

evidence **PLUS**



RAISING *Standards* VIA *Smart* SOLUTIONS

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Assessing patients' suitability for oral feeding

6

EDUCATION

Sharing best practices for dialysis care

8

RESEARCH

Finding a new cure for tuberculosis

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COMMUNITY

Recruiting senior volunteers

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evidence plus

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National University Health System Pte Ltd

1E Kent Ridge Road, NUHS Tower Block
Singapore 119228

Email: evidence@nuhs.edu.sg

Website: nuhs.edu.sg

Editorial Committee

Eva Ho	Sylvia Fong
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INSTITUTIONAL NEWS

Tribute to Healthcare Heroes

The annual Healthcare Humanity Awards honours healthcare workers who exemplify exceptional qualities and dedication in helping others. Congratulations to the following nurses who received the award this year:

Mariamam Sukumaran
Nurse Manager,
Choa Chu Kang
Polyclinic

Clarice Wee
Advanced Practice
Nurse, NTFGH

Rahimah Binte Bahri
Nurse Manager,
NUH

Darren Goh Zhongwei
Advanced Practice
Nurse, NUH



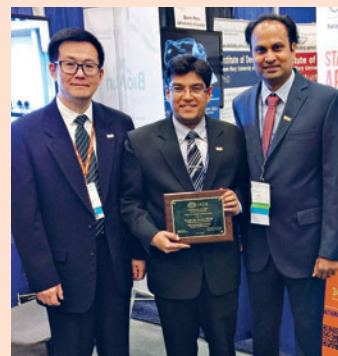
▶ NUS Dentistry Students Win Prestigious Award

Two PhD students from the NUS Faculty of Dentistry received prestigious awards from the International Association for Dental Research (IADR) at its meeting in March 2017.



Dr Preethi Prajod (left) with her supervisor Dr Jaya Seneviratne (right).

Dr Preethi Prajod, a second-year PhD student under the supervision of Dr Jaya Seneviratne (primary supervisor) and Assoc Prof Wong Mun Loke (co-supervisor), received the IADR/Colgate Research in Prevention Award for her work on "Metagenomics of oral microbiome during pregnancy and the postpartum period".



Mr Kassapa Ellepola (centre) with his supervisors Assoc Prof Cao Tong (left) and Dr Jaya Seneviratne (right).

Mr Kassapa Ellepola, a final-year PhD student under the supervision of Dr Jaya Seneviratne (primary supervisor) and Assoc Prof Cao Tong (co-supervisor), received the IADR Lion Award for his work on "Streptococcus mutans GtfB augments Candida albicans accumulation in mixed-species biofilms".

Saluting 'Safety First'

The NUS Saw Swee Hock School of Public Health received an Excellence Award for its efforts to reduce on-site accidents.

NUS gives out the annual NUS Safety & Health Awards (NUSSHA), formerly known as ASHPA, to recognise Departments, Research Centres/Research Institutes, Administrative Offices and Halls of Residences that have implemented an effective department safety and health management system to help reduce accidents and incidents.

This year's ceremony was held on 20 April 2017. The Saw Swee Hock School of Public Health was presented with the Excellence Award. One of the criteria that this award's winners must fulfil is to bring about sustainable safety and health improvements through at least one innovative project within the department, or in partnership with other departments. Only departments that have earned a Commendation Award for two consecutive years are eligible for the Excellence Award.



Assoc Prof Chia Sin Eng, Vice Dean (Academic Affairs) of NUS Saw Swee Hock School of Public Health receiving the Excellence Award at the NUS Safety and Health Awards Ceremony from NUS President Professor Tan Chorh Chuan (right).



Assoc Prof Kelvin Foong (third from right), along with NUS Senior Management, Executive Committee members of the Teaching Academy and other newly-inducted Fellows at the University Awards 2017 ceremony.

Joining the Ranks

Associate Professor Kelvin Foong inducted as Fellow of NUS Teaching Academy.

Assoc Prof Kelvin Foong, Orthodontics and Paediatric Dentistry Discipline Director at the NUS Faculty of Dentistry, has been appointed an NUS Teaching Academy Fellow.

The induction took place at the University Awards 2017 ceremony on 28 April 2017. The NUS Teaching Academy was established in 2009 to promote excellence in teaching and learning, and to enhance the teaching environment within the University. New Fellows are inducted annually for a period of three years each.



Towards a More Secure Campus

JurongHealth Campus acknowledged for its efforts in keeping its surroundings safe from crime.

The Ng Teng Fong General Hospital (NTFGH) and Jurong Community Hospital (JCH) make up part of J-walk, a network of elevated public walkways in the Jurong Lake District. These high-traffic areas are prime targets for petty crimes, as well as large-scale attacks. Playing a part in keeping the neighbourhood and its premises safe for patients, visitors and staff, JurongHealth Campus became the first healthcare partner for the nationwide SGSecure movement. In recognition of its efforts, the group was presented with an Outstanding Community Partnership award by the Clementi Police Division.

Zulkifli Bin Rahmat, Senior Manager, Security & Transport, NTFGH and JCH (right), receiving the Outstanding Community Partnership Award from Senior Assistant Commissioner Gerald Lim, Commander, Clementi Police Division, on behalf of JurongHealth Campus.

Welcome On Board

New NUHS Board

The NUHS Board was newly constituted on 1 April 2017, with six new members joining from the Jurong Health Services (JurongHealth) Board. This brings the total number of members to 16. Four members, Dr John Chen, Mr Patrick Daniel, Mr Philip Su and Mrs Sylvia Lee, who have served since 1 April 2011, have stepped down from the NUHS Board.

The new members are:

- + **Mr Hsieh Fu Hua**
Chairman, Jurong Health Services Pte Ltd and Chairman, NUS Board of Trustees
- + **Mr Paul Chan**
Chairman, Integrated Health Information Systems
- + **Mr Vincent Chin**
Senior Partner & Managing Director, Boston Consulting Group
- + **Mr Latiff Bin Ibrahim**
Consultant, Ramdas & Wong
- + **Mr Lim Joo Boon**
Chairman, Singapore Turf Club
- + **Mrs Tracey Woon**
Vice-Chairman (Wealth Management), Asia Pacific UBS AG

New Appointments at NUHS

- + **Dr Keith Lim** has been appointed Group Chief Value Officer. He will be working with GCMIO and GCFO and Institutional representatives in developing our Value Driven Outcomes initiative across NUHS. Dr Lim is a Senior Consultant in the Department of Radiation Oncology, National University Cancer Institute, Singapore (NCIS) and was Assistant Dean (Education), NUS Medicine.
- + **Adj Prof Goh Boon Cher** will be leading a new office focusing on developing Physician Leaders for all our institutions. He is immediate past Head of Hematology-Medical Oncology, NCIS and Deputy Director, Cancer Science Institute, NUS.

New Heads of Department

We are pleased to announce the following new appointments:

- + **Prof Krishnakumar Madhavan**
Chair, University Surgical Cluster, NUH
- + **Assoc Prof Lee Soo Chin**
Head, Department of Haematology-Oncology, NCIS
- + **Assoc Prof Lee Yung Seng**
Head, Department of Paediatrics, NUH and NUS Medicine
- + **Assoc Prof Su Lin Lin**
Vice-Dean (Academic Affairs), NUS Medicine

New Medical Sciences Cluster at NUS

The new Medical Sciences Cluster at NUS Yong Loo Lin School of Medicine (NUS Medicine), comprising the Departments of Anatomy, Biochemistry, Microbiology & Immunology, Pharmacology and Physiology, was formed on 1 June 2017. The Cluster's aim is to build a stronger identity in the basic sciences and improve strategic coordination and synergies for research and education. It is led by Cluster Chair **Professor Hooi Shing Chuan**, assisted by Deputy Chair **Associate Professor Maxey Chung Ching Ming** and the respective Heads of the five basic science departments of NUS Medicine.

A Shared Vision for the Future

NUHS leaders gathered to exchange ideas and strengthen working bonds at a one-day retreat.

With the recent re-organisation of the public healthcare system, the NUHS family has grown in size and assumed greater responsibilities. A one-day NUHS Senior Management retreat "OneNUHS Visioning and Identity Session" was held on 8 April 2017 to start the conversation about a shared vision and to prepare the organisation for the challenges ahead. Attendees included senior management from all of NUHS' entities, including those from the JurongHealth Campus, the new National University Polyclinics and the upcoming Alexandra Campus.

Some 140 key opinion leaders were engaged in the conversation to build the OneNUHS Identity. The facilitated session saw groups – each made up of staff from different entities – discuss and develop collective views about the unique strengths of the new NUHS and some of the desired values they would like to see adopted in OneNUHS.

An overwhelming majority of the groups (88 per cent) saw NUHS' close linkage with NUS as a major differentiating factor that sets it apart from other clusters, and one that can be leveraged to

push the new NUHS further. The Alexandra Campus will serve as a test bed to help develop better models of care.

The organisation will also be better able to impact community health through community-centric programmes, bundled care and preventive care outreach, as NUHS is now complete with primary care facilities (NUP), as well as acute and community hospitals.



The four HORIZONTAL WORK STREAMS and the INTEGRATION COMMITTEES which each work stream covers:

	Polyclinics	GP/FMC/ Care-Hub/ ICC	Clinical Stds & Care Plan	Ops & Procurement	HR	Finance & Risk Mgt	Infra	Legal	Comms	IT/MIO
Group Structure (Prof John EL Wong)										
Clinical model of care, care path, right siting (Assoc Prof Yeoh Khay Guan)										
Shared Services (Mr Foo Hee Jug)										
Sustainability (Ms Wong Soo Min)										

Integration Committees

With the integration of the various institutions within the new NUHS, 10 Integration Committees have been formed:

Polyclinics

- + **Mr Chua Song Khim**
Deputy CE, NUHS
- + **Dr Lew Yii Jen**
CEO, National University Polyclinics (NUP)

GP Networks/FMCs/PCN/CareHub/ Institutional Community Care

- + **Mr Chua Song Khim**
Deputy CE, NUHS
- + **Mr Foo Hee Jug**
Deputy CE, NUHS and CEO,
Ng Teng Fong General Hospital (NTFGH)

Clinical Standards and Care Plan

- + **Prof Quek Swee Chye**
Chairman Medical Board (CMB),
National University Hospital (NUH)
- + **Assoc Prof Cheah Wei Keat**
CMB, NTFGH

Operations and Procurement

- + **Mr Noel Cheah**
Chief Operating Officer (COO), NUH
- + **Mr Ng Kian Swan**
COO, NTFGH and Jurong Community Hospital (JCH)

Human Resources

- + **Mr Stephen Chong**
Group Chief Human Resource Officer, NUHS
- + **Ms Anna Fok**
Chief Human Resource Officer, NTFGH and JCH

Finance and Risk Management

- + **Ms Wong Soo Min**
Group Chief Financial Officer, NUHS
- + **Ms Chow Siew Ying**
Chief Financial Officer, NTFGH and JCH

Infrastructure

- + **Ms Grace Chiang**
Group Chief Infrastructure Officer, NUHS
- + **Mr Tan Tai Soon**
Director, Hospital Planning, NTFGH and JCH

Legal

- + **Mr Simon Cheong**
Group General Counsel, NUHS
- + **Ms Jacqueline Loh**
Principal Legal Counsel, NTFGH and JCH

Communications

- + **Ms Eva Ho**
Group Director, Communications, NUHS
- + **Ms Casey Chang**
Director, Communications and Service Quality,
NTFGH and JCH

Informatics and Medical Information

- + **Ms Hooi Ka Mei**
Group Chief Information Officer, NUHS
- + **Mr Lim Soo Tong**
Chief Information Officer, NTFGH and JCH
- + **Assoc Prof James Yip**
Group Chief Medical Informatics Officer, NUHS
- + **Adj Assoc Prof Gamaliel Tan**
Chief Medical Informatics Officer,
NTFGH and JCH





NUHS Dy CE Mr Chua Song Khim and NUH senior management at Wards 2 & 3 of Alexandra Hospital on 5 June 2017 when they opened.

Moving Towards a New Model of Care

Alexandra Hospital's transformation looks set to start with first movers.

NUH Wards 2 and 3 @ Alexandra opened on 5 June 2017 with a total of 66 beds. This is an expansion of NUH's inpatient facilities to meet the growing demand for healthcare services. These two wards will also provide the platform for NUHS to pioneer new models of care ahead of NUHS operating the Alexandra Hospital in 2018. Patients assessed by NUH's doctors to meet the clinical criteria will be admitted to these wards, and managed by the NUH clinical teams deployed there. In addition, the heritage hospital provides a conducive environment for the patients to continue their recovery journey with NUH.

More than a dozen administration and ancillary staff from HR, Operations & Administration, had begun moving in too, to lay the groundwork for the eventual takeover of the hospital (see photo on



right). The team had stepped up last year to work closely with the Ministry of Health on the feasibility study on the overall masterplan, which involves pioneering new and innovative care models that can better support and integrate community healthcare.



Wellbeing At Heart

The Health, Safety and Wellbeing (HSW) Day was held on 26 April 2017 at the NUS Saw Swee Hock School of Public Health. It aimed to:

- + Promote and maintain the highest degree of physical, mental and social wellbeing of all in SSHSPH.
- + Provide a positive safety, health and environment learning experience, and model best practices for student programmes.



Provost of NUS Prof Tan Eng Chye (extreme left) with the School's Health, Safety & Wellbeing Committee (HSWC).

Raising Standards via Smart Solutions

NUHS' Value Driven Outcomes (VDO) initiative taps on technology to provide desirable healthcare at rationalised costs.

Healthcare institutions often grapple with rising costs, while seeking to provide the best care possible. To achieve an optimal balance, the National University Health System (NUHS) has adopted the Value Driven Outcomes (VDO) initiative, which takes a holistic approach to cost, quality and patient service. This simple yet transformative tool earned NUHS a win at the National Health IT Excellence Awards 2017 (see box) for the 'IT Excellence: Beyond Quality to Value' category.

Under the VDO initiative, value is computed based on two components – quality of care and the cost of resources required to achieve that level of care. To mine and measure this information, NUHS has developed an informatics solution. Technology is used to collect, aggregate and analyse patient data, as well as financial and quality performance on a continuous basis. Examples of quality measures include the timeliness of antibiotics administration and speed of recovery of patients after surgery. The informatics solution is now used at National University Hospital (NUH), where collected data is shared across departments within the hospital, facilitating a holistic and longitudinal view of patient care among healthcare professionals.

WIN-WIN FOR ALL

Since the VDO initiative's implementation, better outcomes have been achieved at lower incurred costs. Patients can be confident that the treatment and care received are based on evidence and best practices. Meanwhile, healthcare professionals are empowered to make more informed and patient-centric decisions. They also work in better-coordinated teams when information and learning points are shared across departments. For example, when clinical decision-makers know which doctors are providing the most effective care for patients, they can identify best practices and incorporate these as standard processes.

“Clinicians currently have no idea how much it costs to deliver excellent care. Even if care is excellent, how would we know unless we measure it and can compare it? Even when we measure excellent care and can compare it, it would not be excellent care unless our patients say it is so.”

Assoc Prof James Yip,

Group Chief Medical Information Officer, NUHS



Health Minister Mr Gan Kim Yong (left) with award winners Dr Keith Lim (centre) and Assoc Prof James Yip

“As healthcare professionals, it is our responsibility to ensure that our patients get the best possible care. By monitoring value driven outcomes, we are able to determine what quality of care patients are receiving and at what cost to the health system. This ensures we are doing the right things rightly.”

Dr Keith Lim,
Group Chief Value Officer, NUHS

NUHS learnt about the VDO initiative from the University of Utah Health Sciences in the United States, and is the first local healthcare cluster to adopt it. The concept of VDO has since been shared with all public healthcare clusters in Singapore. Employees from institutions within NUHS are also encouraged to suggest VDO projects and improvements.

IN NUMBERS

After the VDO initiative was implemented at NUHS for patients who had undergone total knee replacement:

- + The percentage of patients who required a post-operative blood transfusion fell from **26 per cent** to **3 per cent**
- + Median savings of **\$955** per patient was achieved

WINNING IDEAS

Organised by Integrated Health Information Systems (IHIS), the annual **National Health IT Excellence Awards** recognise initiatives that achieve healthcare excellence through information technology. There are five categories — four for public organisations and one for private healthcare institutions.

“Use data to drive more value in our healthcare system will be one key priority. A good example is NUHS' ongoing VDO project, which is also one of the winning projects today. By collecting, benchmarking and analysing various quality and cost indicators, and providing the data to healthcare professionals, it enabled them to identify cost-effective clinical practices, reduce unnecessary variations and improve both cost and quality outcomes.”

Minister for Health Mr Gan Kim Yong, who presented the awards at the National Health IT Summit 2017 on 30 May 2017.

A Test to Swallow

New screening protocol assesses ICU patients' suitability for oral feeding.

When can intensive care unit (ICU) patients resume oral feeding after their mechanical ventilators, or breathing tubes, are removed? While there were no formal guidelines previously, nurses now have a better gauge with a protocol developed by a National University Hospital (NUH) team led by Dr See Kay Choong, Head and Consultant at the Division of Respiratory and Critical Care Medicine. As part of the procedure, nurses trained by speech therapists administer a 'swallow test' where they feed patients some water and check for signs of choking. Only those who pass it would be put on an oral diet. "Patients should be encouraged to resume oral feeding as soon as they are ready. Tube-feeding is artificial, increases nursing and family care needs, as well as costs and length of hospital stay," said Dr See.

A study conducted by the team also found that 77 per cent of surveyed patients resumed oral feeding after discharge from the ICU — up from 61 per cent — since the protocol was implemented in NUH in 2014. In addition, the frequency of pneumonia cases after the removal



of the breathing tube also halved from 16 to eight per cent. The study findings were published in the *Critical Care* journal.

The protocol was presented at the 4th SGAnzics Intensive Care Forum in April 2017. The biennial conference is a collaboration between the Society of Intensive Care Medicine (Singapore) and the Australian and New Zealand Intensive Care Society (Anzics).



Magic in the Wards

A community theatre project brings fantasy characters to life for young patients.

Twice a month, the paediatric wards at NUH get transformed into a fairy-tale land as fantasy characters bring music and cheer to young patients. This is part of 'Sing Me A Story @ NUH' that was launched by music theatre specialist Sing'theatre as part of its 10th anniversary celebrations. This community project started in April 2017 and will run till the end of the year.

Bringing interactive musical performances straight to the beds, the cast dresses and acts as superheroes, princesses and pirates. The songs performed include those from movies, Disney films and pop artists. As an extra perk, young patients get to interact and spend one-on-one time with the characters. Parents are also invited to join in the fun and sing along. "Seeing the smiles and laughter

that we brought to all the children at the pilot run was so rewarding and humbling," said Mr TJ Taylor, Creative Director of Sing Me A Story and Head Teacher of the Sing'theatre Academy. "It gave us renewed passion to make this project as exciting as possible for all the children going through these extraordinarily tough circumstances at such a young age."



Don't Run Any Risk

Anyone about to engage in strenuous activities should go for a pre-participation screening.



You might be raring to go for an upcoming marathon with your fancy fitness gear and state-of-the-art shoes all packed and ready for action. But top on your checklist should be a pre-participation screening (PPS), said Dr Yeo Tee Joo, consultant cardiologist at the National University Heart Centre, Singapore (NUHCS). His advice is applicable to anyone who is planning to engage in strenuous activities, regardless of age, gender or fitness level.

Dr Yeo's recommendation came in light of several cases in recent years, where participants collapsed during sporting events. Early screening is especially crucial, as up to 80 per cent of people who die suddenly do not show any prior warning symptoms nor have a family history of heart conditions. The good news is that PPS has been found to identify more than 90 per cent of potentially life-threatening heart diseases. At-risk individuals will then be able to manage their condition and minimise the threat of sudden cardiac arrests.

Available in most local hospitals, PPS generally involves an electrocardiogram, a treadmill test, a chest X-ray, as well as blood and urine tests. The sports medicine physician or cardiologist will also ask questions on personal and family medical history, to identify symptoms and risk factors. The entire screening usually takes only a few hours with results available within two weeks.



Prof Chng Wee Joo (right) with his patient, Mr Edmund Tai, who took part in the trial.



Keeping an Eye On it

Elderly glaucoma patients get help with sticking to their medication routine from an innovative wearable.

A poor memory often leads to day-to-day inconveniences such as misplacing things. But for glaucoma patients, forgetting to use their daily eye drops could mean an eventual loss of sight. This is a common problem faced by elderly patients. The EyeDEA, or 'eye drops electronic alarm', was thus conceived in 2016 by a team of doctors, staff and a medical student from NUS and NUH.

Currently in the pilot phase, EyeDEA is a two-in-one card and wearable that tracks the usage of eye drops when patients scan QR codes on the medication bottles, and vibrates at intervals to remind them when to use the eye drops. The team spent about \$100 on the prototype and said that the cost of the wearable will be even cheaper when it is mass-produced. The team was one of three winners of the inaugural Grants4Apps Singapore challenge, a region-wide programme organised by Bayer Pharmaceuticals and NUS Enterprise.

A Winning Combo

A new combination therapy has been found to double multiple myeloma survival rates.

Researchers found positive results at a recent clinical trial that tested a new drug combination on patients with end-stage multiple myeloma — a rare and incurable cancer of the blood. The trial recruited 136 multiple myeloma cancer patients from Singapore and Asia. The results of the trial showed that about 50 per cent of the patients had their survival rates prolonged to 14 months or longer, which was more than double their previous average survival rate.

Led by Professor Chng Wee Joo, Centre Director and Senior Consultant, National University Cancer Institute, Singapore (NCIS), the first clinical trial, known as AMN 001, was initiated by NCIS. It was a study of administering Pomalidomide and Dexamethasone drugs in patients who have failed existing standard treatments available in Asia.

The trial was conducted through the Asian Myeloma Network (AMN) formed by investigators from Singapore, Hong Kong, China, Taiwan, Thailand, Japan and Korea, with support from the International Myeloma Foundation.

NCIS is an international leader in the field of treatment and research on multiple myeloma. The AMN is a culmination of three years of work that provides concrete evidence that clinical trials can be conducted in a multi-centre, multi-country setting.

On what the AMN hopes to achieve, Prof Chng said, "The AMN allows us to study treatments of myeloma that will be relevant to Asian patients and provide early access to good drugs that are deemed too expensive for our patients. We have plans to start three more clinical trials using other new and effective drugs in combinations."

Rehab on the Go

Smart Health TeleRehab is convenient for patients and boosts healthcare professionals' productivity.

Stage 1
Therapist Prescribes Exercise

Therapist tailors programme according to patient's needs. Customisable features include:

- 40 1 Exercise selection - over 40 available
- 2 Levels of difficulty
- 3 Exercise angles
- 4 Timing of 'hold' position
- 5 Number of repetitions

Stage 2
Caregiver/Patient Set Up Exercise

- 1 Patient/caregiver switches on tablet, clicks on Smart Health TeleRehab application, and taps "Play" icon
- 2 Patient puts on sensors on the limb and neck, with caregiver's help if necessary, and taps "tick" icon

Easy to set up, easy to use

Sensors have 99.98% accuracy

Available in five languages, English, Mandarin, Bahasa Melayu, Tamil and Tagalog

Smart Health TeleRehab: This two-stage system ensures convenience, cost savings and better patient outcomes.

With Smart Health TeleRehab, patients recovering from stroke and musculoskeletal conditions can now engage in rehabilitation exercises conveniently at home and at their preferred time. Under the system, wearable sensors detect and measure the motor movements of patients, who can get immediate feedback on whether they are doing the exercises correctly. Features include a video-conferencing option for patients to consult therapists remotely. Therapists can also customise the exercise programme and assess patients' progress through smart dashboards.

Smart Health TeleRehab was developed by the National University of Singapore (NUS)'s Department of Electrical & Computer Engineering and the Saw Swee Hock School of Public Health, and has been implemented at NTUC Health and TOUCH Home Care. It will be rolled out as a national pilot under Singapore's Smart Nation initiative by Integrated Health Information Systems (IHIS) and a NUS start-up called T-Rehab. By end-2017, it will also be available at several hospitals and community healthcare centres, including NUH, Ang Mo Kio-Thye Hua Kwan Hospital and Home Nursing Foundation. Senior Minister of State for Health Mr Chee Hong Tat, during a visit to a Smart Health TeleRehab user's home in May 2017, stated that: "Patients will benefit from greater convenience, cost savings and better outcomes. Therapists and therapy service providers will also benefit from the productivity improvements."

A Combined Approach

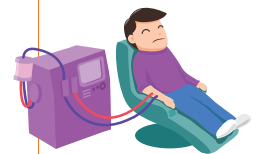
Renal practitioners from the region gathered in Singapore to share best practices and improve dialysis care.

Six of the top 10 countries with the world's highest incidences of end-stage renal failure (ESRF) are from Asia, according to the US Renal Data System. Given the low chance of finding a kidney donor, many patients rely on dialysis for survival. Despite its prevalence, quality of dialysis access care in the region is still unsatisfactory. To tackle this problem, delegates from 17 countries and regions gathered in Singapore for the inaugural pan-Asian dialysis access-focused meeting. Held on 31 March and 1 April 2017 at the NUS Yong Loo Lin School of Medicine (NUS Medicine), the



meeting was also a chance for delegates to learn best practices from international renal experts from Australia, Germany and the US.

Organised by Dialysis Access Synergy, the meeting also saw strong participation from local hospitals, among them Changi General Hospital, Khoo Teck Puat Hospital, Ng Teng Fong General Hospital, National University Hospital (NUH), Singapore General Hospital and Tan Tock Seng Hospital. Professionals from community dialysis services like the National Kidney Foundation also attended.

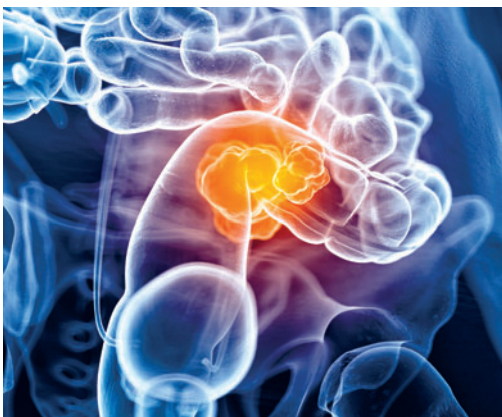


SINGAPORE and MALAYSIA have the highest incidence of diabetes-induced ESRF among all countries in the US Renal Data System's registry.

Combating Colorectal Cancer



More than 90 medical professionals and students gathered for the 2nd NUH Singapore Colorectal Cancer Symposium held on 26 and 27 May 2017. This year, the conference explored multidisciplinary management of metastatic colorectal cancer. Over the two days, presenters shared knowledge and best practices about a variety of topics, including chemotherapy, cancer detection and palliative care. The oncology fraternity also strengthened bonds at the Faculty & Symposium Dinner, which ended the first day of the conference.



Dr Brian Kennedy (1st from right) was moderator for the Session: The Future of Asia which was led by Professor Kishore Mahbubani (centre) and Dr Beh Swan Gin (1st from left).

Ready for the Future

The NUS Medicine International Council Conference offered the future of healthcare.

Themed "Future-Ready Asia", the NUS Medicine International Council Conference offered speakers the opportunity to engage in dialogue over topics addressing the future of Asia, new frontiers in medicine, embracing disruptive innovation, mitigating the global silver tsunami, global politics, and tackling sustainability for the future. Held between 20 and 22 April 2017, the conference attracted international business leaders, academics and multi-disciplinary experts. The event kicked off with a welcome dinner at the Fullerton Hotel, where National University Health System Chief Executive Professor John Eu-Li Wong also delivered the opening address. Titled "Health Challenges in Asia", it gave delegates insights into pressing healthcare problems that the entire region faces.

+ A NETWORK FOR TOMORROW

The NUS Medicine International Council comprises international leaders, academics and experts. Led by former US Ambassador to Singapore, Mr Frank Lavin, it advises the NUS Yong Loo Lin School of Medicine on its strategic development.



A New Focus

The first full professor of the NUS Medicine's Family Medicine division will strengthen its curriculum's focus on primary care.

In line with Singapore's new focus on primary care, NUS Medicine will soon introduce more primary care-centric case discussions in its curriculum. These changes will be spearheaded by Professor Doris Young, the Family Medicine division's first full professor.

"If you have too many hospital specialists teaching our Family Medicine residents, they will focus on

the diseases seen and managed in the hospitals, rather than those problems seen and managed by doctors working in the community. Family doctors need a different set of skills. I want it (this set of skills) more embedded in the curriculum," said Prof Young, who joined NUS Medicine in January this year. She brings with her 30 years of experience in general practice and primary care research.



Prof Tan Huey Cheem, Director of NUHCS (second from left), together with the panel of speakers.

Let's Talk Thrombosis

The NUHCS-NCIS Thrombosis Forum 2017 shone a spotlight on polyvascular thrombotic and non-thrombotic disease.

On 8 April 2017, medical professionals from a variety of disciplines gathered at the National University Health System for the Thrombosis Forum. The one-day symposium was jointly organised by National University Heart Centre, Singapore (NUHCS) and the National University Cancer Institute, Singapore (NCIS). This year's edition focused on all aspects of polyvascular thrombotic and non-thrombotic disease, including acute coronary syndromes, atrial fibrillation, stroke and peripheral arterial disease. Speakers represented several local healthcare institutions, including NUHCS, NCIS, Singapore General Hospital and Tan Tock Seng Hospital.

ALL THINGS SLEEP

The inaugural Edmund Tay Mai Hong Distinguished Speaker Programme was held on 26 March 2017 at the Clinical Research Centre Auditorium. Themed "Multidisciplinary Perspective on Sleep Disordered Breathing — State of the Art", it was organised by the Centre for Advanced Dental Education. The day-long programme featured four speakers, including the Edmund Tay Mai Hong Distinguished Speaker 2017, Professor Peter Cistulli. Prof Cistulli also led an evening lecture on 27 March 2017 that explored sleep and its links to chronic disorders and dental conditions.



Improving Capabilities

NUHCS trained more cardiologists in a procedure used to treat heart attacks.

NUHCS once again organised its popular Percutaneous Coronary Intervention (PCI) Simulator Course. The annual course, now in its 12th year, was held on 22 and 23 April 2017. Participants from six countries took part in the two-day session, which offered objective, effective and scalable training of PCI in a safe environment. PCI is used to treat patients with heart attacks.

Besides honing their technical and psychomotor skills, participants were also able to practise decision-making and judgement. They received instant and constructive feedback on their progress from on-site proctors.

MORE THAN 290 CANDIDATES have undergone the **PCI Simulator Course** since 2006. Many attendees have gone on to become nationally- and internationally-renowned interventional cardiologists.



An Unlikely Connection

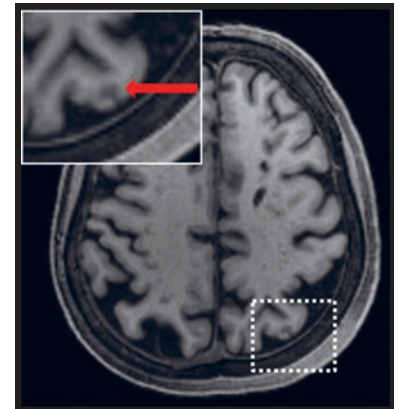
New findings suggest that cardiac disease could lead to a loss in cognitive function.

Cutting back on trans fats isn't just good for your heart — it may also prevent cognitive decline, according to cardiovascular and brain researchers from the National University Health System (NUHS). The team uncovered a strong association between cardiac diseases and tiny brain lesions called cerebral microinfarcts (CMIs), which are commonly found in patients with cognitive impairment or dementia.

"Our findings suggest that the development of CMIs, which are closely linked to diseases like dementia, may be caused by chronic heart problems and vascular disease," said Associate Professor Christopher Chen, Director of the Memory Ageing and Cognition Centre, one of two NUHS research centres

involved in the study. The other was the Cardiovascular Research Institute (CVRI).

Results of the study were published in *JAMA Neurology*, a journal of the American Medical Association. The presence of CMIs was also strongly linked to blood cardiac biomarkers. The more cardiac markers there are, the higher the risk of developing CMIs. Professor Arthur Mark Richards, Director of CVRI, said that the cardiac markers are powerful predictors that may provide scientists and clinicians with tools for the prevention or timely treatment of brain-related diseases. Further studies may also determine if treatments for cerebrovascular disease-related cognitive impairment can be achieved by targeting cardiac disease.



Cerebral microinfarct visible on 3T MRI scan provided by Clinical Imaging Research Centre (CIRC). The white dashed box indicates the area with a cerebral microinfarct, which is shown in the magnified view, and indicated by a red arrow.

Image Courtesy of A*STAR-NUS Clinical Imaging Research Centre (CIRC)

When Ignorance is not Bliss

A new study shows that first-degree relatives of colorectal cancer patients are not aware of their increased risk.

The immediate family members of patients with colorectal cancer face a higher risk of developing the cancer than others. However, colonoscopy screening rates among the first-degree relatives remain dismal.

A recent study explored the various issues among patients and their first-degree relatives precluding their adoption of screening colonoscopy. The study's lead author, Dr Tan Ker Kan, Consultant with the Division of Surgical Oncology, National University Cancer Institute, Singapore (NCIS), told *The Straits Times*, "Our findings show that 100 per cent of the first-degree relatives (of) patients had not undergone a colonoscopy. They also did not know that it (colonoscopy) is an accurate test for colorectal cancer,

while the faecal occult blood test is not." He added, "They tend to mix up basic screening packages and assume that these packages include screening for the risk of colorectal cancer."

Researchers found that doctors did not advise immediate family members about their higher risk of developing the cancer, as well as the need for more stringent screening procedures. The study also found that barriers to adopting colonoscopy among first-degree relatives of patients include a poor understanding of the colorectal cancer screening guidelines. There is also a fear of the colonoscopy procedure, its high costs and associated inconvenience. First-degree relatives may also feel that as they are young and asymptomatic, they

can delay screening.

This study was the first of its kind. Fifty colorectal cancer patients and 31 first-degree relatives were recruited for the study, conducted between June and December 2015.



Every day,

5 people



are diagnosed with
Colorectal Cancer
in Singapore

Source: The Straits Times



A Fruity Cure

Mangosteens could provide a new cure for tuberculosis (TB).

The humble mangosteen could provide a suitable new drug in the fight against TB, according to researchers from the NUS Yong Loo Lin School of Medicine (NUS Medicine). They found that xanthenes, a natural compound in the fruit, were very effective at inhibiting and killing *Mycobacterium tuberculosis (Mtb)*, the bacterium that causes TB. Xanthenes also have a low likelihood of developing drug resistance, making them a promising choice for anti-TB drugs.

"The average TB patient currently expects to undergo six to 24 months of tedious treatment. Xanthenes offer a realistic avenue towards developing new and more effective drugs for TB with potentially shortened treatment times as well," said Associate Professor Thomas Dick, the study's principal investigator and head of the Antibacterial Drug Discovery Laboratory and Director of the Biosafety-level 3 Core Facility at NUS Medicine. He added, "All these factors can help in reducing the disease burden faced by Singapore's ageing population, as well as treatment costs incurred by patients and their families."

The study was carried out under the Singapore Programme of Research Investigating New Approaches to Treatment of Tuberculosis (SPRINT-TB), a multi-party programme based in Singapore. Its results were published in the *European Journal of Medicinal Chemistry*.



International Conference on Integrated Care

8-10th May 2017 | Dublin, Ireland

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5th World Congress on Integrated Care



Sharing Knowledge

The NUHS RHS team presented their research findings at a global conference on integrated care.

Researchers, clinicians, allied health professionals and administrators from NUHS were invited to present at the 17th International Conference on Integrated Care in Dublin, Ireland, from 8 to 10 May this year. The annual conference attracted 1,000 integrated care professionals, commercial partners and policymakers, and was an opportunity for stakeholders to share best practices and move the integrated care agenda forward. This year, it was themed "Building a platform for integrated care: delivering change that matters to people". The NUHS team shared what they had learnt from their studies through three presentations.

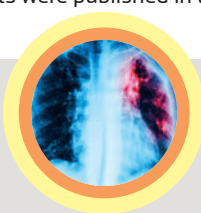
In one presentation, the team showcased a study that explored the efficacy of a person-centric and consolidated care approach in managing patients with multiple chronic diseases. Showcasing the Patient Appointment Consolidation programme, the team shared that patients were managed holistically by one principal physician instead of multiple specialists. Preliminary findings reveal that this initiative has fared well in reducing patients' trips to the hospital and costs to the healthcare system.

In another presentation, the team shed light on the often-overlooked psychosocial, behavioural and environmental factors that contribute to frequent hospital admissions. Their research findings highlighted the importance of addressing social isolation and providing caregivers with support through training, education and the provision of respite services.

Finally, recognising the diverse range of integrated care approaches available, the team provided a review of reviews on integrated care interventions for high-need, high-cost patients. This analysis was performed with the aim of helping policymakers and healthcare professionals understand why some programmes work better than others, given the population and context of the health system.

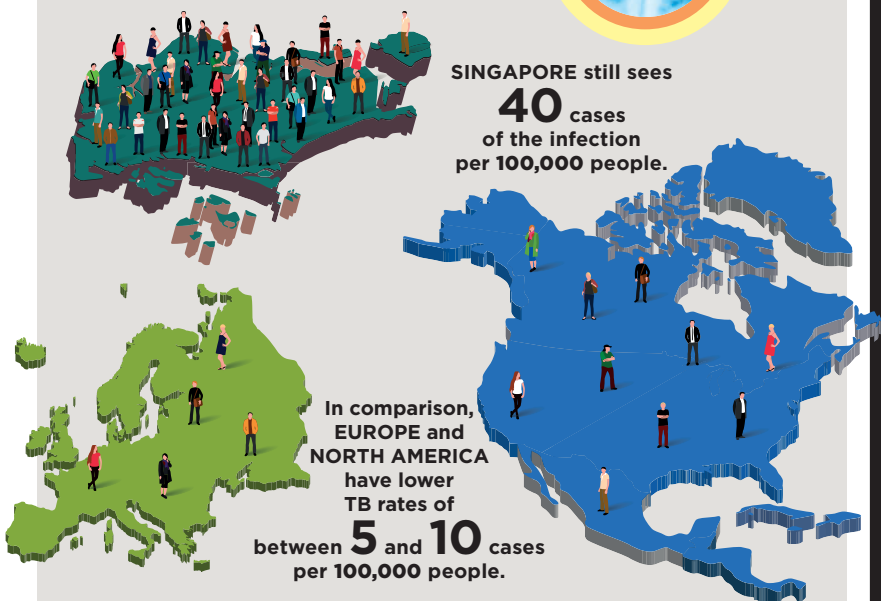
More to be Done

The fight against TB is not over yet.



SINGAPORE still sees **40** cases of the infection per 100,000 people.

In comparison, EUROPE and NORTH AMERICA have lower TB rates of between **5** and **10** cases per 100,000 people.





Silver Volunteers Answer the Call

The 50plus 2017 event brought in more Friends of JurongHealth.

Volunteerism involves helping the less-fortunate — and it also leads to better physical and mental health for the ones doing the helping. This is true for volunteers of any age, as seniors learned while checking out JurongHealth Campus' booth at the 50plus 2017 event earlier this year.

Organised by the Council for Third Age, 50plus 2017 — the largest and most comprehensive event for baby-boomers and seniors — was held at Suntec Singapore Convention and Exhibition Centre from 24 to 26 March 2017. The event offered an array of educational and insightful forums, interesting classes to pick up new skills and courses for lifelong learning. Among those present were Friends of JurongHealth volunteers, who set up a booth to attract new recruits.

More than 260 seniors signed up as Friends of JurongHealth volunteers over the three days. With over 11 volunteering programmes to choose from at Ng Teng Fong General Hospital and Jurong Community Hospital, they will have plenty of opportunities to contribute to a worthy cause and stay active in their retirement years.



Bringing Healthcare to Hawkers

Yuhua hawkers and residents enjoyed convenient health screening.

Hawkers do not have it easy: they run their stalls almost every day and have to work on their feet for hours at a stretch. That leaves little spare time to go to a polyclinic for medical checkups. So during their day off on 7 April 2017, JurongHealth Campus and Yuhua Constituency brought health screening services to the hawkers and

residents living around Yuhua Village Market and Food Centre.

The initiative is part of the hospitals' effort — in collaboration with community partners — to keep our community healthy despite people's hectic lifestyles, through the early detection of undiagnosed health issues and chronic conditions.

Celebrating Public Health

On 19 May 2017, NUS Saw Swee Hock School of Public Health (SSHSPH) held its first-ever fundraising dinner in support of the Help-A-Student Fund.



Held at NUS Society's Kent Ridge Guild House, the event drew a capacity attendance of more than 300 guests including public health pioneers, donors, industry partners, alumni, students, staff and former colleagues of SSHSPH.



Guests raised a total of \$147,700 through donations and pledges for the SSHSPH Help-A-Student Fund, which provides financial aid to talented and deserving public health students.



The fundraiser doubled as a celebration of Singapore's public health achievements. Pioneers received a standing ovation in appreciation of their contributions, while the potential of our next generation of public health professionals and leaders was also recognised.



It was a truly joyous evening as partygoers reunited with old friends and made new ones.



A New Paint Job

PSA volunteers help out elderly NUH patients.

The National University Health System (NUHS) has partnered with PSA Corporation Ltd and Lions Befrienders since September 2015 in training PSA staff to provide befriender support to National University Hospital (NUH)'s patients who were at risk of social isolation, as part of the PSA Health@Home initiative.

When an NUHS case manager noticed that the homes of elderly patients were in need of repair and upkeep, PSA staff started lending a hand by carrying out household tasks that may be challenging for patients. Since August 2016, they have helped out to clean and repaint flats and have even raised funds to purchase household items for the elderly. The volunteers organised a painting session on 19 May 2017, bringing the total number of units painted so far to five.

Defeating Diabetes

The 'War on Diabetes' continues in the heartlands.

Some 90 residents of Pasir Ris-Punggol GRC showed up at Punggol 21 Community Club on 25 March 2017 for an informative dialogue session on diabetes. Called "Health Fiesta: Let's Be Healthy – Say No To Diabetes", the community event was graced by Mr Ng Chee Meng, Member of Parliament for Pasir Ris-Punggol GRC.

Mr Ng was one of five panelists at the event, along with Mr Titus Lee from the Ministry of Health; Professor Chia Kee Seng, Dean, SSHSPH; Dr Mary Chong, Assistant Professor, SSHSPH; and Dr Sue-Anne Toh, Clinical Director, NUHS Regional Health System. They addressed the audience's questions and concerns regarding the risks of diabetes, and also shared tips for better disease management and prevention.



Mr Ng Chee Meng (4th from right), Member of Parliament for Pasir Ris-Punggol GRC, was the Guest of Honour and one of the panelists at the Punggol 21 Community Centre Health Fiesta – Say No to Diabetes Dialogue.

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