

evidence **PLUS**



A SHARED *Vision* FOR ONE *United* FUTURE

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evidence

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INSTITUTIONAL NEWS



Hitting the Mark

Congratulations to the NUH team that emerged winners at the HIT Challenge 2017.

Two National University Hospital (NUH) teams won the first and second prizes at the Global Health Innovation Technology (HIT) Challenge 2017 held on 19 September 2017 at the Sands Expo and Convention Centre. In the competition, participants from different Asian countries had to identify real healthcare problems and present solutions that are innovative, engaging and sustainable.

Coming up tops was the team made up of Neo Hong Jye, Fadzilah Kamsin and Tiong Hui Fen, while the duo of Tan Yiyan and Lynn Lim took second place. To read their winning pitches, visit <http://2017.hitchallenge.org/>



A First for Singapore Hospitals

NTFGH and JCH recognised for being among ASEAN's most energy-efficient buildings.

Hospitals are complex and energy-intensive facilities with round-the-clock operations. Yet the integrated development of Ng Teng Fong General Hospital (NTFGH) and Jurong Community Hospital (JCH) still manages to save more than \$5 million in electricity bills, and nearly another \$100,000 in water savings annually with their environmentally-friendly and sustainable designs. For that, both hospitals were awarded this year's ASEAN Energy Awards in the New and Existing Building Category.

Mr Tan Tai Soon, Director of Hospital Planning for NTFGH, received the award at the 35th ASEAN Ministers on Energy Meeting Gala Dinner on 27 September 2017 in Manila, the Philippines.



"Thank You for All the Hard Work"

President Halimah Yacob visited NUH to show her support for healthcare workers.

In one of her first official engagements as the Head of State, Singapore's President Madam Halimah Yacob visited NUH on 19 September 2017. She was there to learn more about how the country's hospitals are coping with the demands of an ageing population.

The President visited patients in the Geriatric and Paediatric wards, and spent time talking with staff from the nursing, allied health, administration and support services departments. "I'm here to give my support and recognition to our healthcare workers. They've done very well and worked very hard. It's not an easy field to be in. I'm truly motivated by their sense of dedication and service," said Madam Halimah.



Team-Building at Work

Bringing the Alexandra Campus team closer together through activities on land and over choppy waters.

As the National University Health System (NUHS) prepares to take over the operations of Alexandra Hospital from Sengkang Health in 2018, the NUHS staff involved took time to bond over group activities.

Team leads heading the clinical, nursing, allied health, and operations and administration departments gathered for a canoeing session that saw them paddling from Punggol Point to Coney Island, and then to Changi Point. Themed "Invictus" (a nod to poet William Henley's composition evoking endurance in the face of adversity), the retreat was aimed at fostering a spirit of teamwork and co-ordination among leaders.

Staff from various departments also participated in an 'Amazing Race'-style competition around the heritage green campus. Through the fun race, team members uncovered treasured nooks and crannies, which cultivated a deeper relationship and understanding, not only with fellow colleagues, but also of the workplace.



A Colourful Welcome

A housewarming party to celebrate the new NUP Corporate Office.

Staff from the National University Polyclinics (NUP) Corporate Office celebrated their move to a new home at the Service Block at NUH with a housewarming party on 29 September 2017. To mark the occasion, Dr Lew Yii Jen, NUP CEO (pictured above), unveiled an artwork made of tiles painted by beneficiaries of the Movement for the Intellectually Disabled of Singapore. The tiles were collectively donated by NUP department heads.

Welcome On Board

New SSHSPH Dean

With effect from 1 January 2018, **Professor Teo Yik Ying** will assume the position of Dean at the Saw Swee Hock School of Public Health (SSHSPH), National University of Singapore (NUS).

Prof Teo is also known internationally for his research in biostatistics, population genomics and genetic epidemiology. He succeeds Professor Chia Kee Seng, who has served as founding Dean of the School since its establishment in October 2011. Prof Chia, who specialises in molecular epidemiology of chronic diseases and the primary prevention of such diseases, will return to teaching and research when he steps down.

New Appointments at NUHS

Associate Professor Aymeric Lim, Vice-Dean, NUS Yong Loo Lin School of Medicine (NUS Medicine), NUS, has been appointed Physician-in-Chief. He will concurrently serve as Group Chief Human Resource Officer (GCHRO) with effect from 2 January 2018.

Assistant Professor Ngiam Kee Yuan, Consultant, Department of Surgery, NUH, has been appointed Group Chief Technology Officer (GCTO). Asst Prof Ngiam also holds concurrent appointments at NUH and NUS Medicine. He will develop and advance technological competencies and resources to effect healthcare transformation at NUHS.

Ms Joanne Yap has been appointed Group Chief Operating Officer (GCOO). She will work towards strengthening operational alignment, driving integration across institutions at NUHS and supporting the clinical integration strategy. Ms Yap will concurrently serve as Data Protection Officer (DPO) for NUHS, and Group Director, Institutional Community Care (ICC)

Merger of Legal Teams and Appointment of Deputy Group General Counsel at NUHS

Ms Jacqueline Loh, Principal Legal Counsel, JurongHealth Campus, and her team members have joined the NUHS legal team led by Group General Counsel **Mr Simon Cheong**. With the merger, Ms Loh has assumed the role of Deputy Group General Counsel.

NUHS
National University Health System

NUH
National University Hospital

NUS
National University of Singapore
Yong Loo Lin School of Medicine
Faculty of Dentistry
Saw Swee Hock School of Public Health

National University Cancer Institute, Singapore

National University Heart Centre, Singapore

Ng Teng Fong General Hospital

Jurong Community Hospital

Jurong Medical Centre

National University Centre for Oral Health, Singapore

National University Polyclinics

FOLLOW US ON FACEBOOK/NATIONALUNIVERSITYHEALTHSYSTEM



Members of NUHS and NUS senior management with Singapore Minister for Foreign Affairs, Dr Vivian Balakrishnan (3rd from left), former President of Indonesia Susilo Bambang Yudhoyono (4th from left) and Mdm Ani Bambang Yudhoyono (4th from right).

United in Healthcare

Eminent thought leaders gathered at the 2nd Raffles Dialogue to share insights on novel approaches in tackling critical global health concerns.

Global health challenges, including epidemics, ageing, the rise of chronic diseases and growing antibiotic resistance, are fast approaching crisis levels. Compounded by the uncertain socio-political and economic climates the need for the international medical community to find new solutions to these problems is greater than ever. To explore the critical role of innovation in human well-being and security, over 100 opinion leaders and health experts came together for the 2nd Raffles Dialogue from 4 to 6 September 2017. The conference was jointly hosted by NUHS and NUS.

Among the key themes that emerged from the Dialogue were the need for more engagement with all stakeholders, preparing the next generation of



Raffles Dialogue Programme Co-Chairman Prof Tikki Pang (standing) chairs a session on "Innovations in Improving Human Well-Being", with panel members (from left) Prof Dame Sally Davies, Prof Peter Piot and Assoc Prof Helena Legido-Quigley.



Singapore's Foreign Minister Dr Vivian Balakrishnan graced the 2nd Raffles Dialogue as Guest-of-Honour.

talent, and Singapore's possible role as a regional and global healthcare model.

In his opening speech, Guest-of-Honour Dr Vivian Balakrishnan, Minister for Foreign Affairs, detailed Singapore's strategies for R&D and innovation to help promote human well-being. Thought leaders, including Lord Nigel Crisp, former chief executive of National Health Service England, Dr Kara Hanson from the London School of Hygiene & Tropical Medicine, and conference moderator Dr Richard Horton, Editor-in-Chief of *The Lancet*, concurred that Singapore, with its effective healthcare policy, talent pool and political neutrality, can play a significant role to drive global health.



Building Bonds

Pioneer Polyclinic played host to a group of nurses from Chongqing, China.

Pioneer Polyclinic hosted a group of nurses, nurse managers and nursing lecturers from Chongqing City, China on 30 August 2017. Organised by Nanyang Polytechnic International, the visit was part of a three-week medical, surgical and nursing course catered to overseas healthcare professionals.

Pioneer Polyclinic conducted a sharing session and took its guests on a guided tour of the clinic. The visitors expressed an appreciation for Singapore's healthcare system, especially its efforts to cultivate collaborations across different care settings, with the National Electronic Health Record (NEHR) being a prime example of such partnerships. The visitors were also intrigued by how rapidly the nation's primary care system had evolved in the last two decades, and were particularly impressed with the enhanced care model adopted at Pioneer Polyclinic, where patients with chronic diseases are assigned to a dedicated care team.



Lai Pui San (third from left) and her silver medallist team at the SEA Games.

Excellence on the Field

NTFGH's Lai Pui San did our nation proud with her silver medal win at the 2017 SEA Games.

Congratulations to Lai Pui San, Engineering Assistant (Biomedical Engineering) at NTFGH, who won a silver medal with the women's national Rugby Sevens team in the 2017 SEA Games.

Pui San, who had previously represented Singapore at the Touch World Cup in 2015, joined the SEA Games rugby open trials earlier this year. After making it to the training squad, she underwent six months of intensive training before flying to Kuala Lumpur in August 2017 for the competition.

The SEA Games may be over, but Pui San has got her eyes set on the Asian Games 2018 in Indonesia. We wish her all the best in her sporting endeavour.



Lai Pui San with her silver medal.



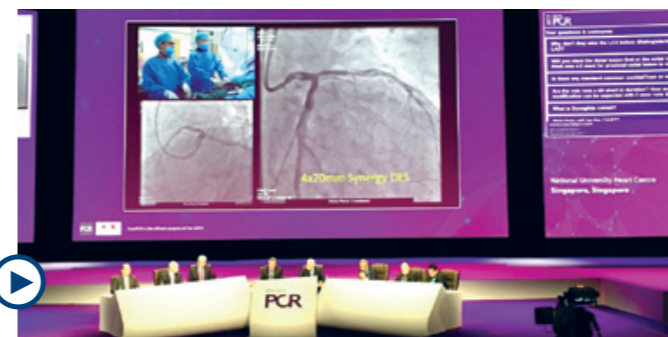
Invited speakers with Prof Chng Wee Joo (2nd from right), Director of NCIS and Assoc Prof Mikael Hartman (extreme right), Programme Leader of the Breast Cancer Prevention Programme at SSHSPH and Senior Consultant at NCIS and NUH.

Cancer in Focus

The NUHS Fred-Hutch Symposium put the spotlight on some of the world's top chronic diseases.

Healthcare experts from SSHSPH, Fred Hutchinson Cancer Research Centre, Cancer Science Institute of Singapore and National University Cancer Institute, Singapore (NCIS) came together on 29 August 2017 for the NUHS Fred-Hutch Symposium.

Focusing on the theme "Population Health Impact on Chronic Diseases", participants engaged in discussions on cancer-related topics including "Shaping Behaviours in Breast Cancer Care", "Bridging Cancer Prevention Research Gaps" and "Precision Prevention for Colorectal Cancer Using Lifestyle and Genetic Risk Factors to Personalise Screening Recommendation".



First-Ever 'Live' Satellite Transmission of Heart Surgical Procedures

Marking an important milestone for the NUHCS interventional cardiology programme.

The National University Heart Centre, Singapore (NUHCS) performed its first-ever 'live' satellite transmission of percutaneous coronary intervention for EuroPCR 2017, the official annual meeting of the European Association for Percutaneous Cardiovascular Interventions. Held in Paris, France on 16 May 2017, it was the world's largest interventional cardiology meeting with over 12,000 international delegates.

During the 'live' satellite transmission, Professor Tan Huay Cheem and Associate Professor Mark Chan carried out a difficult but successful multivessel rotational atherectomy and stenting procedure in a patient with end-stage renal failure on haemodialysis.

In a second case transmission, Assoc Prof Ronald Lee and Dr Joshua Loh performed another complex left main stenting using the latest imaging tool of optical coherence tomography (OCT) for guidance. The two 'live' case demonstrations were positively received, generating much discussion and providing many useful educational pointers for the audience.



Dr Isaac Liu, consultant from NUH Paediatric Nephrology volunteering at the annual Children's Kidney Camp, where he also serves as the camp's chief doctor.

A Shining Example

NUH doctor recognised at Singapore Youth Awards 2017 for his medical and volunteer work.

As one of Singapore's few paediatric kidney specialists, Dr Isaac Liu, 34, dedicates much of his time to treat children with renal ailments. He is also a strong proponent of homegrown scientific research, working tirelessly to find cost-effective methods to screen diabetic and paediatric patients for early signs of kidney disease. In between the demands of his job, Dr Liu still finds time to volunteer as chief medical coordinator of NUH's annual renal camp for children with kidney ailments and diabetes. He has been volunteering since 2006. For his unwavering dedication to his profession and volunteer work, Dr Liu was awarded the Singapore Youth Award 2017.



Riding for a Cause

A pair of NUH doctors embarked on a motorcycle road trip to create breast cancer awareness.

In 2014, Associate Professor Philip Iau and Assoc Prof Mikael Hartman from the breast cancer team at NUH set off on a journey by motorcycle from Singapore to Stockholm, Sweden. The 100-day journey brought them across different Asian countries where they met breast cancer patients and learnt how cultural factors shape attitudes to the disease. To share their experiences and create more awareness of breast cancer, Assoc Prof Iau penned *The Long Ride from Singapore*.

The book is available online and from major bookstores at \$20, with all proceeds going to the Asian Breast Cancer Fund.





NUHS Chief Executive Prof John EL Wong provided staff with a progress update on the group's integration effort.

NUHS Executive Group members answered a range of questions during the Q&A segment.



Prof Wong sharing with staff NUHS' new core values.



We Are One

In the wake of its reorganisation, the NUHS cluster has a newly-updated vision, mission and core values.

Early this year, Singapore's public healthcare sector launched a major reorganisation that grouped the six Regional Health Systems island-wide into three integrated clusters.

As part of this transformation, NUHS merged with JurongHealth Services to provide more integrated care to residents in the Western region of Singapore.

To enable full integration across all NUHS member institutions, a review of its vision, mission and core values was conducted. This endeavour kicked off on 8 April 2017 with a Visioning Session involving 140 members of NUHS' leadership. A number of key themes emerged during the session, such as the importance of providing a seamless and integrated system capable of meeting the needs of each patient, leveraging on NUS to better differentiate the NUHS cluster, as well as offering a unified patient experience.

After further discussion and refinement by the NUHS Executive Group and the Board, NUHS' Chief Executive Professor John EL Wong unveiled the new vision, mission and core values to NUHS staff during Townhall sessions on 21 and 23 November 2017, at the Kent Ridge Campus and JurongHealth Campus respectively.

With this new vision, mission and core values, NUHS, as an academic health system, aims to improve the health of the population in the Western region of Singapore through better and more cost-effective care, nurture the next generation of healthcare professionals, undertake

world-class research and empower people to take ownership of their health.

At the Townhall sessions, NUHS Deputy Chief Executive and Dean, NUS Medicine, Associate Professor Yeoh Khay Guan, also presented an update on the NUHS clinical model of care for the seamless management of clinical services as a cluster, to leverage peaks of excellence across NUHS entities to benefit patients.

One NUHS

+ OUR VISION

A Healthy Community
Shaping medicine • Transforming care

+ OUR MISSION

To advance health by synergising care, education and research, in partnership with patients and the community

+ OUR TAGLINE

Building a healthy community — with you, for you

Through this shared identity, NUHS aims to bind its staff together through a culture of synergy in diversity, and inspire them to achieve a common purpose: to improve the health of our community. Ultimately, NUHS seeks to provide better and more cost-effective care, nurture the next generation of healthcare professionals, undertake world-class research and empower people to take ownership of their health.

Our Core Values

INTEGRITY

We do the right thing, always.

One day, **Mr Thanggaraju A/L Vengkataraman**, a housekeeper at NUH went to work earlier than usual because he wanted to help a doctor find his wedding ring. The ring had been lost in the operating theatre the day before. After combing through many bags of used scrubs, he eventually found and returned it to the grateful surgeon. This was a great example of doing the right thing — even when no one is looking.



COMPASSION

We understand what our patients and their loved ones are going through; we will do all we can to help them.

A Staff Nurse at NTFGH's Oncology Clinic, **Ms Li Fei**'s dedication to patients goes beyond treating their medical needs. She happily sits at their bedside to read to them, offers comfort and cheer, and even pays a visit if they are transferred to a different hospital. To thank her for her unstinting support, some bereaved family members have written to Ms Li after the patient passed away.



RESPECT

We value the contributions, views and interests of others, and treat all with dignity.

Associate Professor Gerald Koh of SSHSPH is highly regarded by his students. He derives great satisfaction from nurturing students and helping them embrace new concepts and ideas. As a community geriatrician, Assoc Prof Koh is also passionate about serving the elderly — many of whom are socially disadvantaged — and does his utmost to improve the quality of their care.



TEAMWORK

We depend on each other to get the job done, and others can count on us.

It was a team effort that enabled three NUH staff and two medical students to save a man's life at an MRT station. NUH Medical Officer **Dr Peng Kailing**, Senior Staff Nurse **Ms Nurhana Binte Mohamed** and Staff Nurse **Ms Hazel Tan** were all off-duty that day when they responded to the cardiac arrest together with **Mr Peter Daniel** and **Mr Kelvin Wui**, both studying at NUS Medicine.



PATIENT-CENTREDNESS

We design and deliver care around the needs of our patients and their caregivers.

Communicating well with patients and their families is a central part of **Dr Ira Sun**'s job as an Associate Consultant for Neurosurgery at NTFGH. Despite his busy schedule, Dr Sun patiently and clearly goes over the treatment plans and results with those under his care. He takes the time to explain things until they feel reassured and confident in making sound decisions.



EXCELLENCE

We pursue the highest standards in all that we do; we continually learn and innovate for better outcomes.

Dr Justin Chong, a Family Physician at NUP's Jurong Polyclinic, goes the extra mile for his colleagues. Inspired by tutors and seniors who helped him through his exams when he was a resident, Dr Chong often stays back after work to hold practice sessions for those preparing for their exams. This in turn allows him to gain new knowledge to become a better doctor, and bolsters his love of lifelong learning.



A Close Look at Age-Related Macular Degeneration

More than 25 per cent of Singaporeans have age-related macular degeneration (AMD), a chronic disease of the macula — a small area at the retina centre. Besides leading to symptoms such as blurred or distorted vision, AMD is one of the primary causes of severe and irreversible vision loss, especially among those aged over 50.

To raise awareness of the disease, NUH organised an eye screening and talk at the NUH Medical Centre on 23 September 2017. The activities were held in conjunction with Awareness of Macular Diseases Week 2017, which was officially launched at Khoo Teck Puat Hospital on 16 September 2017 by Er Dr Lee Bee Wah, Adviser to Nee Soon GRC GROs and Member of Parliament (MP) for Nee Soon GRC.

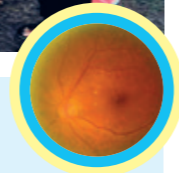
Almost 100 members of the public paid a nominal fee of \$10 to get their eyes checked. The one-hour talk on AMD and diabetes was free and was conducted in English, Mandarin and Malay.



ADVICE ON AMD

While there are no established preventive measures, the general advice is to:

- Quit smoking and cut down on alcohol consumption
- Treat your high blood pressure and high cholesterol
- Maintain a healthy weight
- Increase intake of green leafy vegetables
- Guard against prolonged unprotected eye exposure to UV rays by wearing sunglasses or a cap
- Undergo regular eye examinations



Where the Experts Are

The second Child Development Unit under NUHkids opens in Keat Hong.

Need a professional assessment of your child's development? Want to improve parent-child interaction and optimise your child's growth potential? These are but some of the services available at the Child Development Unit (CDU) — a clinic under NUH's paediatric arm, NUHkids (also known as Khoo Teck Puat-National University Children's Medical Institute).

The first clinic started operations at Jurong Medical Centre in 2006 and CDU @ Keat Hong opened on 6 August 2017. At the official opening ceremony, Dr Chong Shang Chee, Head of NUH's Developmental and Behavioural Paediatrics, gave an address and Mr Zaqy Mohamad, MP for Choa Chu Kang GRC, also graced the event.

Running the clinics are a multi-disciplinary team of healthcare professionals, from paediatrics and occupational therapists to nurses and social workers. Patients of CDUs range from newborns to seven-year-olds. They can be assessed and receive treatment for a variety of developmental, learning and behavioural difficulties such as autism, learning disabilities and temperament issues. Parents, who are seen as partners for supporting their children's growth, can also register for workshops and talks at the CDUs.



ONE-STOP SHOP

The CDUs offer an extensive range of facilities, programmes and services to provide holistic care for children and empower parents.

Examples of what's available are:

- + Assessment-cum-therapy rooms with one-way mirrors
- + An occupational therapy gym with swings, a rock wall and padded floor
- + Programmes for children to learn how to regulate their emotions, behaviours and relationships with others
- + Assessment and therapy services
- + Financial counselling sessions with medical social workers

The clinics are located at:

Child Development Unit @ Keat Hong
Keat Hong Community Club,
2 Choa Chu Kang Loop, #03-01,
Singapore 689687

Child Development Unit @ Jurong Medical Centre
60 Jurong West Central 3,
Singapore 648346



Health Buddies in Your Smartphone

Planning meals and managing medications are made easy with NUH mobile apps.

You may not be able to input 'Nasi Padang' in most calorie-tracking apps. But you can find the Malay dish along with other local food options in the Nutritionist Buddy (nBuddy) app. After all, it is one of two mobile apps that NUH has developed to help Singaporeans keep track of their diet and medications. Both nBuddy and myMeds were conceptualised in consultation with NUH healthcare professionals and are available for free download at the Google Play Store and Apple App Store.



nBuddy

Users will find it easier to track their diet with the app's database of food commonly found in Singapore. Besides the recording function, the app allows users to plan their meals which are then evaluated. If the selected food choice receives a thumbs-down, users will get a timely recommendation for a healthier alternative.

"This gives users the knowledge and flexibility to make better choices in real time," says NUH dietitian Dr Lim Su Lin. "Other diet apps typically do not provide an immediate guide on food choices. By the time one has exceeded his or her calorie limit for the day, it is too late."

Another version of the app, nBuddy Diabetes, is more suitable for users with pre-diabetes or Type 2 diabetes. It provides in-depth analysis of carbohydrate content in dishes according to individual requirements — diabetics have to watch their carbohydrate intake to maintain regular blood sugar levels.



Features:

- Exercise and activity tracker
- Daily meal and calorie report
- Weight tracker
- Food database with over 7,000 food items and growing
- Real-time recommendations
- Support chat channel with dietitian



myMeds

Taking the right medications — in the correct doses, at the right time and in the right way — is crucial for managing and treating illnesses. But it can be difficult to keep track if the list of medications is long and complicated. "Some patients, especially the elderly, can be confused by their medications and do not remember how or when to take them," said Ms Mya Teo, Senior Pharmacist at NUH. "Recent local data has revealed that complex medication regimens have a higher risk of medication non-compliance, and hence higher risk of unplanned hospital re-admissions."

To encourage better self-care, as well as to help patients and their caregivers better manage medications, NUH has developed myMeds. This pill-minder app can be customised and used to set reminders. There is also a database with information on the various medications, as well as instructional videos.

In addition, re-ordering medications is a breeze with the app which even allows users to opt for home delivery. For patients who prefer to head to pharmacies, they can use the queue-viewing function to estimate the duration of the wait.



Features:

- Personalised list of medications
- Drug information catalogue
- Medication re-order with home delivery option
- Pharmacy info and crowd density

Making Strides

WALK-ON@S3 improves stroke survivors' fitness and their quality of life.

After suffering his second stroke in September 2016, Mr Eric Erh (pictured right) was largely immobile for eight months, and suffered other complications like pressure sores and weight loss. Today, he is able to walk slowly unaided, thanks to WALK-ON@S3. Introduced by Stroke Support Station (S3) and a close partner of NUHS and NUH, WALK-ON@S3 is Singapore's first dedicated wellness centre for stroke survivors and their caregivers. The programme aims to improve participants' cardiovascular fitness and well-being. Participants undergo 12 one-hour sessions which focus on muscle strengthening, cardiovascular and muscular endurance, aerobic conditioning, balance and stability training, and personal fitness education. Equipment is also used to help participants train their weaker leg and improve their mobility and gait. Examples of these are an anti-gravity treadmill, pressure-sensor treadmill and a cross-trainer that can adapt to the individual's level of physical ability.

"In healthcare, the goal is to get stroke survivors home safely after the acute injury. S3 complements healthcare services by focusing on improving patients' wellness in the community, even long after discharge from the hospital and institutional rehabilitation therapy," said Ms Teresa Wong, lead trainer at WALK-ON@S3.



Feedback from the 10 participants who have completed the programme has been positive. All participants have made progress in terms of their body power, stamina and walking speed. Besides improving their fitness levels, the sessions have also allowed stroke survivors like Mr Erh to regain their self-confidence.



Thanking the Teachers

NUHS honours the effort and commitment of its educators.



The NUHS Teachers' Day celebrations kicked off at the JurongHealth Campus on 13 September 2017 and was held at Kent Ridge Campus on 15 September 2017. The annual event recognises the pivotal role played by educators in nurturing the next generation of healthcare professionals. A total of 111 awards were presented to outstanding teachers from the clinical, nursing and allied health professions, who have together drawn upon their academic, research and clinical capabilities to train students from the undergraduate and post-graduate programmes from various institutions.

"You all continue to invest tremendous time, energy and resources to inspire those you train, to give their best in the care of our patients and the community we serve," said Prof John EL Wong, Chief Executive of NUHS, of the educators in his welcome at the Kent Ridge event. "I am confident that our team of NUHS educators will strengthen the programme of undergraduate and post-graduate training to not only meet emerging economic and social needs, but also to enhance our standing as a centre of excellence for education and research in healthcare."

A New Chapter

Class of 2017 graduates from NUHS Residency.

NUHS residents embarked on their journey as accredited Specialists at the NUHS Residency Graduation Ceremony 2017, which was held on 29 September 2017 at NUHS Tower Block. The class of 2017 comprised 76 graduands from the Residency Programme and 21 residents who completed their training under the Residency Leadership Development Programme. Each graduand received a certificate, as well as a medallion that was personalised in his or her name.

Professor John EL Wong, Chief Executive of NUHS, told the graduands: "You have been given the best possible training and resources that NUHS has to offer, to achieve your full potential, and prepare you to face the challenges of the dynamic work environment in which you will be operating." He urged them to keep seeking new knowledge and upgrading their skills to care for patients holistically, as well as to join the Alumni Network to keep in touch.

NUHS Residency started in 2010 and the number of programmes has since grown from seven to 32. Residents' satisfaction with their training has also risen over the years. Based on the survey by the Accreditation Council for Graduate Medical Education – International (ACGME-I), residents' overall experience has increased from 88 per cent in 2012 to 92.6 per cent in 2017.



TRAINING MINDS, SHAPING HEARTS

To train and provide additional opportunities for our interested residents, value-added programmes, such as the 3 Distinction Tracks – Medical Education, Research Residency and Innovation & Quality in Healthcare are available. These serve to develop residents in areas which are outside their specialty. In addition, to shape and nurture future medical leaders, the Residency Leadership Development Programme was introduced in 2015.

NEW MEDSOC EXCO MEMBERS STEP UP

The inaugural Medical Society (MedSoc) Day was held on 15 September 2017. Besides the free performances and food and game booths, an event highlight was the MedSoc Annual General Meeting that featured the Executive Committee (ExCo) handover. MedSoc has about 1,500 members, of which more than 260 volunteer in directorates and the ExCo. Delivering the State of the Society Address was President of 68th MedSoc, fifth-year student at NUS Medicine, Ivan Low. He highlighted the efforts made by his team over their one-year term in five key areas:

- 1 Strengthened needs assessment and advocacy by improving accessibility and usage of key feedback portals, such as the MedSoc Grand Survey
- 2 Established guidelines and protocols that recognise volunteers' contributions and facilitate their development
- 3 Engaged the Medical student population with the improved MedSoc Newsfeed and the MedSoc website
- 4 Built stronger partnerships with stakeholders such as Singapore Medical Association and Duke-NUS Graduate Medical School
- 5 Enhanced students' welfare by giving feedback to faculty on curriculum changes and organising initiatives to complement students' pedagogical experience



The 68th Medical Society at the inaugural Medical Society Day 2017.

Taking on Healthcare Gaps Together

Cross-faculty NUS students collaborate in the first Medical Grand Challenge.

A multidisciplinary approach is often required for healthcare issues, given their encompassing complexity and multifaceted nature. Recognising this, a team of cross-faculty NUS students launched the inaugural Medical Grand Challenge for their peers in August 2016. During the year-long challenge, 17 teams collaborated and were given a seed grant of \$500 each to develop creative solutions for unmet healthcare needs. They were also guided by mentors with expertise in a range of fields, from clinicians and engineers to entrepreneurs and investors.

"We hope (that the Medical Grand Challenge) sparks a lifelong interest

in innovation, thinking out-of-the-box and solving real-life problems," said Associate Professor Yeoh Khay Guan, Dean of NUS Medicine.

WINNING IDEAS

The Medical Grand Challenge concluded on 18 August 2017 with the announcement of the winning teams – who stood out in terms of their business strategy, creativity, design quality and healthcare impact. The top three teams bagged cash prizes of \$20,000, \$15,000 and \$10,000 respectively. Winners of the 'Change Maker Prize' for the most creative and impactful project, as well as the 'People's Choice Award' for the most popular project, won \$5,000 cash each.



→ 1st Prize: Hippotable, a belt that can be used to transfer immobile patients safely and easily



→ 2nd Prize: PDSafe, a contactless sterilisation system to reduce infections in kidney dialysis patients



→ 3rd Prize: FootSense, a device that detects foot ulcers before they develop in diabetic patients



→ Change Maker Prize: eVand, a palm-sized leg band that uses an electric current to induce contraction of calf muscles and promote blood circulation

Smiles All Round

NUS Faculty of Dentistry (FoD) performed exceptionally well at the 31st International Association for Dental Research-South East Asia (IADR-SEA) and 28th South East Asia Association for Dental Education (SEAADE) Annual Scientific Meeting. Themed 'Innovative Dental Education, Research and Clinical Service', the joint conference was held in Taipei, Taiwan from 10 to 13 August 2017.

CONGRATULATIONS!

- + Associate Professor Kelvin Foong received the Distinguished Service Award from the IADR-SEA Division
- + Third-year PhD student Dr Preethi Prajod emerged first in the IADR Hattori Award competition for her work 'Salivary Proteomics Unravels Immune-Inflammatory Paradigm During Pregnancy And Postpartum Period'
- + Final-year PhD student Mr Kassapa Ellepola emerged second in the IADR Hattori Award for his work 'Streptococcus Mutans Gtfb Enhances Candida Albicans Cariogenic Potential In Mixed-Biofilms'
- + FoD graduate Dr Marcus Phoa won the runner-up award in the IADR Joseph Lister competition for his work 'New Coating Method Prevents Enterococcus Faecalis Biofilms On Medical Devices'
- + FoD graduates Dr Clara Goh, Dr Haw Sue Yi, Dr Ren Jiamin and Dr Leong Jin Ni won the second prize in the IADR-SEA Division/DENTSPLY SIRONA Student Clinician Programme for their work 'Distribution Of Gingival Smile Types And The Difference In Perception Of Smile Aesthetics Between Dentists And Laypeople'

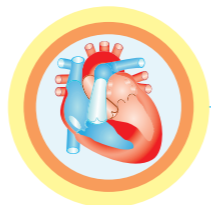
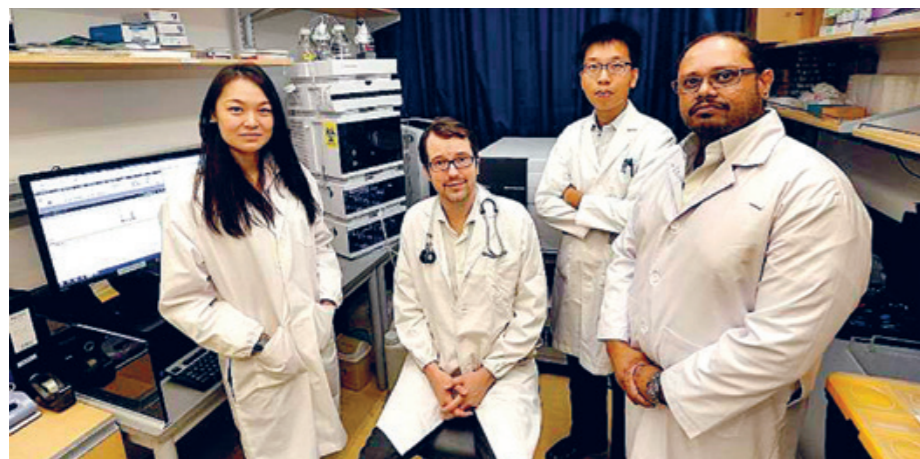


Poster-Perfect

NUS Medicine fourth-year undergraduate Sherlyn Tham (pictured below) represented her team to present and win the best poster prize at the 27th Congress of the World Society of Cardiovascular and Thoracic Surgeons 2017 in Astana, Kazakhstan. Held from 1 to 3 September 2017, the annual congress is an international forum for the development of cardiothoracic science.

Sherlyn's team comprised fellow student Chew Yi Jie and members from NUHCS, Chan Siew Pang, Chen Jian Ye, Lowell Leow Choong Kiat and Theodoros Kofidis. Based on a study of 307 patients from 2013 to 2016, they found that the minimally-invasive coronary artery bypass grafting surgery reduces the need for post-surgery blood transfusion, compared to conventional open-heart surgery.





HFpEF occurs in between 17% and 38% of all heart failure cases in Singapore.

Source: The Straits Times

The study on the thymosin beta-4 protein was done by a team comprising (from left) Ms Kristy Purnamawati, Asst Prof Chester Drum, Mr Warren Tan Kok Yong and Mr Leroy Pakkin.

Out of the Shadows

New research shines the spotlight on a type of cardiac failure that is difficult to diagnose and treat.

Researchers from NUHCS have discovered that a protein that protects the heart from injury could be the key to understanding a form of heart failure that is challenging to diagnose and treat.

Following a year-long study involving 657 men and women, the researchers found that the protein thymosin beta-4 (TB4) is elevated in women with a form of heart failure called preserved ejection fraction (HFpEF). The heart of a patient with HFpEF has trouble relaxing after a pump, which means it struggles to take in

blood between beats. But this malfunction is hard to clinically detect and diagnose. The results of the study suggest that a simple blood test to check for levels of TB4 can be used to detect HFpEF.

Given that TB4 can protect the heart from injury, researchers suggest that it can also be used as a biomarker to check if patients are responding to cardiac treatment. "I think the way it will eventually be used is when, while initiating a therapy, you watch the TB4 level to make sure you are doing the right thing," said Assistant Professor Chester Drum, who led the study.

The team's findings were published in the *Journal of the American Heart Association*.

More Harm than Good

Two studies show that complementary and alternative medicine (CAM) may not be the best choice when facing chronic illnesses.

Two research teams from NUH and NCIS studied the use of CAM in Singapore to better understand its impact on disease treatment and management.

The first study explored the use of CAM related to rheumatoid arthritis. The study's lead author, NUH's Dr Manjari Lahiri and her team found that using CAM led to a delay in patients seeking medical help for early inflammatory arthritis or the early stage of rheumatoid arthritis. This, she pointed out, led to poorer treatment outcomes. "There's a window of opportunity for treatment of early rheumatoid arthritis," said Dr Lahiri, adding that the earlier rheumatoid arthritis is treated, the better the outcome.



The second CAM-related study found that a booklet discussing the safety of such treatments may prevent cancer patients from turning to such therapies, which often use herbs like ginseng. Although seemingly harmless, these herbs may cause certain chemotherapy drugs to work less well, said the study's lead author Dr Chong Wan Qin from NCIS.

Some patients also turn to alternative therapies instead of going for chemotherapy and radiotherapy treatments. Because all cancers have a better chance of control and survival outcomes when treated early, by the time these patients returned for chemotherapy, their cancer would have progressed and impaired some of their organ functions, explained Dr Chong.

ADD TO YOUR BOOKSHELF

Silver insights:

Colours of Ageing is a comprehensive review of three decades of research on the mental health of Singapore's elderly. Authored by Singapore's mental health doyen Professor Kua Ee Heok, the title has been described as a "fluid blend of scientific findings, memoir and anecdotes" by *The Straits Times*. In the book, Prof Kua charts the evolution of the research and treatment of mental health in the Republic's elderly. The subject is one that is close to Prof Kua's heart, as the former chief executive and medical director of the Institute of Mental Health. He is currently the Tan Geok Yin Professor of Psychiatry and Neuroscience at the Department of Psychological Medicine, NUS Medicine, and a Senior Consultant Psychiatrist at NUH.



Understanding microbial biofilms:

A new textbook edited by Dr Jaya Seneviratne of FoD provides a wide-ranging survey of microbial biofilms and their role in human health and disease. *Microbial Biofilms: Omics Biology, Antimicrobials and Clinical Implications* includes contributions from fellow Faculty members, among them, Professor Finbarr Allen, Dean, FoD, Associate Professor Kelvin Foong and Dr Intekhab Islam. The title is intended to serve as guide for students, as well as reference material for researchers, clinicians and industry professionals.



DID YOU KNOW?
Heart disease claims about **16** lives a day.

Source: The Straits Times

Scientists from NUHS and A*STAR's Genome Institute of Singapore (GIS) have discovered a chemical compound in mice that prevents heart muscle cells from repairing themselves. Researchers, who have named the molecule Singheart, explain that the next step is to test agents that could target this compound and block its function. If successfully blocked, heart muscle cells can regenerate, like skin cells, and the heart may be able to heal itself following a heart attack.

The study's lead author, Associate Professor Roger Foo believes that this could banish the consequences of a heart attack. "There has always been a suspicion that the heart holds the key to its own healing," said Assoc Prof Foo, who is a principal investigator at GIS and NUHS' Cardiovascular Research Institute and senior consultant at NUHCS.

The study — the first in the world to understand the role of ribonucleic acid in heart failure — was published in *Nature Communications*.

Helping Hearts Heal

A new study could be the first step towards reducing the debilitating effects of a heart attack.



Functional Fun

As part of a collaboration with NTFGH and JCH, students from Nanyang Technological University (NTU) developed a series of interactive games for patients with dementia. These games were designed to strengthen a player's communication skills. The students received guidance from Ms Too San Muan, Senior Occupational Therapist at JCH and Assistant Professor Michael Tan from NTU's School of Art, Design & Media.



→ **Jiak Ba Buay** by Ms Grace Goh uses pictures of food and ingredients to spark conversations.



→ **Tangram Zoo** by Ms Khaw June Ming engages users with animations and digital technology.



→ **MatchLink** by Ms Cassandra Seah requires users to touch blocks and describe their textures and colours.

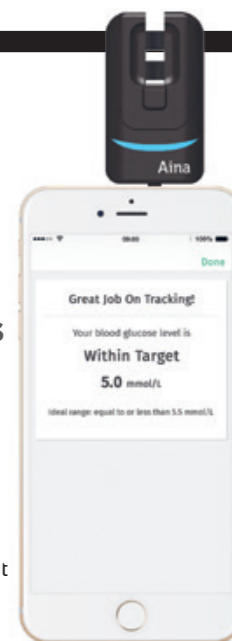
A Smart Solution

How technology and data could help women with gestational diabetes mellitus (GDM).

Singapore has one of the highest rates of GDM in the world, with 20-30 per cent of pregnant women affected by the condition. In an effort to find new ways for these women to manage their condition better, a novel clinical trial has been rolled out by NUH. Titled SMART-GDM, the trial aims to assess the efficacy of a smartphone app in preventing excessive weight gain among women with GDM. Excessive weight gain is associated with large gestational age babies and increases the risk of developing Type-2 diabetes among the women later in life.

The trial will use the HABITS-GDM mobile app, which was jointly developed by NUH, SSHSPH and medical technology firm, Jana Care. The app is customised to the local context, and targets behavioural change, provides personalised lifestyle tips that encourage mothers to exercise and eat more healthily, and supports them in terms of glucose and weight monitoring. People with diabetes are already using such mobile technologies to manage their condition successfully, but very few studies have focused on GDM in particular. This is the first randomised controlled trial outside the US and Europe that uses a smartphone app to support the self-management of GDM.

HABITS-GDM will be used in conjunction with a glucometer linked to the user's mobile phone and Bluetooth-enabled weighing scales. Patients can therefore manage their GDM in the comfort of their own homes, and as they go about their daily lives. "If proven effective, the study will result in a unique clinical application for GDM that integrates lifestyle coaching with glucose monitoring. Clinical outcomes, in terms of the current pregnancy and the future metabolic health of both mothers and their offspring throughout the later phases of their lives, will hopefully be improved," explained Dr Yew Tong Wei, the site Principal Investigator of the clinical trial and a Consultant at NUH's Division of Endocrinology.





From left to right: Assoc Prof Cheah Wei Keat (NUHS), Ms Joanne Yap (NUHS), Sr Geraldine Tan (SJH), Prof John EL Wong (NUHS), Mr Foo Hee Jug (NUHS), Ms May Wong (SJH), Dr Ivan Chan (NUHS), Mr Abdul Rashid (SJH), Mr Tan Hai Yang (SJH) and Mr Bart Lim (SJH).

Staying Connected

NUHS CE visits St Joseph's Home.

On 31 July 2017, Professor John EL Wong, Chief Executive of NUHS visited the revamped St Joseph's Home with other members of NUHS senior management. The visit was a chance for NUHS to better understand the evolving needs of St Joseph's Home, which currently turns to JurongHealth Campus for dietetics, speech therapy and podiatry services. The two organisations recently inked a collaborative agreement to continue working towards common goals.

ALEXANDRA CAMPUS — A CAMPUS FOR ALL AGES

In line with NUHS' efforts to look after the health of residents living in the West, Prof Wong and Associate Professor Jason Phua also met Member of Parliament for Tanjong Pagar GRC (Queenstown Division) Dr Chia Shi-Lu and the Ministry of Health's Deputy Secretary (Development) Ms Teoh Zsin Woon on 24 August 2017 to give Dr Chia an update on the Alexandra Campus Masterplan Development. The NUHS Regional Health System (RHS) team also shared updates on various projects, among them the Primary Care Network@Queenstown, ongoing community health screening for residents and an upcoming Community Health Post programme. Given Queenstown's high proportion of senior citizens, the group also discussed the NUHS Geriatrics Services Hub, a programme helmed by the Alexandra Geriatrics team that aims to work with partners to care for the precinct's elderly.



Towards a Heart-Healthy Singapore

A mid-day event that inspired the public to be more mindful of their cardiac health.

The usual lunchtime crowds at one-north were treated to an array of tips about heart health on 8 September 2017, thanks to a collaboration between NUHCS and JTC Corporation. The event was held in conjunction with World Heart Day, which fell on 29 September 2017. For many officegoers, the highlight of the event was a 'live' cooking demonstration by celebrity speaker and nutritionist Suria Mohd.

This wasn't the only event that NUHCS held to mark World Heart Day; on 30 September 2017, Singaporeans of all ages learnt how to reduce their risk of cardiovascular disease at Bedok Town Square. NUHCS collaborated with the Singapore Heart Foundation for this event, which was held in conjunction with National Heart Week. Memorable activities at this year's edition of the annual carnival included a Build-a-Poke-Bowl workshop, health screenings and chair aerobics workout demonstrations.



Going Green Together

JurongHealth Campus held its first Green Day to encourage staff to be more eco-friendly.

To promote a culture of sustainability, JurongHealth Campus held its inaugural Green Day on 25 August 2017. Staff were taught about how small changes to their daily lives could positively impact the environment. Speakers from PUB and the National Environment Agency were also on hand to share tips on conserving water and reducing waste. Students from Kuo Chuan Presbyterian Primary School then put on engaging skits to drive home these messages of sustainability. Staff also learnt about water- and energy-saving efforts that are in place at NTFGH and JCH. These include a rainwater harvesting system, which uses rainwater to water plants around the two hospitals.



Making Health Screenings Convenient

An outreach initiative which got Yuhua residents thinking about their well-being.

Regular health screenings help prevent and detect chronic diseases, but hawkers and shopkeepers often put off these checks because they are either "too busy" or the screening venues are "not convenient". To address these issues, NUHS joined the Yuhua Constituency Street 31 Shop Proprietors and Hawkers Association to bring health screenings closer to them at the Yuhua Market & Hawker Centre. Held on 15 August 2017, the screening included tests for common chronic conditions such as high blood pressure, high cholesterol and diabetes; and functional screening such as eye, dental and hearing checks. FIT (faecal immunochemical test) kits were also distributed for colorectal cancer screening.

This is part of NUHS' larger efforts to build a healthy and engaged population in the western region of Singapore. Community health screenings will be rolled out to all 26 constituencies in western Singapore this year.



HAPPY Seniors for a Healthy Nation

A recent study authored by Associate Professor Reshma Merchant, Division Head of Geriatric Medicine at NUS Medicine, found that more than one-third of 1,051 participants aged 65 and above from Bukit Panjang were considered "pre-frail" or on the verge of becoming frail. Six per cent of participants were considered frail.

These results prompted Assoc Prof Merchant to launch the Healthy Ageing Promotion Programme For You (HAPPY) programme. The comprehensive multi-component intervention initiative aims to help seniors maintain good physical and mental health. Key features of HAPPY include dual-task exercises, which offer a combination of physical exercise and mind training performed in groups. Participants also engage in cognitive tasks of varying complexity and receive advice on healthy ageing and diet. Senior volunteers are being trained to run the programme, to ensure its sustainability.

HAPPY was modelled after Cognicise, a programme that was shown to improve and stabilise mild cognitive impairment in Japanese seniors.

NUH Physiotherapy Day



NUH Physiotherapy Day was held on 16 September 2017 at NUHS Tower Block. Physiotherapists marked the occasion by sharing tips on how to manage weight through a healthy lifestyle. Participants then walked the talk by sweating it out at game booths and aerobics classes.

Art with a Heart

The healing and inspirational benefits of creative outpourings.

JurongHealth Campus kicked off its Arts&Health Festival on 7 September 2017 with an exciting line-up of performances, activities and exhibitions around the campus. Themed *Journey*, the two-day festival led participants on a journey of lived experiences, memories and imagination. Many visitors were drawn to its community art exhibition. Titled *Love Blossoms From a Seed*, it showcased a collection of 30 paintings by artist Ranae Lee-Nasir and eight students from Grace Orchard School, which caters to students with mild intellectual disability or autism.

The festival also saw the premier of *Rise Above*, a series of some 40 colourful floral prints and murals in the NTFGH Chemotherapy Bay and Cancer Clinic. Co-created by artist Mary Bernadette Lee and cancer survivors from the Singapore Cancer Society, the collection was inspired by the resilience, courage and hope of these survivors. It creates an inspirational, soothing and supportive environment within the Chemotherapy Bay and Cancer Clinic. *Rise Above* is a community art project under the JurongHealth Campus Arts&Health Programme.



Prof John EL Wong, Chief Executive, NUHS (far right), and Assoc Prof Cheah Wei Keat, Chairman, Medical Board, NTFGH (middle), with community art partners from Adventist Activity Centre @ Golden Peony, Grace Orchard School, Jurong East View RC, Ren Ci @ Bukit Batok Street 52 and Singapore Cancer Society.

COMMUNITY HEALTH INITIATIVES BLOSSOM

NUS STUDENT-LED INITIATIVES BRING HEALTH SERVICES CLOSER TO COMMUNITIES.



TIME FOR A CHECK-UP

About 1,102 Singaporeans and Permanent Residents aged 40 years old and above were screened for frailty, mental and oral health as well as chronic illnesses like cardiovascular disease and various cancers, at a free comprehensive health screening in Jurong on 21 and 22 October 2017. The screenings were held as part of Public Health Service, an annual community initiative.

Organised by students of NUS Medicine, PHS aims to promote good community health through preventive measures, and spread awareness of the need and ways of looking after one's health through education programmes. The initiative also enlists the support of NUS students from Nursing, Pharmacy, Dentistry and Social Work, Nanyang Technological University's Lee Kong Chian School of Medicine, Duke-NUS Medical School, as well as volunteer doctors.

Among the new tests introduced this year are mental health screenings for dementia and depression for people age 60 years old and above, as well as consultation and registration for social support services to residents in need of financial help. Explaining the

importance of such services, co-director of PHS 2017 Ms Sarah Tham, said, "Over the past few years, we have found out that it is not enough to screen for purely physical ailments. Mental health is a huge component of healthcare, which affects a person's physical health and his ability and willingness to keep healthy, and it also inflicts stress on caregivers as well."

NO ONE LEFT BEHIND

Despite the importance of such screenings, they can be foregone by the elderly and residents of rental blocks with lower socio-economic status. These vulnerable groups may not actively seek treatment for diagnosed conditions.

To help them, the community has stepped in with the Neighbourhood Health Service (NHS) — a project initiated in 2008 by NUS Medicine, Nursing and Social Work students. Free health screenings are either conducted at common spaces like the void deck or in the homes of less-mobile residents. This year's health screenings were conducted at Eunos Crescent and Kampong Glam in September and October respectively.



23,000

Total estimated number of residents screened under PHS and NHS



84.9%

of the 218 residents flagged out for follow-up during NHS 2015 were either reconnected to the healthcare system or kept an eye on via phone calls and house visits



PHS 2017 involved

910

volunteers, providing a total of

6,908

volunteer hours