To be ready for the future, we keep our ears close to the ground.

## Asia's Leading Medical School

Times World University Rankings 2016 / 2017

QS World University Rankings by Subject 2016



Yong Loo Lin  
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