



TRANSFORMING

CARE



... THE AHS WAY

Alexandra Health System
Annual Report 2016/2017



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OUR VISION

Help our people live a long, healthy life and support them with thoughtful, dignified care to the end.

OUR MISSION

Provide good quality, affordable and hassle-free healthcare with science, love and wisdom.

OUR CARE PHILOSOPHY

Care that is good enough for our own mothers without making special arrangements.

Message from Chairman



The impetus to transform care the Alexandra Health System (AHS) way can be traced back to the transformation story of Alexandra Hospital (AH) in the year 2000. The management team, under the leadership of then Chief Executive Officer (CEO) Mr Liak Teng Lit, successfully transformed the little hospital into one that topped the annual Patient Satisfaction Survey by the Ministry of Health (MOH) for six consecutive years. With its physical transformation, AH also made a name for itself as a healing oasis for patients. The management team's relentless pursuit to reinvent healthcare culminated in the building of our integrated regional health ecosystem in the northern Singapore.

CARING FOR SINGAPORE RESIDENTS

The year 2016 marked a major shift as we made significant inroads into the community. We brought access to health and healthcare closer to residents with the opening of three Wellness Kampung. Managed in collaboration with St Luke's Elder Care and Nee Soon grassroots

organisations, the three Wellness Kampung started operations in April 2016. They encourage ageing in place for residents by enabling a network of communal spaces with various programmes where seniors can gather and support each other in physical exercises and do-it-yourself style rehabilitation. Community nurses stationed at these spaces maintain a reassuring and motivating presence for both volunteers and residents receiving support. These work in tandem with the existing Ageing-in-Place home visits by our Community Care Team.

Yishun Community Hospital (YCH) officially opened on 28 November 2016. Care at YCH focuses on helping patients regain their independence so they can manage well when they return home. In shifting beyond good quality rehabilitative and sub-acute care to what is meaningful to patients, YCH collaborated with different partners to introduce various activities and programmes that enhance patient recovery. One of them is the monthly inter-generational programme by pre-schoolers from The Little Skool-House By-The-Lake. The children

bring liveliness to the wards while the quality time spent with the elderly provide valuable interaction with those who have experienced life in its richness.

In the acute care setting, Khoo Teck Puat Hospital (KTPH) continues to improve the delivery of hassle-free care. The waiting time at KTPH Emergency Department for admission to inpatient wards reduced with the opening of the Extended Diagnostic & Treatment Unit. More initiatives were implemented to deliver rapid diagnosis and acute treatment, resulting in better recovery outcomes and shorter length of stay for patients. These initiatives include the set-up of an Acute Medical Unit, early mobilisation of Intensive Care Unit patients, and a system for emergency surgery and trauma care. In a step forward to better manage complex and chronic disease conditions, KTPH's specialist outpatient clinics will be extending their services into the housing estate with the opening of Admiralty Medical Centre (AdMC) in July 2017.

AHS is on track to building an integrated health ecosystem in the North. Woodlands Health Campus (WHC), the first hospital in Woodlands, broke ground on 18 April 2017. Set to open progressively from 2022, the new health campus will be an expansive healing environment that comprises an integrated acute and community hospital, specialist outpatient clinics and a long-term care facility.

OUR PEOPLE

I take this opportunity to congratulate three of our outstanding clinicians. YCH's Chairman of the Medical Board, Associate Professor (A/Prof) Pang Weng Sun was recognised with the National Outstanding Clinician Educator Award. Professor C. Rajasoorya and A/Prof Sum Chee Fang were lauded with the inaugural Distinguished Senior Clinician Award conferred by MOH.

A NEW CHAPTER

In January 2017, MOH announced the re-organisation of the public healthcare system and AHS will be merged with National Healthcare Group by the end of this year. The merged entity will offer a comprehensive range of services that encompasses acute and community hospital care, primary care, home and community care as well as medical education. This change presents an opportunity to collaborate and scale up AHS's strengths in promoting health, wellness and community engagement across geographical boundaries.

As we step into a new chapter, I would like to thank AHS's Board of Directors past and present for their support throughout our journey. Our Group CEO Mr Liak played a major role in the AHS story of transforming care over the past 17 years. His vision and leadership shaped the northern regional health system into what it is today. On behalf of the AHS Board, I wish him well as he embarks on his new endeavours outside of the public healthcare sector.

I would also like to express my appreciation to MOH, government agencies, our community partners and friends. In the ensuing pages of this report, we chronicle the story of AHS in transforming care and fulfilling our mission. These achievements would not have been possible without the guidance and support of our partners.

In the spirit of transformation for sustainable health care, we are excited to turn the page and start a new one. The story of AHS is evolving, but our vision remains – to help our people live a long, healthy life and support them with thoughtful, dignified care throughout their lives.

Ms Jennie Chua

Chairman, Alexandra Health System

Board of Directors



Ms Jennie Chua
Chairman, Alexandra Health System



Ms Mavis Khoo



Mr Seah Moon Ming



Mr Robert Chew



Mr Ramlee Bin Buang



Mr Douglas Foo



Ms Teoh Zsin Woon



Mr Tan Boon Khai



Prof Chee Yam Cheng



Mr Tow Heng Tan



Ms Chu Swee Yeok



Mr Anthony Seah



Dr Quek Peng Kiang



Mr Liak Teng Lit



Mr Roger Leong
Company Secretary

We would like to thank Mr Anthony Seah and Dr Quek Peng Kiang (till 30 September 2016) for their contribution.

Senior Management



Mr Liak Teng Lit
Group Chief Executive Officer,
Alexandra Health System



Mrs Chew Kwee Tiang
Chief Executive Officer,
Khoo Teck Puat Hospital



Dr Pauline Tan
Chief Executive Officer,
Yishun Community Hospital



Mr Roger Leong
Chief Financial Officer,
Alexandra Health System



Ms Magdalene Chai
Group Chief Human Resource Officer,
Alexandra Health System



Dr Wong Sweet Fun
Chief Transformation Officer,
Alexandra Health System,
Deputy Chairman, Medical Board,
Yishun Community Hospital &
Senior Consultant, Geriatric Medicine,
Khoo Teck Puat Hospital



Mr Alvin Ong
Chief Information Officer,
Alexandra Health System



Dr Howard Foo
Senior Director, Clinical Manpower
Planning, Alexandra Health System
& Chief, Corporate Services,
Woodlands Health Campus



Ms Caroline Lim
Director, Alexandra Health
Institute and Group
Corporate Communications,
Alexandra Health System



Ms Cheong Choy Fong
Director, Quality Management Office,
Alexandra Health System



Mr Bastari Irwan
Director, Transformation Office,
Alexandra Health System



Dr Jason Cheah

Chairman, Pro-tem
Planning Committee,
Woodlands Health Campus



A/Prof Pang Weng Sun

Chairman, Medical Board,
Yishun Community Hospital &
Senior Consultant, Geriatric Medicine,
Khoo Teck Puat Hospital



A/Prof Pek Wee Yang

Chairman, Medical Board and
Senior Consultant, General Medicine,
Khoo Teck Puat Hospital



Ms Low Beng Hoi

Chief Nurse,
Alexandra Health System



Ms Yen Tan

Chief Operating Officer,
Khoo Teck Puat Hospital



Mr Samuel Ng

Chief Operating Officer,
Yishun Community Hospital &
Senior Director, Special Projects,
Alexandra Health System



Dr Wong Moh Sim

Deputy Chairman, Medical Board,
Head and Senior Consultant,
Laboratory Medicine,
Khoo Teck Puat Hospital



A/Prof Terence Tang

Deputy Chairman, Medical Board, and
Senior Consultant, Geriatric Medicine,
Khoo Teck Puat Hospital



Mr Donald Wai

Director, Hospital Planning,
Alexandra Health System



Mr Lim Theam Siew

Director, Corporate Development
and Business Office,
Alexandra Health System

We would like to thank Mr Liak Teng Lit (till 31 March 2017) for his contribution.

Heads of Department

KHOO TECK PUAT HOSPITAL

1. **Dr Sanjay Patel**
Head and Senior Consultant,
Acute & Emergency Care Centre
2. **Dr Edwin Seet**
Head and Senior Consultant, Anaesthesia
3. **Dr Lee Chee Wan**
Head and Senior Consultant, Cardiology
4. **Dr Wu Loo Cheng**
Head and Senior Consultant, Dental Surgery
5. **A/Prof Subramaniam Tavintharan**
Director, Diabetes Centre
6. **Prof Wilfred Peh**
Head and Senior Consultant, Diagnostic Radiology
7. **Dr Phoa Lee Lan**
Head and Senior Consultant, General Medicine
8. **Dr Angeline Seah**
Head and Senior Consultant, Geriatric Medicine
9. **A/Prof Yip Chee Chew**
Head and Senior Consultant,
Ophthalmology & Visual Sciences
10. **Dr David Loke**
Head and Senior Consultant,
Otolaryngology (ENT), Head and Neck Surgery
11. **Dr James Tan**
Head and Consultant, Orthopaedic Surgery
12. **Dr Chan Keen Loong**
Head and Senior Consultant,
Psychological Medicine
13. **A/Prof Tan Kok Yang**
Head and Senior Consultant, General Surgery
14. **Dr Colin Teo**
Head and Senior Consultant, Urology
15. **A/Prof Lim Su Chi**
Head and Senior Consultant, Clinical Research Unit
16. **Dr Michael Wong**
Head and Senior Consultant, Health for Life Centre
17. **Dr Doreen Tan**
Chief Pharmacist and Head, Pharmacy
18. **Ms Jenny Goh**
Head, Medical Social Services
19. **Ms Ng Lih Yen**
Head, Rehabilitative Services
20. **Ms Gladys Wong**
Chief Dietitian and Head,
Nutrition & Dietetics Department
21. **Ms Fatimah Moideen Kutty**
Director, Operations
22. **Dr Mary Ho**
Director, Clinical Services

We would like to thank the following for their contribution:

- Dr Francis Lee, Head and Senior Consultant, Acute & Emergency Care Centre (till December 2016)
- Dr Ong Hean Yee, Head and Senior Consultant, Cardiology (till October 2016)
- Dr Terence Tang, Head and Senior Consultant, Geriatric Medicine (till December 2016)
- Ms Wendy Lim, Head, Rehabilitative Services (till January 2017)

YISHUN COMMUNITY HOSPITAL

1. **Dr Lee Kok Keng**
Head, Medical Services
2. **Mdm Chua Gek Choo**
Director, Nursing
3. **Ms Low Suat Fern**
Principal Pharmacist
4. **Ms Chua Ee Cheng**
Principal Medical Social Worker
5. **Ms Lynn Chua**
Senior Principal Physiotherapist, Rehabilitative Services
6. **Ms Chan Sue Mei**
Principal Dietitian

The Alexandra Health Story



AHS MILESTONES



2006

28 November:
Groundbreaking ceremony of KTPH



2010

March onwards:
Progressive opening of KTPH

15 November:
Official opening of KTPH by the late Minister Mentor Mr Lee Kuan Yew



2008

Establishment of AHS cluster. Officially left NHG to be the Regional Health System in the North

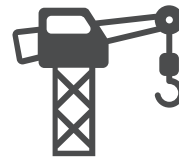


2000

1 October:
Restructuring of AH under National Healthcare Group (NHG)

2009

29 June:
Topping out ceremony of KTPH



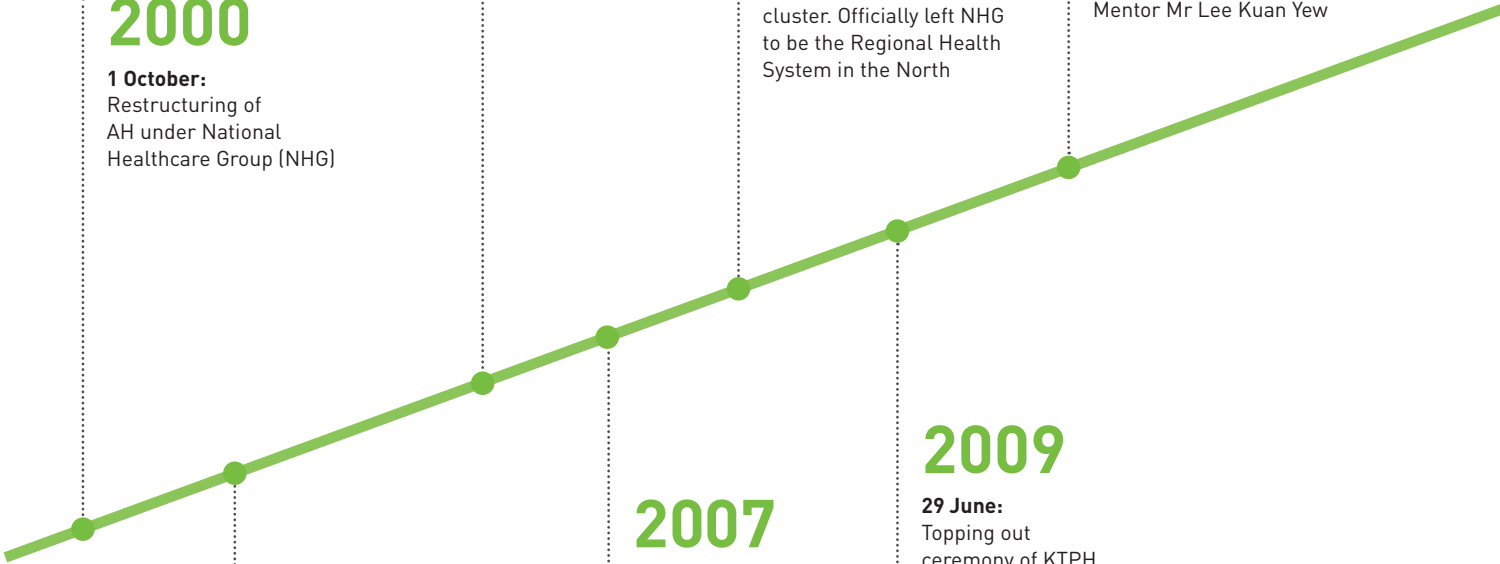
2007

7 October:
Formation of AHS board



2004

17 March:
Challenge of building a "hassle-free and patient-centred hospital" in the North by the then Health Minister Mr Khaw Boon Wan





2013

23 August:
Groundbreaking ceremony of YCH



2015

10 April:
Topping out ceremony of YCH

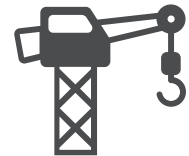
28 December:
YCH took in its first patient

2017

18 January:
Ministry of Health (MOH) announcement of merger of AHS with NHG

18 April:
Groundbreaking ceremony of WHC

8 July:
Scheduled soft opening of AdMC



2016

3 September:
Topping out ceremony of AdMC

15 September:
Official opening of Wellness Kampung

28 November:
Official opening of YCH



2014

April:
Set up of Population Health

23 August:
Groundbreaking ceremony of AdMC



2011

September:
Start of Ageing-in-Place (AIP) programme

October:
First Community Nurse Post in the North



CARING FOR OUR RESIDENTS IN THE NORTH

To better serve the 800,000 residents in the north of Singapore, AHS has been steadily extending its network of care since KTPH opened in 2010. Subsequently, in 2015, YCH was opened next to KTPH for better care integration. Our latest addition, AdMC, will open in July 2017. It will be followed by WHC, which is set to open progressively from 2022.

We also have 13 Community Nurse Posts that now reach more deeply into the community – making it easy for residents to monitor their health regularly. To support the community to age well in place, AHS set up three Wellness Kampung in collaboration with partners to encourage the elderly to drop by daily to participate in activities, socialise and even volunteer. (Turn to page 46 for more.) Similarly, 13 Share-a-Pot venues encourage the elderly to socialise and stay active as they gather for a heartwarming bowl of nutritious soup. (Turn to page 22 for more.)



LEGEND

			
Healthcare Institution	Wellness Kampung	Community Nurse Post	Share-a-Pot*

*Three other Share-a-Pot locations not shown in the map are:
 • **Agape Village** (7A Toa Payoh Lor 8)
 • **Bukit Panjang Zone 10 RC and Fajar Sec Sch** (441 Fajar Rd)
 • **Church of St Vincent de Paul** (301 Yio Chu Kang Rd)





Sembawang

Sembawang Zone "K" RC
Blk 588C Montreal Dr

Admiralty Pri Sch
11 Woodlands Cir

Sembawang Zone "J" RC
Blk 793 Woodlands Ave 6

Admiralty Medical Centre
Blk 676 Woodlands Dr 71

Woodgrove Zone 1 RC
Blk 521 Woodlands Dr 14

Woodlands Galaxy Community Club
31 Woodlands Ave 6

Wellness Kampung @ 115 (Chong Pang)
Blk 115 Yishun Ring Rd

All Saints Home (Yishun)
551 Yishun Ring Rd

Church of Our Lady Star of the Sea
10 Yishun St 22

Wellness Kampung @ 260 (Nee Soon East)
Blk 260 Yishun St 22

ACE The Place Community Centre
120 Woodlands Ave 1

Covenant Evangelical Free Church (Woodlands)
90 Woodlands Drive 16

Woodlands Health Campus
Woodlands Drive 17

Chong Pang Social Service Hub (Thye Hua Kwan)
Blk 131 Yishun St 11

Sree Narayana Mission Home (Yishun)
12 Yishun Ave 5

Nee Soon East Community Club
1 Yishun Ave 9

Nee Soon East Zone 9 RC Centre
Blk 398 Yishun Ring Rd

Wellness Kampung @ 765 (Nee Soon Central)
Blk 765 Yishun St 72

Wellness For Life @ Nee Soon South
Blk 839 Yishun St 81

Khoo Teck Puat Hospital
90 Yishun Central

Yishun Community Hospital
2 Yishun Central 2

Singapore Anglican Community Services Centre @ Florat Spring
Blk 426A Yishun Ave 11

Nee Soon



AHS Board Members and Senior Management with Guest-of-Honour Minister for Health Mr Gan Kim Yong (middle), Senior Minister of State, Ministry of Health Dr Lam Pin Min (sixth from left), and Member of Parliament for Nee Soon GRC Er Dr Lee Bee Wah (sixth from right), at the Official Opening Ceremony of YCH on 28 November 2016.

INTRODUCTION: THE AHS WAY






From its inception, AHS has strived to change the way healthcare is delivered. Our healthcare mission is focused not only on treating diseases, but also preventing them. We aim to add years to life, as well as knowledge, health, and quality. AHS has also widened its scope of care, extending services that go beyond its hospitals' boundaries by providing appropriate types and levels of care that are tailored to the needs of the community we belong to. One important characteristic of the AHS way is empowerment. By equipping the community with tools, resources and platforms, they can take charge of their health and make healthier choices.

Preventive health thus forms a large part of what we do to keep people well and healthy. Apart from supporting the community in healthy activities, we also run holistic

efforts to identify and act on chronic illness early, and comprehensively manage the health conditions of those who have been diagnosed. Our mission also extends to helping the elderly age well in their homes and neighbourhoods, and to those at the end of life to find comfort and reassurance to die well.

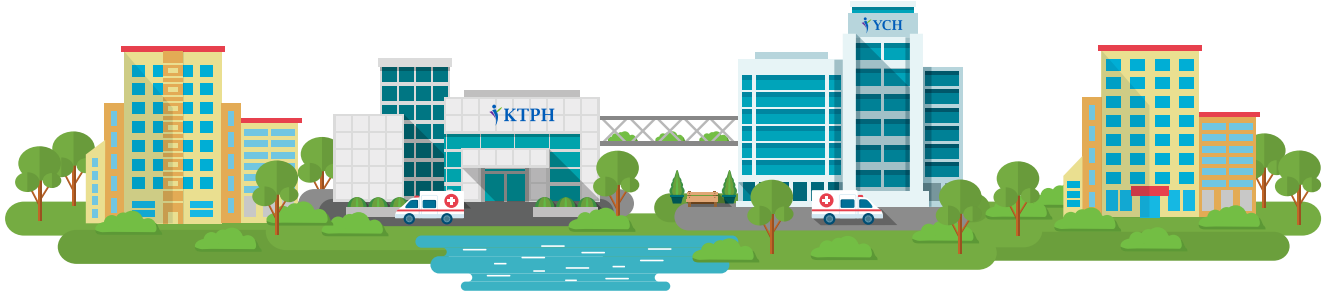
Driving this mission of care are longstanding population health efforts that started in 2001. For the last 16 years, we have run screening programmes to better understand our community, their health statuses, lifestyles and health needs. What we have found is that our residents fall mainly into five segments: the Well Healthy, Well Unhealthy, Unwell Unhealthy (Early), Unwell Unhealthy (Advanced), and Frail and Dying. This understanding has helped us to develop targeted programmes for each segment.

MANAGING THE POPULATION IN THE NORTH

Population Stratification	 Well Healthy People who take ownership of their health by exercising regularly and eating healthily	 Well Unhealthy People who are unaware that their unhealthy lifestyles may put them at risk of developing chronic illnesses	 Unwell Unhealthy (Early) People with medical exigencies and patients with existing chronic illnesses	 Unwell Unhealthy (Advanced) Patients with multiple medical conditions that are poorly managed	 Frail and Dying Patients with multiple medical conditions who are usually bed-ridden and living out the last 1,000 days of their lives
Major Care Thrust	Prevention, lifestyle change		Chronic disease management		End-of-life care
	Acute episodic care				
Care Settings	Community Nurse Posts		Homes, Nursing Homes		
	GPs, Polyclinics		Admiralty Medical Centre		
	Khoo Teck Puat Hospital, Yishun Community Hospital, Woodlands Health Campus				
Programmes	Community health programmes Wellness Kampung			Ageing- and Dying-in-place	

AHS CARE CONTINUUM

Our integrated care pathway identifies illness early, brings patients from acute to intermediate care and back home, in a safe and efficient manner.



Resident has access to health services in the community



Health professionals at Community Nurse Posts, markets, community centres and senior activity centres provide health screening and advice



Support network at Wellness Kampung provides wellness and active ageing activities

Patient is admitted to KTPH for an acute episode



During admission, the patient is assessed for suitability for community hospital



Once the patient's condition has stabilised, he will be transferred to YCH via the link bridge

Patient undergoes rehabilitation in YCH



Decentralised gym in each rehabilitation ward enables proactive rehabilitation



Gardens linked to each rehabilitation ward provide a healing environment



Caregiver training



Art and music therapy



Communal area designed to feel like home, with TV, self-service snack kiosk and dining tables, encourages interaction and independent living

Patient is discharged home with follow-up care



Multidisciplinary team from AIP-CCT programme



Specialist Outpatient Clinic follow-up in KTPH and AdMC

YISHUN COMMUNITY HOSPITAL OPENS

On 28 November 2016, YCH marked its official opening in a ceremony graced by Health Minister Mr Gan Kim Yong. In his opening speech, Mr Gan recognised the important role YCH will play in the delivery of seamless healthcare that spans the range of needs from acute illness to recovery. He noted that acute and community hospitals should collaborate closely so patients can move smoothly from acute care to intermediate care, and eventually home convalescence.

“That is why we have built new community hospitals like YCH next to acute hospitals to strengthen the care continuation and integration, and to act as a bridge from the acute hospital to the home and the community,” he said.

To commemorate the official opening, Mr Gan penned a piece of calligraphy reading “养身之道” (meaning the art of wellness). He in turn received a drawing of YCH by a former patient Mr Heng Peng Swan who, while rehabilitating at YCH, was encouraged to draw again after a hiatus of 50 years.

In her address, YCH CEO Dr Pauline Tan highlighted the community hospital’s care ethos, “Respecting Patients, Empowering Staff and Integrating Communities.” This, she said, is about treating patients as one would a loved one: spending quality time and communicating with them. This meant that when palliative care patient, Mr Shah, 40, remarked that he wished to dye his hair so he could look good again despite his failing health, his Occupational Therapist Ms Cara Lee took it upon herself to buy hair dye and help him colour his hair. He passed away a few weeks later.

YCH has made it a point to connect with the community and welcome them as an integral

part of the hospital. Dr Tan said, “Patients at YCH enjoy a host of activities, from horticulture to paper quilling and art classes. These sessions are run by volunteers from all walks of life, including young students from The Little Skool-House. Our volunteers contribute their time and talents to keep patients active and engaged during their rehabilitation, helping patients get better and return home. Together we bridge the care from hospital to home.”

Services in demand

Even before its official opening, YCH served more than 1,400 patients since its “soft launch” in December 2015.

ON TRACK TO SERVE: ADMIRALTY MEDICAL CENTRE

AHS’s AdMC is on track to open in the third quarter of 2017. The two-floor medical centre will be part of Kampung Admiralty, a unique “modern kampung” that will integrate healthcare, community wellness and elder living. Facilities will include a childcare centre, Active Ageing Hub and studio apartments for the elderly. Minister of Transport and Member of Parliament for Sembawang GRC Mr Khaw Boon Wan officiated the Topping Out Ceremony on 3 September 2016.

With AdMC, residents in Woodlands and Admiralty will have more convenient access to healthcare services such as specialist diabetes care. The diagnostic and treatment centre will also provide day surgery and treatment for conditions such as cataracts, hand injuries and hearing loss.

CARING FOR OUR COMMUNITY OF THE FUTURE

WHC, the first hospital in Woodlands, broke ground on 18 April 2017. The 1,800-bedded

SMARTLY DOES IT

WHC will use smart technology to improve care delivery, patient experience and operations



Telehealth services to make consultations more convenient



Online, apps and mobile-centric services for greater accessibility



In-ward sensors and wearable devices to monitor health statuses



Artificial intelligence for improved decisions and cheaper, better and faster care



Robotics for food services, warehousing, housekeeping and the Central Sterile Supplies Unit

integrated development will comprise specialist outpatient clinics, an acute and community hospital, and a long-term care facility. It is set to open in phases from 2022. WHC will deliver person-centric and quality healthcare by integrating three components: smart technology, green spaces for patient healing and a strong ecosystem for community care. It aims to foster health promotion, engage residents and connect them seamlessly to health and primary care providers.

“Woodlands Health Campus will be a major health hub where patients can experience enhanced access to quality healthcare enabled with smart technology. But more than that, we have also designed it as a vibrant community hub where residents can engage in community activities within the open spaces and enjoy the healing effects of the gardens and the surrounding parkland. We hope the campus will become a vital and cherished asset for the communities we serve and for future generations to come,” said Dr Jason Cheah, Chairman, Pro-Tem Planning Committee, WHC.

“Over the years, we’ve grown from Alexandra Hospital to a larger Alexandra Health System. We’ve made inroads and improved our care delivery. We’ll continue to innovate to provide better value and more efficient care to meet the health challenges of our community. Our journey does not end – it will be a continuing process of being better than before.”

– A/Prof Pang Weng Sun,
Chairman, Medical Board, YCH, and Senior Consultant, Geriatric Medicine, KTPH

DRIVING RESEARCH TO MEET THE NEEDS OF AN AGEING POPULATION

To develop, coordinate and implement initiatives to strengthen geriatric education and research in Singapore, the Geriatric Education and Research Institute (GERI) was set up by MOH in 2015 as a national institute. GERI is led by Executive Director, A/Prof Pang Weng Sun.

An ageing population brings with it complex challenges and there is an important need to conduct geriatric research on areas such as age-related physiological and clinical changes. It is also necessary to translate findings of basic sciences and clinical research to inform clinical care, treatment modalities, disease prevention, risk factors management, and health promotion.

Quality education of healthcare professionals involved in the care of older people is essential. To groom the next generation of geriatric care professionals, GERI will spearhead new curricula, customise training programmes and integrate training across various institutions and organisations. These will focus on understanding the special needs and clinical management of elderly patients and incorporating them into their core competencies.

The facilities of GERI include space for six labs and one Smart Home lab to study the needs of the geriatric population. The first lab in GERI will be kitted out for the Gait Lab, which will study the relationship between mobility and cognitive decline through gait and falls measures, and test interventions to improve gait and prevent falls. GERI also has a Biobank to provide long-term storage of patients’ samples for research purposes.



Be happy and you will
be healthy too!

Mdm Goh Ning, 80

● ● ●
**LIVING WELL,
LOVING LIFE**

• Mdm Goh Ning, 80

Cheerful and full of vigour, Mdm Goh is an octogenarian who doesn't look a day over 70. The grandmother of three who recently "graduated" to great-grandmother status believes that a happy spirit is key to a healthy body.

What lifts her spirit is her daily visit to the Wellness Kampung @ 115 Chong Pang, which has become a place to connect with others, make new friends and catch up with old ones. She also enjoys taking part in activities at the centre, such as cooking demonstrations. Unable to read or write, Mdm Goh particularly enjoys the health talks as she is able to ask questions and pick up new information directly from the nurses. Apart from improving her emotional and social wellness, the Wellness Kampung has helped her to stay healthy. Mdm Goh occasionally joins the light exercise classes and sees the community nurse regularly to keep tabs on her blood pressure and cholesterol.

Soon after joining the centre last year, Mdm Goh became a "Kampung Buddy". She helps deliver lunch to five home-bound and needy residents five days a week, through the Meals on Wheels programme. Giving back to the community as a volunteer was something she couldn't imagine doing at 80. As a result, she is more energised than before.

"I've always been active," she shared. Whether it was helping out on her parents' farm as a girl, caring for her children while taking on sewing as a homemaker, or entering the workforce in her 40s, Mdm Goh believes in keeping busy and happy. Rather than staying at home, she prefers dropping in at the Wellness Kampung to interact with others and be an active part of the community. "It's no good to stay home all day or to worry about things. Your mind will slow down and you will get dementia," she says with a laugh. "Be happy and you will be healthy too!"

KEEPING WELL AND HEALTHY

Enabling and empowering the community to remain healthy and well, physically, mentally and emotionally form the foundation of AHS's goals. We strongly believe in taking proactive steps to keep the community well and healthy. We do this by engaging people of all ages and backgrounds in community activities, educating the populace with informative talks and awareness campaigns or by providing the platforms to help people take charge of their own wellbeing.

These varied and numerous initiatives all strive to achieve our five pillars of health – eat wisely, exercise regularly, be happy, stop smoking and practise personal hygiene.

Take Mdm Goh for instance. Having a Wellness Kampung within her community has had a positive impact on her life. Apart from the social interaction through meeting new friends and volunteering, the Wellness Kampung is a place where she can stay active and learn new things daily, keeping her healthy in body, spirit and mind.



The Wellness Kampung supports SWAMI's Meals on Wheels programme to deliver meals to some residents living nearby. This is a programme where meals are delivered to homebound residents who lack the functional and/or cognitive ability to independently buy and prepare their own meals and do not have a caregiver to help them to do so.

EMPOWERING THE COMMUNITY WITH KNOWLEDGE

Education and awareness are the first steps to achieving good health. To arm the community with the knowledge to make better decisions, improve their lifestyles and take ownership of their health, AHS continued its educational talks and community health initiatives, and introduced some new programmes to better serve the community's healthcare needs.

MINI MEDICAL SCHOOL @ KTPH

Aimed at improving health literacy through informative and easy-to-understand talks, Mini Medical School (MMS) @ KTPH sees medical experts presenting timely and relevant topics in an interactive setting. MMS was started in 2013 with the goal of empowering people to take charge of their health by making positive lifestyle choices, and to be health advocates.

"I was inspired by the American healthcare institutions which used such programmes to educate the public about the ageing process," said Dr Ong Chin Fung, who started MMS @ KTPH. "As our society ages, we need individuals to become more empowered in taking care of their health so that healthcare resources can be better optimised."

In the past, topics have ranged from age-related illnesses to the management of chronic conditions. In Financial Year 2016, two runs of MMS were held. The first, "TheatreWorks", in October 2016, was on the topic of surgery. It covered the importance of pre- and post-op preparation. Speakers spoke on the evolution of surgical techniques, transdisciplinary care in surgery, as well as diagnostic evaluation using imaging. Also included was a useful primer on surgical wounds and how to care for them.

The second series, held in January 2017, was a comprehensive look at metabolic syndrome. Crafted in support of the national "war on diabetes", speakers talked about diabetes, lipid metabolism, genomics and the diabetes-genetics link. They also shared useful information on the impact of carbohydrates in diabetes management, and the effect of age on weight and fat gain. To date, there have been 10 runs of MMS @ KTPH and a total of 1,533 participants have graduated from the programme.

COMMUNITY HEALTH SCREENING

AHS's mission of care is not limited to the grounds of its hospitals, but extends far beyond, into the community. We believe in bringing healthcare to the heartlands and making our presence known and felt in the community. Since 2013, with funding from the Ministry of Health, AHS has run a four-year long community screening project as part of its Population Health programme in the North. This health initiative is in partnership with the People's Association and the Health Promotion Board. Since then, AHS has screened 18,469 residents – surpassing its goal of 17,000.



2000
The Health For Life Clinic offered screening packages to aid the early detection of lifestyle related diseases. It also ran health education and intervention programmes and connected the public to the healthcare resources and services they needed

2001
AH developed the Community Outreach Programme, organising health talks on disease prevention and community health screenings

2006
Eighty doctors, nurses and ambulance staff were on hand to provide first aid and medical supervision along the route at the Standard Chartered Marathon



Students of MMS @ KTPH with their "lecturers" at the graduation ceremony.



2011

The transformed Yishun pond was designed to facilitate an active lifestyle with an open promenade, custom-designed running track, exercise corner and bicycle racks for staff

2013

MMS @ KTPH was started to provide useful health information and education to the community so that they can manage their own health and that of their loved ones

Our health screenings do more than give residents information on their blood pressure, cholesterol and blood sugar levels. Health screening in the community is a form of early intervention for those with risk factors and chronic diseases. Our screenings are a platform to educate and empower residents to take responsibility for their health and manage their conditions well to prevent complications. More than this, the data collected helps us to understand the health profile and needs of the community in the North so we can develop better and more relevant services to meet the community's needs.

SHARE-A-POT

Communal meals have long been part and parcel of Singapore's eating culture and are a way to share and build bonds. To kindle a sense of community, nurture a spirit of giving and receiving, as well as monitor the wellbeing of vulnerable seniors in the neighbourhood, AHS, in collaboration with community partners, started Share-a-Pot in September 2014.

The community-based project aims to improve the nutrition and health of seniors in the community through good nutrition and physical activity in a social setting. The goal is to "build bones, brawn (muscle), brain (cognitive reserve) and bonds". This is done through the sharing of a hearty bowl of soup that is high in protein and calcium.

The Share-a-Pot sessions are held at accessible community locations as well as the various Wellness Kampung. Apart from partaking in the soup, the seniors are also encouraged to take part in some light exercises such as aerobics, Zumba and resistance band exercises. These sessions not only offer seniors a platform to socialise and be more active, but also give the AHS Population Health team the opportunity to

do periodic physical, functional and psychosocial assessments and identify elders in need of early intervention and care. As of 31 March 2017, AHS has set up 13 active Share-a-Pot sites and registered almost 1,000 seniors, of whom about 500 are regular attendees.



Share-a-Pot volunteers preparing ingredients for the nutritious soup.

MEATLESS MONDAY MOVEMENT

In March 2017, KTPH became the first Singapore hospital to start a Meatless Monday campaign. The aim is to encourage the community to reduce meat or animal product consumption by one day a week for better health and environment. This is also based on the growing evidence of the health benefits of switching from meat-based to plant-based protein.

To this end, AHS dietitians held a three-day roadshow to educate staff and the public about the benefits of a plant-based diet, during which 340 people pledged to go meat-free once a week. They also held two forums during the campaign.

A nutrition public forum showed 178 participants how to create balanced meatless diets, how to reduce and recycle food waste, and how to grow edible plants at home. Two series of "Garden-to-Table"

recipe cards, which have simple instructions to make healthy and tasty plant-based meals with eight ingredients or less, were launched. These recipes were developed by KTPH dietitians, chefs, Wellness Kampung staff and gardening volunteers. At the GP Symposium, dietitians updated doctors on the latest research on plant-based diets and gave practical food tips for them to share with their patients. Special guest speaker, Dr Lin Ming-Nan from Taiwan Dalin Tzu Chi General Hospital, spoke on “Sustainability and Health”.

To sustain the momentum of the campaign, nurses at KTPH and YCH continue to

encourage suitable inpatients to choose vegetarian meals on Mondays.

EMPOWERING THROUGH EDUCATION

To better arm the community with knowledge to make better choices in preventing or managing chronic disease, AHS ran several talks, forums, public events and campaigns in Financial Year 2016. These events – on topics such disease awareness and the promotion of healthy lifestyles – targeted various segments of the population and spanned language, age groups and demographics.



2013
Widespread community health screenings rolled out as part of Population Health programme to understand the health profile of the community in the North

2016
In line with promoting health at all levels, the Foodfare @ KTPH was redeveloped to offer a wider variety of Healthier Choice food and drinks



Panelists sharing on “Kidney Stones – A Hard Problem” at the urology public forum.



Over 8,800 eyes were screened as part of Age-related Macular Degenerative Awareness Week 2016.



Participants learning about colorectal cancer through games at the colorectal cancer forum conducted in Mandarin.



A nutrition public forum “Healthier Waist with Less Waste” educated participants on reducing food wastage and sustainable eating.

OUR FIVE PILLARS OF HEALTH

Healthy living is all about making better decisions. AHS provides the right environment to make these choices easier for staff, patients and the community to achieve our five pillars of health.



Eat wisely

Foodfare @ KTPH “nudges” healthier decisions by giving more prominence on the menu boards to Healthier Choice meals, which are less than 500kcal per serving. Brown rice is also served as the default carbohydrate source, while sugar-sweetened beverages are priced higher to deter purchase. At KTPH, we continue “to make healthier choices your easy choice” by engaging our vendor partners to provide 80% healthier choices.

To increase the awareness of eating in moderation over the Christmas and Chinese New Year holidays, posters were put up to highlight high-calorie foods and the steps required to burn them off.



Exercise regularly

Each Wellness Kampung holds daily exercise classes that cater to all levels of fitness: from *tai chi* and Zumba to resistance band workouts, modified exercises for the elderly and wheelchair-bound are also available.

AHS holds daily group exercise such as line dancing and *tai chi* at the Yishun Pond Promenade to promote the benefits of an active lifestyle.

Simple messages located in public areas nudge staff and the public to take the stairs, eat better and be mindful of one’s weight.



Be happy

Each year, KTPH celebrates Happiness Day to remind people to find happiness in daily life by practising gratitude, enjoying simple pleasures, and finding meaningful pursuits.

Mental health talks and courses are held to educate people on how to achieve better emotional health and manage stress. This includes a monthly Mindfulness-Based Cognitive Therapy Course.



Stop smoking

KTPH and YCH are Smoke-Free hospitals. This includes outdoor areas directly surrounding the hospitals and Yishun Pond. This ensures that our patients and visitors have fresh air and clean environment.

AHS is working with Nee Soon GRC to raise awareness of the effects of smoking on eyesight. To this end, it has put up posters at Nee Soon’s Designated Smoking Points to encourage smokers to get their eyesight checked.



Practise personal hygiene

KTPH won an infection control award for reducing healthcare-associated Methicillin-Resistant Staphylococcus aureus infections in 2016. Stepped-up screening and other initiatives led to rates falling 17.1% in 2015, more than the national average decrease.

To drive a culture of safety and empower staff to be safety advocates, AHS held the Speaking Up for Safety campaign. Staff underwent training to speak up constructively and respectfully on hygiene safety issues as well as how to respond.

**You must take care of
yourself, if not who is going
to take care of you?**

Mr Tamotharan, 74



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**TURNING
ILLNESS INTO
WELLNESS**

• Mr Tamotharan, 74

Mr Tamotharan, or Mr Tamo as he prefers to be called, was only 40 when he was diagnosed with type 2 diabetes. He had constantly felt thirsty and lethargic. When diagnosed, he was most concerned about the toll diabetes could take on him. “My parents had diabetes and I saw them suffering,” he recalled. But instead of dwelling on the problem, Mr Tamo took a proactive approach to tackle diabetes head on.

He heeded his doctor’s advice on managing the disease. “Take less sugar; no soft drinks. Eat lots of veggies and just a little bit of rice,” Mr Tamo shared. Of course, he added, it is important to have regular meals, monitor one’s blood sugar and take medication at the right time to prevent blood sugar levels from dropping too much. Mr Tamo also began walking 30 minutes daily – an exercise that has kept him energised and happy for 30 years now.

Mr Tamo’s positive mindset and diligent self-care has enabled him to live well with diabetes for 34 years without complications. The 74-year-old is grateful to KTPH’s diabetes team for empowering him with the knowledge to manage his condition well: “My medical team is very friendly; it’s like a family here. I like how I get SMS reminders to ensure I don’t forget to come and see my doctor every four months.” The knowledge he has gained from nurses on diabetes has been the most important part of good diabetes management. “Understand diabetes and how it works. Only then will you know how to control the disease. You must take care of yourself, if not who is going to take care of you?” advised Mr Tamo.

TAKING CHARGE OF THEIR OWN HEALTH

At AHS, screening for chronic disease forms a keystone of our preventive community health efforts. Regular and early screening alerts those who are unaware of their chronic conditions or are at risk of developing one due to their lifestyle. In the North, screening efforts have an added significance as our population health efforts estimate that 40% of the population have an underlying chronic condition they are unaware of.

Many chronic illnesses do not show symptoms in the early stages. Screening spots diseases early so treatment can be more effective. It presents an opportunity for people to take charge of their health, manage their conditions well and prevent complications. Risk factors are also identified for early intervention.

UNDERSTANDING THE NUMBERS

When residents collect their health screening reports, they are encouraged to attend the Group Health Report Review sessions, which present anonymised reports of how their health statuses compare with the community. This puts their results in the larger context – aiding them to interpret their health better. The talks touch on prevention of complications through the good management of chronic diseases such as diabetes and high cholesterol. Lifestyle changes are also highlighted so residents can take steps to reduce risks.

Last year, about 65% of the residents screened attended the bilingual sessions held at schools, void decks, community spaces and KTPH. Participants were also encouraged to sign up for other intervention programmes and to see their own primary care providers or polyclinics for follow-up.

Residents of the northern region

HEALTH SCREENING

Statistics (Financial Year 2016)

7,799

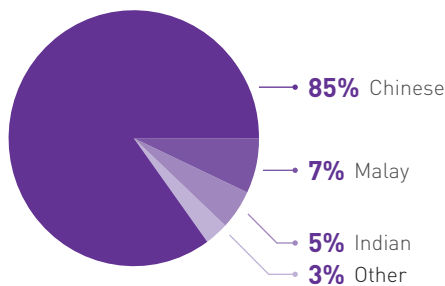
Northern residents screened

Demographics

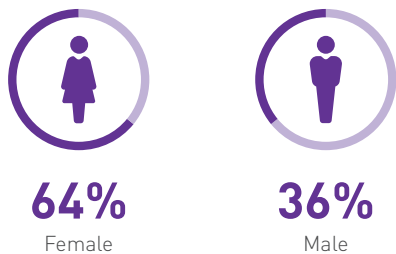
Age



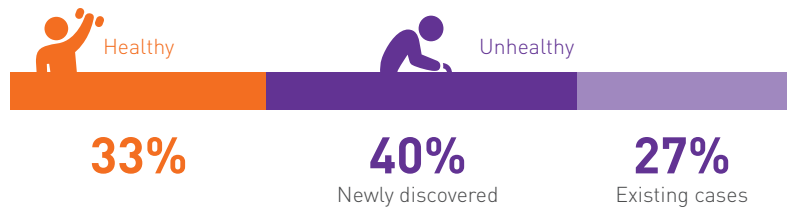
Race



Gender



Health Profile



Doctor's Follow-up

40-45%



Saw doctor

Post Screening

70-80% → 60-65%



Collected report on Report Collection Day



Attended Group Health Report Review talk



2013

Set up of Community Nurse Posts in the community

Pilot Population Health programme to conduct health screening for residents in the North

2014

Collaboration with SMRT to run a preventive health screening and coaching programme

Started marketplace health screenings together with People's Association (PA) Active Ageing Committees



The accessibility and convenience of health screenings in familiar community spaces such as the marketplace encourage active participation by residents and stall owners.

MARKETPLACE HEALTH SCREENING

AHS brought health screening to the doorsteps of the Ang Mo Kio community in March by setting up booths next to the wet market and hawker centre at Block 628 Ang Mo Kio Avenue 4. For \$2, more than 500 residents and hawkers had their cholesterol, blood glucose level, blood pressure and Body Mass Index tested. These are key indicators of chronic diseases like hypertension and diabetes. The initiative was organised in collaboration with the National Healthcare Group (NHG) and Yio Chu Kang People's Association (PA) Active Wellness Programme. The AHS Population Health team is currently collaborating with NHG by sharing our community health screening model and expanding it to screen the population in central Singapore.

COMMUNITY-BASED SCREENING

To increase access to screening and encourage residents to regularly monitor their health, AHS has set up Community Nurse Posts in the northern community since 2013.

Today, 13 such posts serve residents through blood pressure monitoring and blood glucose checks, health indicator surveys, and geriatric assessments. In Financial Year 2016, visits to these posts rose by 6% to a total of 8,742.

CHECK CAR, CHECK BODY

Over the last three years, AHS, in collaboration with SMRT and Health Promotion Board, has run a preventive health screening and coaching programme at the SMRT Taxi Customer Service Centre. The goal is to bring workplace health promotion to workers with non-traditional workplaces and shift hours.

Every 4–6 weeks, when taxi drivers bring their vehicles for servicing, they can use the downtime to screen for chronic conditions such as high blood pressure, high cholesterol, diabetes and obesity. AHS nurses stationed daily at the Centre provide interactive counselling in a learning lab setting. This includes advising the taxi drivers on diet planning, as well as teaching them special exercises customised for their profession and suitable for their individual ability.

The results in Financial Year 2016 indicated the importance of this programme: 82% of the 1,350 taxi drivers screened were unhealthy with high blood cholesterol, blood pressure, or blood sugar, while 80% of all drivers were overweight. It was heartening that 86% of them came back for at least one health coaching session after getting their health screening reports, while 45–50% of those with newly discovered medical conditions made follow-up appointments with their own doctors. Since 2014, the programme has benefited 2,924 taxi drivers.



A taxi driver learning resistance band exercises from the nurse stationed at the SMRT Taxi Customer Service Centre.

IDENTIFYING FALLS RISKS

Falls in the elderly are a common problem and can significantly impact their wellbeing, quality of life and life expectancy. However, many falls, especially those in the home, can be prevented.

Since July 2015, AHS, together with the Ministry of Health, has implemented a Community Falls Prevention Programme for seniors aged 65 and above living in the north of Singapore. The programme consists of a simple three-question quiz that determines if there is an increased risk of falls. Those who answer “Yes” to any of the three questions, such as “Do you avoid going out because you are afraid of falling?”, are advised to see community nurses for fall assessment and counselling. This programme is run at four Community Nurse Posts. In Financial Year 2016, 1,691 elderly were screened.

GROWING AND ENHANCING DIABETES CARE

AHS has long taken a multidisciplinary approach in the management of diabetes. In 2001, A/Prof Sum Chee Fang set up the Diabetes Centre at Alexandra Hospital, dedicated to the holistic care of patients with diabetes. Doctors, diabetes nurses and allied health professionals such as podiatrists, dietitians and pharmacists work together in the same location. This resulted in hassle-free care for patients as they could easily flow between healthcare professionals.

Today, the Centre has established itself as a leader in diabetes management. After 16 years of dedicated service, A/Prof Sum stepped down as the director in April 2016. He continues to see patients and focus on medical education. Taking his place is A/Prof Subramaniam Tavintharan, Senior Consultant and Deputy Director of the Clinical Research Unit. The new KTPH Diabetes Centre will be based in AdMC from 8 July 2017.

A passion project

“Back in 2001, I was in private practice, but joined AHS because I knew that the restructuring would give me an opportunity to do something I had always wanted to do – start one of the first few one-stop diabetes clinics in Singapore.

I’m particularly proud of our integrated healthcare team: our nurses, podiatrists, dietitians and other allied health colleagues play just as important a role as our doctors. Working together, we are better able to care for our patients with complicated and complex diabetes problems.”

– A/Prof Sum Chee Fang



2015
Implemented Community Falls Prevention Programme at Community Nurse Posts

2017
Partnered NHG and Yio Chu Kang PA Active Wellness Programme to expand community screening initiatives in central Singapore

KTPH Diabetes Centre to move to AdMC in second half of the year

BEST FOOT FORWARD FOR DIABETICS

Diabetes increases the risk of complications such as foot ulcers and wounds that are slow to heal. When the wounds are not managed well or get infected, they may lead to devastating outcomes such as amputations.

To prevent this, patients with diabetes need to check their feet daily, see a podiatrist regularly and have proper footwear. However, AHS podiatrists observed that many patients with diabetes did not wear suitable footwear as they were expensive, unfashionable, clunky and too stuffy. The lack of protective footwear hence increases the risk of foot problems.

To help patients take better care of their feet, podiatrists and the Innovation Team tapped on Alexandra Health Fund's Rapid Prototyping Grant to design affordable and fashionable shoes with features suitable for feet of patients with diabetes. These slip-on shoes have bumpers to protect the toes, as well as deep and wide toe boxes to allow accommodation of custom-made insoles. Around 100 pairs will be sold on a trial basis in KTPH and AdMC in 2018.



Principal Podiatrist Ms Chelsea Law worked closely with Mr Lee Wei Chung, an Industrial Designer from the AHS Innovation Team, to design suitable shoes for patients with diabetes.

FASTING SAFELY DURING RAMADAN

A group of researchers from the KTPH Clinical Research Unit, who studied the impact of fasting (during Ramadan) on people with type 2 diabetes, was recognised for their efforts in 2016 when their study won the Annal's Gold Best Paper Award.

Led by Dr Ester Yeoh, Consultant with the Diabetes Centre, the team studied the dietary intake, body composition and metabolic profile of 29 Southeast Asian Muslim patients with type 2 diabetes. The study group was given pre-Ramadan education on diabetes management during the fasting period, including frequent monitoring of blood glucose levels and ways to manage acute episodes of excessively high or low blood sugar.

The participants were given nutritional advice and guided on adjusting the dosage and timing of medications. During the fasting period, they charted their blood glucose reading five times a day. Results at the end of Ramadan showed that fasting was not only safe, but conferred improvements to blood glucose levels. In addition, a modest but significant reduction in body fat mass was recorded, especially in women. The study also allowed researchers to identify the various needs of people with diabetes during the Ramadan fasting period.

I was encouraged by the nurses and therapists who supported me in my journey to recovery.

Mr Rosli bin Habi, 53 (right)



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WHEN ILLNESS STRIKES

• Mr Rosli bin Habi, 53

Mr Rosli knew something was wrong early one morning when he woke to use the bathroom and felt a total loss of sensation all down his left side. Admitted to the KTPH Accident and Emergency (A&E) later that morning, his worries were confirmed – he had suffered a haemorrhagic stroke. He underwent a procedure to remove the clot and relieve the pressure on his brain, spending 19 days under intensive, then acute care.

When he was transferred to YCH, Mr Rosli was ready for rehabilitation. “I wanted to be able to walk again and do things independently so I didn’t have to rely on my wife,” he said. It was tough at first – weakness all through his left side meant even simple exercises like throwing a small sandbag or gripping an item were difficult. “The strangest part was having to train my brain to remember how to walk again!” he recalled with some amusement.

His dedication to stroke recovery exercises meant Mr Rosli was well enough to be discharged a month later. Six months on, he feels that he has regained 70% of his strength and function. He has even been certified to return to driving. “The therapists shared a lot of knowledge with me, such as exercises to recover my movement, and this helped with my rehabilitation. Throughout the process, I was encouraged by the nurses and therapists who supported me in my journey to recovery.” Today, he even volunteers two to three times a week at YCH to keep busy and active. “I am thankful for the patience and support of my nurses and therapists. They never got frustrated with me. I can see they enjoy their job and in helping us recover.”

SEAMLESS CARE FROM HOSPITAL TO HOME

An estimated 25% of residents in the North fall into the unwell and unhealthy (early stage) category. Some have existing early stage or well-controlled chronic illnesses that require long-term management and care. Another group of patients are like Mr Rosli, who seek initial treatment for acute medical care, followed by care that focuses on helping them regain their function as well as confidence and independence.

At AHS, our mission of care for this category of patients is twofold: attend swiftly to acute issues and then support them in their recovery. “Early, accurate diagnosis and prompt interventions are key in resolving medical issues before further complications develop. This applies to both emergencies and chronic illnesses,” said A/Prof Pang Weng Sun, Chairman, Medical Board, YCH and Senior Consultant, Geriatric Medicine, KTPH.

INNOVATING TO IMPROVE PATIENT OUTCOMES

More Intensive Care Unit (ICU) patients receiving early mobilisation

About 85% of KTPH Surgical Intensive Care Unit (SICU) patients benefited from early mobilisation from November 2015 to May 2016 – almost double the number of patients previously. A multidisciplinary team comprising intensivists, physiotherapists, nurses and respiratory therapists implemented a quality improvement project in line with current best clinical practice. The project has improved the well-being of patients, shortened their length of hospital stay and better utilised intensive care resources.



ICU patients who are suitable for early mobilisation undergo early rehabilitation under close supervision by the physiotherapists.

SICU patients may spend up to 10 days lying in bed due to their critical illness. This increases the risk of muscle wastage, deep vein thrombosis and chest infections. Under the project, suitable patients spend 30 to 45 minutes a day completing at least three out of five weight-bearing exercises aimed at strengthening the body's muscles and preventing them from wasting away.

The early mobilisation project shortened the average length of ICU stay to 2.5 days, compared with 3.3 days. This shorter ICU stay also resulted in a shorter average length of hospital stay – at 12.4 days as compared to 12.7 days.

The project has now been expanded to the Medical Intensive and Cardiac Care Units.

It received the gold award for the best poster in the allied health category at the Singapore Health and Biomedical Congress 2016.

Showing success: the first dedicated acute surgery unit

In 2014, KTPH took the lead to start Singapore's first dedicated acute surgical unit. The Emergency Surgery and Trauma (ESAT) performs emergency surgery for patients admitted to the Emergency Department (ED). In the past, a patient needing emergency surgery would be cared for by the surgeon on call, regardless of surgical discipline. This meant surgeons would have to allocate 30% to 40% of working hours to attend to emergency surgeries. This puts a strain on surgeons



2010

Opening of KTPH's specialist outpatient clinics, day surgery centre, A&E and inpatient wards in KTPH

on call and as a consequence, it was not uncommon for emergency surgeries to be performed after hours.

Today, ESAT allows the hospital to more effectively allocate manpower resources, provide prompt and timely care for ED patients and develop a dedicated team of emergency and trauma surgeons.

The team of two consultants, one trainee registrar, one medical officer and three house officers provides consultation for ED patients requiring surgery from Mondays to Fridays from 7.30a.m. to 4p.m., after which other surgeons on roster will take over.

Since its implementation, ESAT has:

- halved the average waiting time from ED to operating theatre;
- reduced the average length of hospital stay from 4.7 days to 3.4 days;
- reduced the average length of ICU stay from 8.6 days to 4.9 days; and
- decreased surgical complications and overall mortality rate.



The KTPH ESAT unit speeds up access for patients requiring emergency surgery, thereby reducing surgical complications and the average length of hospital stay.

Pain-less hip fracture recovery

Pain is one of the most challenging issues after hip fracture surgery as it discourages patients from moving, which delays early rehabilitation and contributes to delirium. The lack of mobility also increases the risk of complications such as life-threatening blood clots and pneumonia.

To improve patients' comfort and safety, the Hip Fracture Unit (HFU) introduced a simple yet effective solution by using a pain relief nerve block catheter. This is a simple set-up consisting of a bottle of local anaesthetic filled with an elastic balloon, which automatically drips the drug at set rates to the targeted nerve.

Since its introduction in November 2014, over 500 patients have benefited from the device, which has allowed early ambulation in all suitable patients. The innovation, which has raised the standard for perioperative hip fracture care in Singapore, was published as a poster at the International Congress of the European Union Geriatric Medicine Society in Lisbon, Portugal in 2016. It was also presented in April 2017 in London at the BHJ/IHI International Forum for Quality and Safety.

The pain relief innovation marks another milestone for KTPH's hip fracture service. Since 2013, KTPH has developed a framework and a tripartite set-up of Geriatrics, Orthopaedics and Anaesthesia teams to tackle three key areas:

- fall prevention via screening for fall risks at polyclinics and community nursing posts;
- treatment of fractures by the integrated team from the time of A&E admission

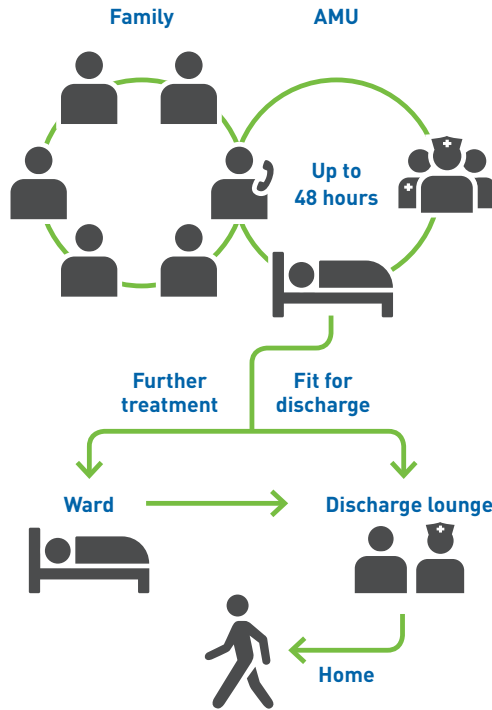
through to surgery and recovery; and

- rehabilitation that starts the day after surgery, to help patients regain mobility and independence in less time.

Acute care “reloaded”

To better address complex and acute medical cases, KTPH started a 32-bedded Acute Medical Unit (AMU) on 28 February 2017. The AMU provides high-quality, rapid assessment, close monitoring and treatment for patients with urgent medical needs.

Patients are clustered in a single dedicated ward – instead of being warded throughout KTPH. This allows a multidisciplinary medical team, which is equipped to deliver rapid diagnosis and acute treatment, to respond to them efficiently. Within 48 hours, the consultants develop and review a care plan with the team of medical staff. This care plan will be communicated to the family via their nominated spokesperson. Patients are then transferred to another ward for further treatment if they are expected to stay longer than two days. This model enhances patient safety and turnaround to enable timely discharge.



2011
Start of the Dyad Engagement & Enrichment Programme (DEEP) by KTPH’s dementia team

2013
Opening of the CAMIE Ward (Care for the Mentally Infirm Elderly) in KTPH

The AMU service is more intensive and includes:

- enhanced staffing levels;
- proactive and expedited specialist referral and review where needed;
- expedited and comprehensive clinical investigative services such as pathology, radiology, etc.; and
- team-based, multidisciplinary continuous improvement and learning.

Expanding A&E diagnostics and treatment

To better manage the demand for beds, KTPH has expanded its A&E with a new Extended Diagnostics and Treatment Unit (EDTU). Launched on 28 September 2016, the 20-bedded unit allows patients to be observed for up to 24 hours and treated without having to be admitted to a ward.

At the EDTU, patients receive intensified therapy and extended diagnostic testing. This allows patients to be more accurately assessed and managed. Patients may be treated at the EDTU for eight to 23 hours and then discharged home with follow-up advice or admitted to the wards for further treatment. Since it started operations, the daily average number of EDTU patients has increased from five to 14. As of March 2017, a total of 2,157 patients have been treated at the facility, translating to savings in inpatient



2014
Implementation of the ESAT unit and pain relief nerve block catheter by HFU

2015
First patient received by YCH and opening of CARMIE (Comprehensive Assessment & Rehabilitation of the Mentally Infirm Elder) Ward in YCH, early mobilisation of ICU patients in KTPH

bed days, which were used to treat other patients who needed to be warded.

A different way to treat frail elderly

In an effort to deliver the most suitable level and type of care for frail elderly, KTPH Department of Geriatric Medicine started the Geriatric Frailty Unit (GFU) in Ward D78. Instead of the traditional way of grouping geriatric patients by their age group, diseases or syndromes, the approach groups them according to similar levels of frailty, as they have more in common when it comes to goals and approaches to treatment.

This is especially so for patients with advanced frailty – the treatment appropriate for the disease may no longer be appropriate for them and some of their most pressing needs are not attributable to individual diseases. Therefore the GFU's view is that the patient is more than the sum of his diseases and should be treated as such.

The GFU is a novel approach to frailty care that addresses a very real need. Currently, there are no established guidelines or protocols for care of frailty care around the world and few inpatient set-ups specifically addressing these needs.

Current initiatives at the GFU include a Listening Clinic, medication review to reduce medication, liberalisation of non-essential diet restrictions and development of a future care plan, including crisis planning in case of certain medical issues such as breathlessness. The Listening Clinic allows the next-of-kin to clarify their doubts, understand the condition and prognosis. The medical team can better understand the patient's individual values, goals and expectations. It is also a time to broach Advance Care Planning (ACP) and other end-of-life issues.

Feedback from patients' family members

“The Listening Clinic allowed us to clarify care plans and clear our doubts, especially on fluid restriction. My mother can now have her favourite soup for lunch or dinner.”

“This was a good opportunity for me to clarify issues and discuss the goal of care for my aunt.”

Diving DEEP into dementia care

The Dyad Engagement & Enrichment Programme (DEEP) is a mandatory group clinic for patients with dementia and their family members after the initial clinical assessment. The briefing provides information about dementia, medical treatment, as well as services and programmes in KTPH and in Singapore.

Significantly, it prepares patients and caregivers for the days to come and how to provide the best care. A Q&A session allows participants to clarify their doubts. During DEEP, a multidisciplinary team assesses patients and their findings are shared with caregivers, who are given guidance on follow-up programmes. Dementia-specific ACP discussions are also incorporated into the twice-monthly sessions, which are conducted concurrently in English and Mandarin. It was started in 2011 and has benefited more than 1,500 patients so far.

DEEP complements existing dementia initiatives at AHS. CAMIE (Care for the Acute Mentally Infirm Elder) is an acute person-centred care service provided at KTPH for patients with dementia with confused behaviours, who require hospitalisation for

the treatment of common problems such as falls, fractures, pneumonias, urinary tract infections, challenging behaviours, decline in function and more.

CARMIE (Comprehensive Assessment & Rehabilitation of the Mentally Infirm Elder) is a sister ward in YCH that cares for patients with dementia with less acute medical conditions or who need physical rehabilitation. As of 31 March 2017, CAMIE and CARMIE have recorded 1,452 and 458 restraint-free days respectively.

YISHUN COMMUNITY HOSPITAL: "SLOW" MEDICINE FOR RECOVERY AND REHABILITATION

Unlike KTPH, which is an acute care hospital that delivers prompt and precise "fast medicine" for short-term illnesses or emergency cases, YCH offers "slow medicine" and provides intermediate care for recuperating patients who do not require the intensive services of an acute care hospital.

The ethos of care at YCH is to help patients regain their physical and mental independence, so they can remain active when they return home. By bridging care from hospital to home, YCH complements KTPH to deliver a hassle-free continuum of care. In Financial Year 2016, YCH received more than 1,800 patients from KTPH.

At YCH, patients do not lie in their beds all day. They are encouraged to participate in various rehabilitation and recreational activities drawn up by staff and volunteers to ease their transition back home. Activities such as adaptive table tennis, horticulture therapy, music and art activities are led by volunteers. Not only do they help

patients improve their functions, they complement patients' prescribed medical and rehabilitation activities. Together, staff and volunteers offer patients respectful and personalised care to help them regain their confidence to look after themselves when they go home.

SERVICE IMPROVEMENTS FOR BETTER PATIENT EXPERIENCE

Sub-acute palliative service

YCH introduced a number of new clinical and non-clinical services in Financial Year 2016, including a new sub-acute palliative service.

Launched in June 2016, the service provides the right level of medical treatment and interim care for patients while they await transfer to an inpatient hospice or other long-term healthcare institutions. The multidisciplinary team addresses patients' sub-acute needs such as adjustment of symptom control medications and completion of antibiotics.

Caregivers and family members are not left out of the equation. They receive caregiver training and are consulted on the various discharge options available in accordance with the health condition, care needs and wishes of the patient and family.

Support on the road to recovery

After discharge from YCH or other community hospitals, some patients may need follow-up rehabilitation. To support this group of patients, YCH launched its outpatient day rehabilitation programme at Therapy Services D37 in August 2016. It is a holistic programme comprising physiotherapy and occupational therapy to maximise mobility and functional



2016
Official opening of YCH and launch of new sub-acute palliative service in YCH and expansion of A&E with a new EDTU

2017
Opening of AMU in KTPH

independence through detailed assessment and customised treatment programmes. Since the launch of Therapy Services, 108 patients have benefited from it.

Outpatient Therapy Service at D37:



108
new referrals



More than 600
repeat visits

Getting patients out of bed and back into action

In line with its promise to prevent patients from staying in bed for prolonged periods, YCH has a varied daily programme to stimulate the senses, promote interaction among patients, and to reintroduce convalescing patients back into daily activities. This takes the form of inpatient rehabilitation at the gyms located on each floor, as well as volunteer-led activities such as art, music or gardening therapy.


Patients are encouraged to take walks, have their meals in a communal dining hall, and participate in the daily activities. YCH welcomes visits by children from The Little Skool-House By-The-Lake nursery to promote intergenerational bonding. Since August 2016, the children and patients have engaged in simple cooking, and arts and crafts activities together. Over 100 YCH volunteers give their time, energy and resources to brighten up the lives of our patients. Some, like Mr Rosli, were former YCH patients who have returned to pay it forward.



A patient undergoing therapy at YCH after a spinal operation. Source: Straits Times © Singapore Press Holdings Limited. Reproduced with permission.



YCH's activities include intergenerational bonding, allowing elderly patients to interact with young children as part of the rehabilitation process. Source: Straits Times © Singapore Press Holdings Limited. Reproduced with permission.

A photograph of a man and a woman sitting together on a couch, looking at a photo album. The man is wearing a grey t-shirt with the word 'REGOT' visible. The woman is wearing a floral patterned top and glasses. They are both smiling and pointing at the photos in the album. The background shows a window with blinds.

By doing an ACP, my
father prepared his
family so we could focus
on celebrating his life.

Mr James Ong, 52

● ● ●

LIVING AND DYING WITH DIGNITY

• **Mr James Ong, son of late Mr Ong Tian Chiang (1931–2016)**

When he learnt that he had only six months to live, Mr Ong Tian Chiang, 85, took the news stoically. The elderly gentleman reasoned he had already been given many “bonus” years, having had a heart bypass 15 years ago. “He felt that he was very fortunate – that he had lived a good life,” his son James, 52, recalled.

It was at this point that medical social workers at KTPH stepped in to offer more support to aid the family and the senior Mr Ong in his end-of-life care – such as funding for assisted care devices. They also tactfully brought up the idea of Advance Care Planning (ACP).

“My father resisted at first, because he didn’t really understand what it meant, but after the process was explained, he saw the logic of it and was very open to the idea,” said James. The senior Mr Ong viewed it as a way to make his wishes known, avoid any conflict among his family, and help his children and grandchildren move on peaceably after his death. “He even chose his own biodegradable urn,” shared James.

“When someone is at the end of life, there’ll be many viewpoints and unknowns. By doing an ACP, my father prepared his family so we could focus on celebrating his life.” They took new family portraits and went on a big family cruise before he passed away in May 2016. “I’m inspired by the way my father planned his last days,” said James, who has since drawn up his own ACP, as has his mother.

ENABLING QUALITY END OF LIFE

About 1% to 2% of the population in the North have life-limiting conditions or advanced progressive illnesses for whom curative treatments no longer work. This group of patients, like the late Mr Ong, are cared for under KTPH’s Palliative Care Service, which comes under the Department of Geriatric Medicine.

Palliative care integrates the skills and knowledge of a specially trained team of clinicians from various disciplines. This, coupled with the support of a strong allied health team, offers patients comprehensive, person-centered care. Palliative care is available in both the inpatient and outpatient settings, where the team delivers holistic, interdisciplinary care to patients with both cancer and non-cancer illnesses. Unlike hospice care, palliative care does not deter attempts to cure or prolong life. In fact, palliative care is often offered concurrently with curative care.

Palliative care provides patients and their families with a supportive environment which focuses on relieving the physical, psychosocial and spiritual distress. James Ong, for instance, was grateful for the team’s help in assisting the family to access funds for home care devices for their father. “The oxygen apparatus, an electrical hospital bed, wheelchair, walking aid, commode and recliner chair were of great assistance,” said James, who was his father’s primary caregiver. “It really gave my dad a better quality of life during his stay at home and lightened our load as well.”

Apart from collaborating with the Ageing-In-Place Community Care Team (AIP-CCT) to ensure comprehensive end-of-life care for patients at home, the Palliative Care Service works closely with home hospice care

organisations such as HCA Hospice Care, Singapore Cancer Society's home hospice section, Agency for Integrated Care HOListic care for MEDical advanced patients (AIC HOME) and Agape Methodist Hospice (Homecare).

ADVANCE CARE PLANNING

An important aspect of care at the end of life is ACP. ACP is an ongoing conversation between the patient, his/her family members and healthcare professionals to understand his/her future healthcare plans, as well as medical or personal preferences and decisions.

As James noted, ACP reduces crisis decision-making for family members and safeguards a patient's best interest by ensuring medical decisions are made in accordance to his/her wishes. In the case of Mdm E B (see below), it also gives patients the opportunity to fulfil their last wishes.

A trained ACP facilitator – who can be a doctor, nurse, medical social worker or any other healthcare professional who has

undergone ACP training – usually initiates the conversation at an appropriate stage in a patient's illness to understand and document the patient's values, beliefs, care preferences and what it means to live well. These conversations may also include the nomination of a healthcare spokesperson. To advance the acceptance of ACP, KTPH set up an ACP Clinic in September 2013. Each week, the Clinic sees an average of 10 patients and their nominated healthcare spokespersons to facilitate ACP conversations.

The ACP Office at KTPH also provides training to equip hospital staff and community partners with the required knowledge to become ACP advocates, General ACP facilitators or Preferred Plan of Care facilitators. They also work closely with the AIP-CCT, who visits patients at home after they are discharged from the hospital. The home care team nurses, who are trained ACP facilitators, can conduct these ACP conversations in the patients' homes, where families may feel more at ease to share their healthcare preferences and wishes.



2001
Health for Older Persons Programme (HOP) is launched by AH's Geriatric Centre. HOP pro-actively equips the elderly in the community with the skills to live confidently and independently, well into old age

Small touches, big difference: Story of Mdm E B (1950–2016)

Suffering from a rare form of terminal liver cancer, Mdm E B was admitted to the palliative care ward at YCH in March 2016. In pain and frustrated about needing assistance for her daily care, she was often bad-tempered. She also insisted on going home as she worried about her wheelchair-bound elder sister whom she lived with. Independent and headstrong, she demanded to be discharged, only to be back at YCH less than a week later.

Medical social worker (MSW) Cynthia Lau recalled: "She was very jaundiced and frail and I could tell she was aware that she had not much time left." Wistfully, Mdm E B wondered if she would live to see her next birthday, so Cynthia proposed an early celebration. Nurse Manager Nurashikin Sidek, who runs the palliative care ward, and her team ordered an ice cream cake and dressed Mdm E B up – make up and all – for the occasion. They even bought her favourite *kueh* and roped in an MSW from the community to bring Mdm E B's sister to YCH.

"Palliative care is about bringing comfort and giving compassion, looking beyond a patient's illness and tending to them as a person," said Nurse Manager Nurashikin. That simple act transformed Mdm E B. She became calmer, more content and passed peacefully not long after. Said Nurse Manager Nurashikin: "We were very happy to do what we could so she could live her last days on her own terms, especially to celebrate her life even as she was at the end of it."

ADVANCE CARE PLANNING

Talking about end-of-life issues can be difficult. We train our staff and volunteers to become ACP advocates and facilitators. In Financial Year 2016, we had:



15

ACP advocacy courses for facilitators and advocates



96

New ACP facilitators

ACP facilitators are individuals who are equipped with skills to go through the ACP discussion, assess patients' decision-making abilities and document ACP for patients.



810

New ACP advocates

ACP advocates are individuals who introduce ACP to patients and families.

New ACP e-Learning Course

An e-Learning module for ACP advocacy was designed for all staff to have basic understanding of ACP. The module also teaches staff on soft skills in communication and motivational interviewing.

1,213

staff participated from April 2016 to March 2017.



This photo was the winning entry of the AHS Living Well Photo Competition held in conjunction with the World Hospice and Palliative Care Day on 8 October 2016. To drive awareness and understanding of end-of-life issues and ACP, the ACP team also organised an art exhibition "Before I Die" from 22 to 29 October 2016. Visitors, patients and their families were invited to write down their wishes on chalkboards before they die. "Before I Die" is a global move that encourages people to think about their lives and share their aspirations on a wall.



2004
Home for Independent Persons Studio, a developmental programme, was launched to complement HOP and help ease the transition into old age

In partnership with Assisi Hospice, KTPH started No One Dies Alone, a volunteer-centred programme that provides companionship to dying patients without family or close friends

GIVING SUPPORT TO AGE IN PLACE

Complementing the patient care work and initiatives run in the hospital is the AIP-CCT programme for patients who need extra help at home for a transitional period to cope with poorly-managed chronic illness, end-stage diseases or conditions requiring long-term care.

The programme – originally the AIP programme – was started in 2011 to address a group of patients affectionately named "frequent flyers". Beset with one of the highest bed occupancy rates among public hospitals, KTPH studied patterns of readmissions to identify a particular group of some 300 patients who were admitted almost four times a year. They took up a total of 7,900 beds in six months.



300

patients were admitted almost four times a year



taking a total of

7,900

beds in six months

**2011**

The AIP programme was rolled out to tackle the problem of “frequent flyers” who contributed to the high demand for subsidised beds and to provide better care for them in the community

2012

To better ensure seamless care between discharge and returning home, AHS started the TC service

The AIP programme was developed to provide medical, health and social care to “frequent flyers” and their caregivers in their homes. This helps them manage their chronic conditions well, maintain their health and independence, and prevent complications from arising – thus reducing chances of readmission.

To expand the scope of care, the AIP programme was merged with the Transitional Care (TC) programme in 2015 to form the AIP-CCT. The AIP-CCT programme is a post-discharge, nurse-led home visit service that comprises a multidisciplinary team of nurses, doctors, therapists, pharmacists, medical social workers and healthcare assistants. They offer clinical, psychosocial and home environmental support so patients and their caregivers can manage well at home and in the community. As of March 2017, the AIP-CCT programme has served more than 6,600 patients.

TRANSFORMING PATIENT CARE

To improve AIP-CCT’s efficiency and reach, new initiatives were introduced in 2016 to save time, improve productivity and reduce the amount of paperwork so that the team can focus on what matters most – patient care.

Paperless Prescription

Started in July 2016, the Paperless Prescription initiative is a collaboration between the AIP-CCT and KTPH Outpatient Pharmacy to make dispensing of medications safer and more efficient. It does away with handwritten prescriptions and the need for nurses to confer face-to-face with a doctor or pharmacist. Instead, nurses can make medication requests via a call or SMS to a doctor, who can then enter the prescription into an online system, iPharm. This paperless process enhances

productivity, lowers administrative costs and resources and makes it more convenient for patients to receive medications. The time savings also allow nurses to focus on their core care duties better.

Paperless Prescription



Time savings of
8H 25M
per patient

Putting AIP-CCT within reach

To improve their reach, a team of five AIP-CCT nurses shifted to the Wellness Kampung @ 115 Chong Pang on a trial basis. The move, which took place in November 2016, puts the team closer to the residents they serve and eliminates travelling time to and from KTPH.

AIP-CCT goes digital

The web- and mobile-based AIP System went live in February 2017, harnessing the power of technology to improve home visits and streamline documentation. Instead of dealing with paper records and multiple spreadsheets, AIP-CCT staff now record home visit assessments and case notes, access patients’ documents, and book visit schedules on the single, seamless platform via their iPads.

TRI-GENERATIONAL HOMECARE @ NORTH WEST RECOGNISED AT 2016 PATIENT ACTION AWARDS

AHS’s Tri-Generational HomeCare @ North West was recognised at the 2016 Patient Action Awards under the Singapore Patient Support Group/Volunteer Group category.

The project is a collaboration between AHS's AIP-CCT programme, North West Community Development Council (NWCDC) and student volunteers from the National University of Singapore (NUS) Medicine, Nursing, Pharmacy and Social Work faculties. As of March 2017, they have offered assistance to 136 AIP-CCT patients.

The Tri-Gen Project is unique as it is initiated, led and organised by NUS students trained by AIP-CCT and NWCDC in healthcare and social service skills, as well as proper responses to emergency situations. Paying forward the guidance and mentorship received, the NUS student volunteers in turn lead secondary school students in service learning outreach efforts.

Started in August 2014, the Tri-Gen team has since grown to comprise 309 NUS students and 397 secondary school students from West Spring Secondary, Woodlands Secondary, Yishun Secondary, Orchid Park Secondary, Yishun Town Secondary, and Chung Cheng High. Significantly, the student volunteers have taken ownership of the work, showing leadership and managerial skill to form a comprehensive organisational structure.

UNDERSTANDING A COMMUNITY: PROJECT ORANGE

Exhibition: Project Orange, an exhibition of poignant anecdotes and stories, is a collection of observations and insights gained from a seven-month ethnographic study held in 2015 to better understand the older people in the community that AHS serves.

It was initiated by AHS's Innovation Team with the goal to gain deep insights into the attitudes, mindsets and daily lives of seniors

residing in the northern community so that healthcare and wellness services could be matched to their needs. The Chong Pang neighbourhood was selected because, with one in four residents aged 55 and above, it has one of the highest proportions of seniors in the North.

The team spent time within the community, observing them in their everyday activities and how they interacted with the environment. Through open conversations, the team uncovered their perceptions about ageing, what mattered to them, what motivated them, including their values, habits, and needs. The study provided insights for the design of the Wellness Kampung as a flexible communal activity space that could foster social interaction and address the sense of displacement felt by many of the seniors who have seen the neighbourhood undergo great changes.

THROUGH THEIR EYES

Quotes from the ethnographic study of Chong Pang residents.

▮▮ *Being able to sleep well, eat well and go anywhere you want to - that is health.* ▮▮

▮▮ *Now we are all like in birdcages. People don't have time to stop by and say hi, because they are busy all the time.* ▮▮

▮▮ *It's stifling to be home, time passes by too slowly because there's nothing for me to do. My wife handles all the chores. Being out here allows me to talk to my friends.* ▮▮

▮▮ *In Singapore, you can die, but cannot afford to fall sick.* ▮▮



2013

As part of the efforts to improve end-of-life care, AHS started its ACP programme, training healthcare professionals to understand a person's preferred mode of care and personal wishes



2015

Aimed at better monitoring frail and vulnerable elderly and providing a platform to interaction, the first Share-a-Pot was held. It offers healthy homemade soups high in calcium and protein

AIP programme and TC service merged to form the AIP-CCT which broadens the efficacy of care to the community



The Wellness Kampung serves as a “third place” where residents can gather to participate in activities that foster social bonding and holistic well-being, enabling them to age well in place.

WELLNESS KAMPUNG: GIVING THE ELDERLY SPACE TO BE HEALTHY

Since 2016, three Wellness Kampung have been set up at the void decks of Block 260 Nee Soon East, Block 115 Chong Pang and Block 765 Nee Soon Central with the partnership of St Luke’s ElderCare and Nee Soon GRC.

Located near to St Luke’s ElderCare senior care centres, these open, welcoming wellness and care centres were developed based on the concepts of Ibasho Café and Ray Oldenburg’s concept of a “third place” where people congregate other than work or home.

The centres are spaces to help the community age well in place – where they can drop-in, hang out and take part in the goings-on.

For AHS’s Population Health team, the centres also serve as a node from which they can better identify vulnerable elderly

and ensure they have the support they need. A wide range of programmes such as daily morning exercise classes, games, arts and crafts, and healthy cooking demonstrations are held to engage residents and connect them with each other. These activities serve to foster social bonding and support holistic well-being. Significantly, they give the elderly a sense of place and belonging. Furthermore, residents are also empowered to organise their own events as a way of encouraging ground-up participation.

As of March 2017, the Wellness Kampung have served over 1,250 residents and see a regular attendance of 65 residents daily at each of our centres.

The café-like interiors and modular spaces of Wellness Kampung @ 765 won an SG Mark design award in early 2017 for its transformation of a HDB void deck into a liveable, welcoming space with features such as simulated skylight and “blackboard menu” walls.

ENGAGING THE MALAY COMMUNITY

KTPH nurses, physiotherapists and occupational therapists took part in the Majilis Ugama Islam Singapura (MUIS) Befrienders Learning Day at the Singapore Expo on 6 November 2016. During the day, they spoke to some 350 befrienders from MUIS Mosque Befrienders Scheme and shared tips on how to be more effective in approaching needy *zakat* (tithe) recipients. They showed volunteers how to use devices for assisted daily living, such as redesigned spoons and mugs and demonstrated the proper use of wheelchairs and walking aids. The befrienders were also shown how to transfer the wheelchair or bedbound safely as well as how to reduce the risk of falls in homes.

GERICARE@NORTH

GeriCare@North is a KTPH initiative to provide access to specialist care to nursing home residents of eight nursing homes in Singapore.

GeriCare uses telemedicine to give clinical care support to the nursing homes' nurses and doctors, while training the homes' nurses in geriatric and palliative nursing care. For instance, the GeriCare team of clinical educators and geriatricians are on call daily from 9a.m. to 5p.m. to advise on semi-urgent cases. Nursing home residents can also be referred directly for admission to KTPH via teleconsults without having to go through Accident and Emergency (A&E).

One of the training courses provided by GeriCare@North is a six-month telegeriatics nurse training course that started in 2010. It teaches nurses to perform physical assessment, identify medical problems and raise them to the geriatricians so they can

discuss and recommend treatment together. Six nurses graduated from the course in November 2016, with a total of 80 nurses trained so far.

Another GeriCare@North initiative is a palliative care course for long-term care nurses. Launched in 2016, it is a collaboration between KTPH, Ang Mo Kio Thye Hua Kwan Hospital, the nursing homes under GeriCare, YCH and GERI. Fourteen nurses have since been trained to care for their residents who are at the end-of-life in the nursing homes. The second run of the course, which started in February 2017, has 13 nurses currently undergoing training.

Most recently in April 2017, the GeriCare Education and Training (GREAT) course was launched. GREAT focuses on getting nursing aides and health care attendants (many of whom are foreign-trained) up to the same standard in general and geriatric nursing care skills. In the same month, the GeriCare Communication Skills Workshop for nurses was also launched.



2016

In preparation for an ageing population, AHS initiated its Yishun-wide Dementia-Friendly Community campaign to improve education and awareness of dementia and provide dignified services for those afflicted

Three Wellness Campungs were launched. These social spaces serve as a platform for health outreach and grassroots-led social activities



A/Prof Philip Yap, Senior Consultant and Director of KTPH Geriatric Centre, provides clinical care support for nursing homes through teleconsultations.

KEEPING AN EYE ON PROBLEMS

After a successful pilot run from May to June 2016, Community & Home Eye Screening Services (CHESS) was launched in February 2017. The initiative, by the Ophthalmology & Visual Sciences Department and the AHS Programme Office, aims to improve elderly residents' access to eye care and to identify eye diseases early through screenings and consultations.

It targets residents aged 50 and older, and diabetics of any age who do not have follow-

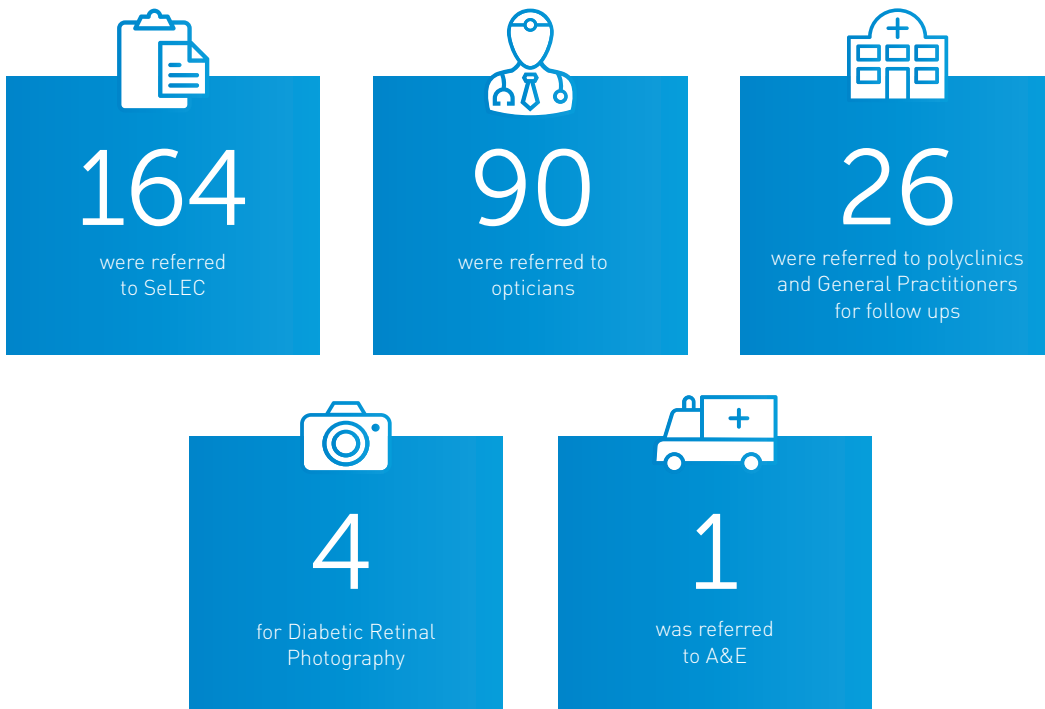
up appointments with an eye doctor and have not seen one in more than a year.

First-level Community Eye Screening (FiLCES) are conducted by community nurses, healthcare assistants and AIP-CCT nurses. Second-level Eye Consultation (SeLEC) are done by optometrists at AHS Wellness Kampung under the tele-supervision of an Ophthalmologist to manage stable eye conditions.

SEEING BETTER

669

residents have undergone FiLCES since February 2017



RESEARCH AND EDUCATION





2002
The Clinical Research Unit (CRU) was established two years after the restructuring of AH

2003
CRU built a cell culture facility, which was housed in a make-shift container

2008
CRU organised AH's first Research Forum, "The Next Lap"

2009
AHS partnered the National Healthcare Group (NHG) to run the NHG-AHPL (Alexandra Health Pte Ltd) Residency

2010
CRU moved to KTPH - the facilities expanded by 10 times with thrice the manpower in order to support the burgeoning research

The AHS mission to provide good quality, affordable, hassle-free healthcare with Science, Love and Wisdom is bolstered by the work of our clinician scientists. Their work in the translational research field takes discoveries made in the laboratory to treatments that improve outcomes for our patients.

RESEARCH THAT MAKES A DIFFERENCE

At AHS, we have seen clinical research grow in leaps and bounds, buoyed by Singapore's biomedical research and inquiring minds of our passionate clinician scientists. In giving them the space and resources to try out ideas, our institution has pursued relevant research that tackles some of the most common diseases and medical challenges. These include work in areas such as dementia, obesity and diabetes. We have also partnered other research institutions in Singapore to

enhance our ability to conduct more rigorous research.

Our efforts are not limited to research, but also in growing research talent. Apart from grooming clinicians, we have also brought in PhD scientists trained in basic science to become clinical scientists. The collaboration between clinicians and scientists has greatly enhanced the synergy for "bedside to bench and back to bedside" translational research.



With the funding support from the Clinician Scientist Award, A/Prof Lim Su Chi and his team will be studying the metabolomics of progressive diabetic kidney disease in young-onset type 2 diabetes. From left: Dr Serena Low, Dr Liu Jian Jun, Dr Wang Jiexun, A/Prof Lim Su Chi, Dr Keven Ang and Ms Babitha Jeevith.

First Clinician Scientist Award for KTPH

In recognition of his outstanding work in the translational and clinical research field, the National Medical Research Council awarded A/Prof Lim Su Chi with a Clinician Scientist Award in 2016.

“This award recognises that a clinician from a non-academic medical centre can also actively contribute to research. The award will empower me and my team to bring our research to the next level,” said A/Prof Lim, Senior Consultant, Department of Medicine and Clinical Director, CRU.

The award, which provides funding support, will enable A/Prof Lim and his team to continue their work in progressive diabetic kidney disease (DKD) among young patients with diabetes.

Young-onset type 2 diabetes (YT2D) is an emerging clinical challenge that is increasingly prevalent in Singapore due to childhood and adolescent obesity. People with YT2D often experience steep challenges in achieving and maintaining good diabetes control. They are also prone to diabetic complications, such as DKD, sooner.

A/Prof Lim’s study (“Metabolomics of progressive diabetic kidney disease in young-onset type 2 diabetes”) aims to better understand the biological processes which drive DKD in YT2D. Using metabolomics, the study aims to develop tools to better predict disease progression amongst those at risk.

Metabolomics is the high-resolution profiling of small chemical molecules called metabolites in us. Metabolomics gives a detailed and comprehensive picture of how our metabolic processes work, allowing researchers to pinpoint the pathways that go awry in disease.

Healthcare for the future

The third Alexandra Health Forum, held in conjunction with Nursing Fest 2016, was held on 25 August 2016. The Forum was attended by some 600 delegates and showcased more than 200 abstract submissions. The focus was on “Healthcare for the Future: Shifting Paradigms for the Population, Patients and Professionals”.

Speaking at the Forum, Guest-of-Honour Dr Amy Khor, Senior Minister of State for Health and Environment & Water Resources, shared, “The theme is particularly relevant for the changing realities that confront the healthcare landscape in Singapore as well as the region.”

With the combined challenges of a rapidly ageing population, increasing life expectancy and pressures to keep healthcare affordable, healthcare institutions must shift the paradigm of care from delivering healthcare to maintaining good health.

One was a study of 116 young patients with type 1 diabetes. Titled “Young, reckless diabetics, take heed!”, the research revealed that four in 10 of these patients do not monitor their blood glucose the recommended three times a day, raising the risks of complications. The study also revealed that the negligence was not due to a lack of knowledge. This highlights the need to relook diabetes education and the importance of monitoring blood glucose levels for younger patients.

Improved sleep apnoea monitoring with a mobile phone app

Dr Edwin Seet, Head and Senior Consultant, Department of Anaesthesia, and Dr Daniel Chia, Director, Transformation Office, have developed an oximetry app for mobile phones to improve the remote monitoring of blood oxygen levels for those at risk of obstructive



2011

KTPH welcomed the first cohort of residents under the NHG-AHPL Residency

AH’s Research Forum was renamed the Alexandra Health Forum and had its inaugural run under the new name at KTPH

2012

The Alexandra Health Forum was held in conjunction with Nursing Fest

2013

KTPH was awarded \$3 million Centre Grant from the National Medical Research Council to develop and strengthen research capabilities for Common and Complex Chronic Conditions in Singapore

Launch of the Research Gallery to showcase the diverse research activities and results

Set up of Education Development Office in AH



2015
The Health Services Research and Evaluation (HSRE) Mini Forum 1.0 was held to share the latest knowledge in this field

2016
HSRE Mini Forum 2.0 was held in conjunction with the signing of a Memorandum of Understanding between AHS and National University of Singapore

The Geriatric Education and Research Institute (GERI) and CRU collaborated to set up an off-site bio-banking facility

A/Prof Lim Su Chi won the Clinician Scientist Award

sleep apnoea. The condition occurs when the airways become completely or partially blocked during sleep, causing gasping or abrasive snoring. Significantly, it repeatedly shuts off oxygen flow, interrupting sleep and stressing vital organs. The condition is underdiagnosed and poses a risk for those who are undergoing surgery.

The mobile app will help patients and caregivers track sleep apnoea, and allow doctors to better assess the risks before and after surgery. The abstract for this innovation project won third place at the 6th Society of Anaesthesia and Sleep Medicine Annual Meeting, 2016. Going forward, Dr Seet and Dr Chia will be continuing the work to see how we can use the app in the routine clinical setting.

Enhancing health with Alexandra Health Fund

The Alexandra Health Fund Limited (AHFL) is a registered charity under the Charities Act with about \$126 million as of 31 March 2017. Since its incorporation in September 2014, AHFL has supported 14 major programmes directed at improving the quality of life of our patients through research, innovation and education. It has also funded various community outreach programmes for the benefit of the less fortunate. In the area of direct patient assistance, the Fund has benefited 348 needy individuals by providing them financial support in the form of home care needs, durable medical equipment and consumables, and medical treatment.

EDUCATING THE NEXT GENERATION

Education Development Office (EDO)

The EDO was set up in 2013 to oversee and coordinate the delivery of pre-employment clinical training. Senior healthcare

professionals from AHS guide students from Institute of Technical Education, polytechnics and universities in learning and practising the requisite clinical skills to work competently and safely as healthcare professionals.

As of Financial Year 2016, the EDO has supported 12 Healthcare Professional Training Programmes for students from the medical, nursing, pharmacy and allied health professions. In April 2016, Prof C Rajasoorya was appointed as EDO's Education Director. He has close to 30 years of extensive clinical teaching and leadership experience. He took over from A/Prof Sin Fai Lam – who served the EDO for three years. In that time, A/Prof Sin championed the development of clinical teaching activities within KTPH.

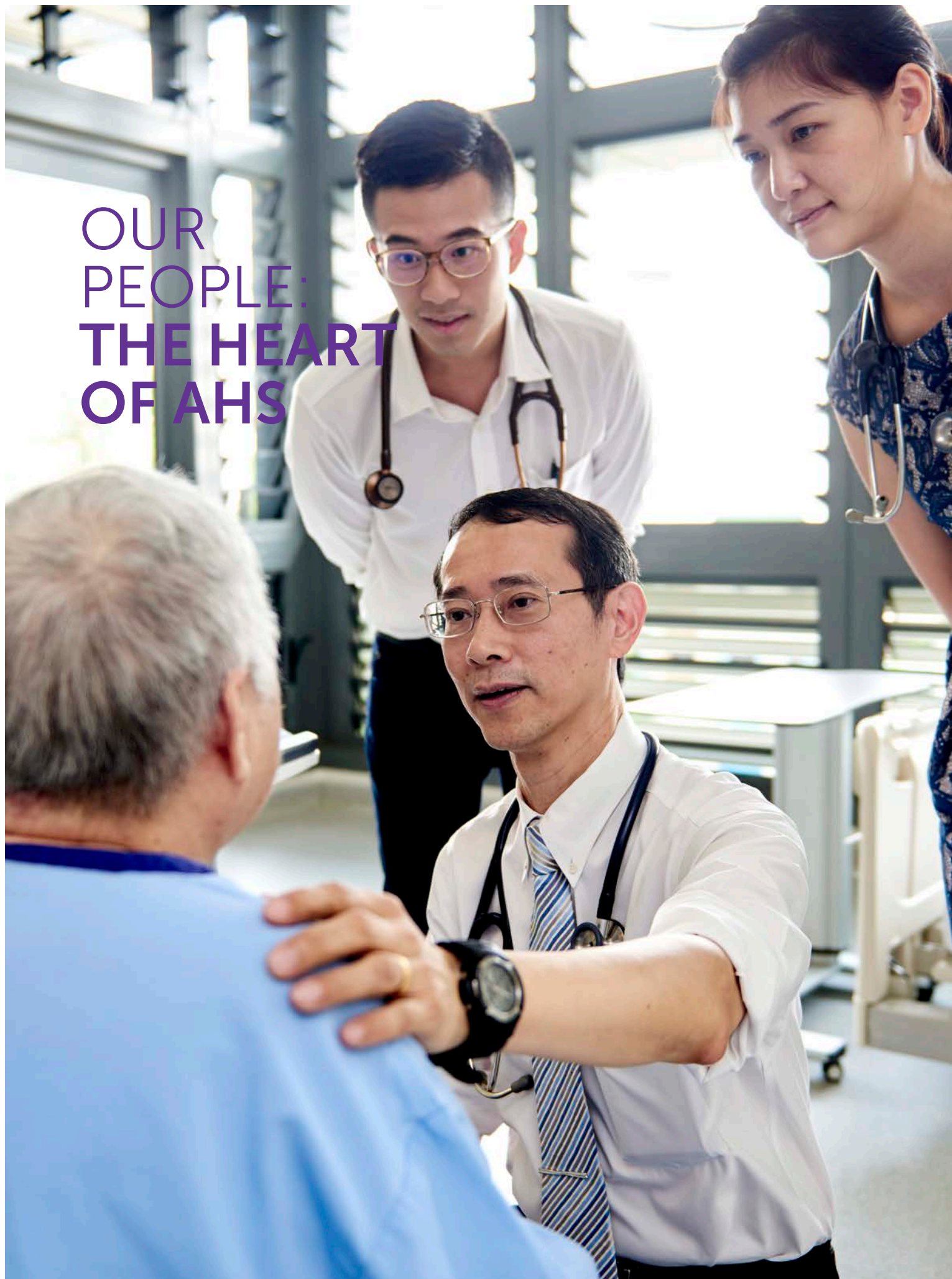
"A/Prof Sin, our first educational director, was instrumental in establishing the EDO from scratch and in ensuring a seamless integration of undergraduate education in the hospital. In my role, I aim to refine and define processes, responsibility and accountability, integrate education that cuts across inter-professional boundaries and professionals and create a seamlessness undergraduate to postgraduate programme. Going forward, I hope to tap the strengths of NHG in developing the Yishun Health Campus Education," said Prof C Rajasoorya.

Residency Program Office (RPO)

AHPL has partnered NHG to host the NHG-AHPL Residency since 2009. Run from AHS's RPO, it is headed by Dr Ong Chin Fung (Associate Designated Institutional Official).

Today, RPO supports 19 residency programmes as well as the Postgraduate Year 1 training in KTPH. RPO also coordinates the postgraduate Basic Specialist Training, Advanced Specialist Training and Seamless Training programmes.

OUR
PEOPLE:
THE HEART
OF AHS





2000
Mr Liak Teng Lit, Mrs Chew Kwee Tiang and Prof C. Rajasoorya were appointed as CEO, Chief Operating Officer and CMB of the restructured AH respectively

2001
Achieved ISO9001:2000 and 14000 certifications

2002
Won the People Developer Standards Award, Singapore Quality Class, PS21 Organisational Excellence Award

2003
Battled against the SARS virus and AH managed to remain SARS-free.

Won the Singapore HEALTH (Helping Employees Achieve Life-time Health) Award

2004
Achieved the Singapore HEALTH Award (Gold), HEALTH Promoter Award and the Singapore Family Friendly Employer Award

BUILDING PEOPLE THE AHS WAY

Our ability to deliver our mission of care lies in our people. Our staff are integral to our growth and success as a healthcare organisation; they form the heart of who we are. This underscores our commitment to building our human capital, to leverage the varied expertise of our diverse staff and nurture people who have the hearts, minds and passion for healthcare and service to others.

Importantly, we believe in the continued pursuit of learning and improvement, and of grooming talent for new generations of healthcare professions to carry on the values we hold dear.

INSPIRING MENTOR RECOGNISED

Exemplifying our philosophy of learning and mentorship is A/Prof Pang Weng Sun, YCH's Chairman of Medical Board (CMB) and KTPH's Senior Consultant Geriatrician. He won the National Outstanding Clinician Educator Award in 2016 for his contribution to educating and inspiring generation of medical leaders. This is Singapore's highest clinical teaching accolade.

Described as a "one-in-a-million" clinician and mentor, A/Prof Pang is a pioneer in the fields of geriatric and palliative medicine. He was one of the founding practitioners who built, shaped and developed the training of both specialties and services. A/Prof Pang who wears many hats (he is also Executive Director of the Geriatric Education and Research Institute, and Vice-Dean, Clinical Affairs, Lee Kong Chian School of Medicine, Nanyang Technological University) has also taught extensively in both geriatric and palliative medicine, and is an inspirational mentor to many clinicians, medical students, doctors and nurses.

Group CEO Mr Liak Teng Lit, commended A/Prof Pang on being a great role model and mentor: "He spends time and effort to teach, advise, coach and counsel individual doctors, inspiring many to become better doctors and even more importantly – better human beings."

OUTSTANDING CLINICIANS HONOURED

Two of our highly-regarded and outstanding clinicians were recognised for their contribution at the 2016 AHS Awards Ceremony. They received the inaugural Distinguished Senior Clinician Award by the Ministry of Health (MOH). It recognises veteran doctors or surgeons for their contributions in clinical, education and research practices.

Professor C Rajasoorya is a Senior Consultant, General Medicine, and Education Director for the Education Development Office. He is internationally recognised in the field of hypothalamo-pituitary and adrenal disease. His focus in the last 12 years have been on medical education where his guidance and mentorship has benefited many, including senior physicians, medical students and junior doctors.



Prof Raja has served in public and restructured hospitals for more than 35 years.



A/Prof Sum was instrumental in setting up the Diabetes Centre and recently stepped down as the director in April 2016.

A/Prof Sum Chee Fang, Endocrinologist and Senior Consultant, General Medicine, is recognised in the field of diabetes management and research. His dedication to patients spurred him to leave a successful private practice in 2001 to return to public healthcare to start the multidisciplinary diabetes centre at AH. Under his leadership, the Diabetes Centre has earned a reputation for managing complex diabetes cases using a holistic patient-centred model. A/Prof Sum is also a respected educator who teaches both medical and nursing students.

MAKING A DIFFERENCE THROUGH NURSING

In November 2016, Principal Assistant Nurse Rostihar Bte Abdul Karim from KTPH Eye Clinic was a recipient of the 10th Tan Chin Tuan Nursing Award for Enrolled Nurses (ENs). This is the highest accolade for ENs in Singapore. In the field for 29 years, the experienced nurse is qualified to perform advanced nursing procedures and basic medical tests. She also works closely with the Eye and Anaesthesia teams in the Eye Clinic, acting as a physician extender to conduct pre-surgery anaesthetic assessments for patients.

GROWING THE RIGHT TALENT

To continue extending our outreach into the community, what we need most is a family of dedicated healthcare professionals, administrators and operational support staff. Based on this belief, AHS is committed to attract and nurture people with the right heart and mindset for serving others. For instance, we continue to develop our staff with 156 scholarships and sponsorships awarded over the past year. Fifty-eight staff also embarked on their formal education and Health Manpower Development Plan sponsorships in Financial Year 2016.

ALWAYS IMPROVING AT AHS

To foster a strong culture of service, lifelong learning and innovation, staff are actively engaged in improvement activities throughout the year. To keep staff up to date with developments in medical science, clinical forums and clinicopathological lectures are held monthly. Apart from weekly book review sessions, AHS also holds regular talks for staff. In 2016, 47 lunchtime talks and book review sessions were held, with topics ranging from leadership to finance and mental health.



Principal Assistant Nurse Rostihar Bte Abdul Karim received the 10th Tan Chin Tuan Nursing Award for ENs.



2005

Achieved first in MOH Patients' Satisfaction Survey in AH, Joint Commission International (JCI) accreditation, Singapore HEALTH Platinum Award and re-certification of People Developer Systems award

A/Prof Pang Weng Sun was appointed CMB of AH

2006

Topped the MOH Patients' Satisfaction Survey and won the Singapore HR Awards, Strong Believer Award (Job Recreation Programme Awards), Work-Life Achiever Award and renewal of Singapore Quality Class

2007

Topped the MOH Patients' Satisfaction Survey and achieved ISO Reaccreditation, JCI Accreditation and Lifelong Learner Award



2008

Topped the MOH Patients' Satisfaction Survey and won the Inaugural AARP International Innovative Employer Awards, MOM Work-Life Achiever Award, Singapore Human Resource Institute for Leading HR Practices (Fair Practices Employment) Award

Mdm Chua Gek Choo (now YCH's Director of Nursing) received the President's Award for Nurses

2009

Topped the MOH Patients' Satisfaction Survey

2010

Official opening of KTPH by Minister Mentor Mr Lee Kuan Yew

KTPH topped the MOH Patients' Satisfaction Survey in its first year

The "Speaking up for Safety" campaign was launched to empower AHS staff to raise patient safety concerns with colleagues through graded assertiveness communication skills training. Techniques include using respectful questioning approaches, communicating graduated concern using constructive language, and responding gracefully when questioned. Fifteen clinical and non-clinical staff were presented with certificates for successfully completing the Safety Champions accreditation programme conducted by Cognitive Institute, Australia, in 2016.

Fifty-five senior management members and clinical heads of department were also introduced to the "Promoting Professional Accountability" programme last year. Through data collection and monitoring tools, staff with repeated reports of unprofessional behaviour can be identified. The right procedures can then be applied to escalate engagement with them, so that they are aligned with a culture of safety and excellence.

CONVERSATIONS WITH LEADERS WHO HAVE MADE A DIFFERENCE

A key component of our learning ethos is to learn from exceptional individuals through our Simply Said conversation series. In January 2017, we learned from Prof Lui Pao Chuen, former Chief Defence Scientist and current Adviser at the National Research Foundation, Prime Minister's Office. He shared the art of persuading people to come on board for an "impossible" project, and how leadership should change to sustain a culture of constant innovation.

This Simply Said series was introduced in 2011, and our inaugural speaker was Mr S R Nathan who was a friend of AHS. After stepping down as President in 2011,

Mr Nathan took the time to share his thoughts and insights from his life journey with our staff. Other distinguished speakers include Mr S Dhanabalan, Prof Tommy Koh, Mr Liu Thai Ker, and Dr G Natchiar from Aravind Eye System.



AHS commemorated the passing of Singapore's former president Mr S R Nathan in August 2016. Senior management led staff to pay their last respects at Parliament House, while staff also penned their tributes in condolence books.

EVER PREPARED FOR THREATS

On 15 October 2016, a "bomb" went off in Yishun. In the "chaos" that ensued, 1,600 staff members from various departments "delivered" emergency medical attention and "decontaminated" casualties. The civil emergency exercise codenamed 'Kingfisher' was the culmination of months of practice drills and dry runs – all to ensure that AHS is ready to handle a civil emergency or terrorist attack should it arise.



Staff rallied together to go through a simulated bomb attack to ensure the hospital is well prepared for civil emergencies.

WALKING THE TALK AS A HEALTH-PROMOTING HOSPITAL

Aligned with the healthy principles set out in our Five Pillars of Health, AHS runs a wide range of wellness and work-life initiatives to help staff achieve a healthy and active lifestyle.

- ### Sports and Social Interest Groups

AHS's 11 sports and social interest groups ensure staff play just as hard as they work. They include activities like line dancing, brisk walking, running and Zumba. Craft workshops such as paper cutting, balloon sculpting, brush lettering and typography were also conducted. These activities maintain work-life balance, and help staff from different departments bond over shared interests.

- ### Inter-department Games and Group Exercise

Nurturing sportsmanship and teamwork, the AHS League is a series of inter-department competitions in badminton, basketball, bowling, Captain's Ball and futsal. The friendly competition and camaraderie has fostered bonding within departments. In addition, group exercises are held on hospital grounds after work hours, giving staff a convenient way to integrate exercise into their daily routine. In 2016, new exercise classes such as muay thai, bootcamp, KpopX Fitness, pilates and cycling injected more fun and variety.

CELEBRATING TOGETHER

Each year, AHS celebrates its diversity during the festive and cultural occasions. As a family, we bond over Chinese New Year, Hari Raya, Deepavali, and National Day. In addition, we also take time to recognise and appreciate our staff during Nurses' Day, AHS Awards Ceremony, and our annual Dinner and Dance.



During June holidays, staff and their family members took a trip to Malacca.



Staff showing off their creations at the balloon sculpting workshop.



AHS departments competing with each other in futsal.



2011

A/Prof Kenneth Mak appointed as CMB of KTPH, A/Prof Pang Weng Sun appointed as CMB of YCH

Achieved the first JCI accreditation in KTPH, FutureGov Awards – Healthcare Organisation of the Year and the NTUC 50 Model Partnership Award

2012

Handover of leadership – Mr Liak promoted to AHS's Group CEO and Mrs Chew Kwee Tiang promoted to CEO of KTPH

Topped the MOH Patients' Satisfaction Survey and won Best Contact Centre Awards and Singapore HEALTH Award (Platinum)



We bade goodbye to our Group CEO Mr Liak Teng Lit and thanked him for his 38 years of hard work and visionary leadership. The farewell party was a walk down memory lane for Mr Liak as many of the people he had worked with and known over the years were secretly invited to join us in celebrating his work at AHS.



Mrs Chew Kwee Tiang, CEO of KTPH, joined in to serve food to staff during the S.T.A.R.S Day 2016 (Showing Thanks, Appreciation, Respect to Staff). This event was organised to show appreciation for our staff as we topped the MOH's Patient Satisfaction Survey for the 10th time. This demonstrated our consistent commitment to patient care from 2006 to 2015.

A FAMILY THAT PLAYS TOGETHER, STAYS TOGETHER

Being healthy includes having healthy, meaningful and connected relationships. Family ties, in particular, need care too. AHS believes in helping staff maintain strong family connections through the annual Family Day and regular excursions.

GIVING BACK TO THE COMMUNITY

Delighting the community

Being part of the community means AHS not only reaches out to our residents, but welcomes them to hold events within our grounds. In fact, our lunchtime performances are a platform to showcase the arts. We have invited groups such as students from Huamin Primary School,

Rainbow Centre and Singapore Chinese Orchestra, to perform at the main lobbies of our institutions. These groups brought much joy to the community, patients from KTPH and YCH, as well as residents from the nearby nursing homes in the Nee Soon area.

Caring for the environment

On 12 March 2017, we celebrated World Water Day, together with our partners from the Nee Soon South Constituency and Public Utilities Board. The event was graced by Guest of Honour Er Dr Lee Bee Wah. This year, the theme was "Make Every Drop Count", emphasising the role of the individual in taking ownership of Singapore's water resources. In typical AHS style, the event was followed by litter-picking at the Yishun Pond and nearby HDB blocks to put our environmental concern into practice. We picked up 60kg of litter.



2013
Won the Global Healthy Workplace Award 2013 (Large Enterprise), Most Innovative Project / Policy award (Gold) in PS21 Excel Awards & Convention for the Ageing-In-Place (AIP) programme

2014
Topped the MOH Patients' Satisfaction Survey and won the JCI and Work-Life Achiever Award, United Nations Public Service Award for the AIP programme, and the 14th CCAS International Contact Centre Awards Silver Award for the Best In-House Contact Centre

Nurse Clinician Sim Lai Kiow, KTPH won the President's Award for Nurses



AHS staff practising one of the Five Pillars of Health – exercising regularly!



2015
Topped the MOH Patients' Satisfaction Survey for the 10th year

Dr Pauline Tan appointed CEO of YCH

President's Award for Nurses, Ms Velusamy Poomkothammal, Assistant Director of Nursing, KTPH

2016
Won the Community Chest SHARE Platinum Award

2017
Ms Rostihar Abdul Karim, Principal Assistant Nurse, received first runner-up for the Tan Chin Tuan Nursing Award, Singapore's highest accolade for ENs

A/Prof Pang Weng Sun appointed acting Group CEO of AHS with Mr Liak Teng Lit's departure from public healthcare



AHS staff formed a contingent at The Purple Parade 2016 to show support towards persons with special needs.

Building an inclusive workforce

AHS showed its support for The Purple Parade, a movement that supports the inclusion and celebrates the abilities of persons with special needs. Within AHS, we have worked with the below agencies to create job opportunities for people with disabilities, as well as building an inclusive workforce and culture.

- As part of SG Enable's Project IN, students from Metta School and Woodlands Garden School take on nine-month internships under the School-To-Work Programme. This gives them valuable working experience to build up their confidence and capabilities. At present, four student interns are serving as Environmental Service Associates in YCH.
- To date, YCH has hired eight persons with disabilities and they are currently attached to the Environmental Services and Materials Management Department.

YCH also partnered closely with the Movement for the Intellectually Disabled of Singapore coaches to develop targeted programmes to help persons with disabilities adapt to the healthcare environment.

- KTPH's Main Lobby has a new weekly performer: 16-year-old Chang Xun from Rainbow Centre - Yishun Park School plays the piano after school most Mondays and Fridays.
- The Bettr Barista Coffee Cart was opened at KTPH in September 2016. This is a collaboration between Income OrangeAid and Bettr Barista Coffee Academy. This provides gainful employment and nurtures the entrepreneurial spirit of graduates from Bettr Barista's Holistic Training Programme, which empowers marginalised women and youth-at-risk through coffee.

CREATING A HEALING ENVIRONMENT



**2001**

AH began transforming its grounds. The idea was to build a lush healing oasis that would welcome patients and visitors to the hospital

2002

Singapore Environmental Achievement Award

2004

AH's Butterfly trail featured in *The New Paper*. By this time, 74 species of butterflies were spotted in its grounds

2005

AH won the inaugural Community in Bloom Award, a heartening recognition of its greening efforts

Building and Construction Authority (BCA) Award – Green Mark Gold

AHS's greening efforts started 16 years ago when the hospital was still in Queenstown.

"We transformed the former Alexandra Hospital from a dilapidated pre-war building to a place known for its lush garden; even tourists would visit it to see the plants and see butterflies," said Rosalind Tan, Senior Executive, Operations, who is affectionately known as the "Chief Gardener" of AHS.

"When we moved to Yishun, we wanted to green the hospital too, but with a quarter of the land space of what we had previously, we had to do it differently. We've gone up – growing vertical gardens and rooftop farms. We even transformed Yishun pond into a green activity space for the community to enjoy. Although we have less space, there is still natural light and greenery all around wherever you turn, so people can enjoy a beautiful view," said Rosalind.

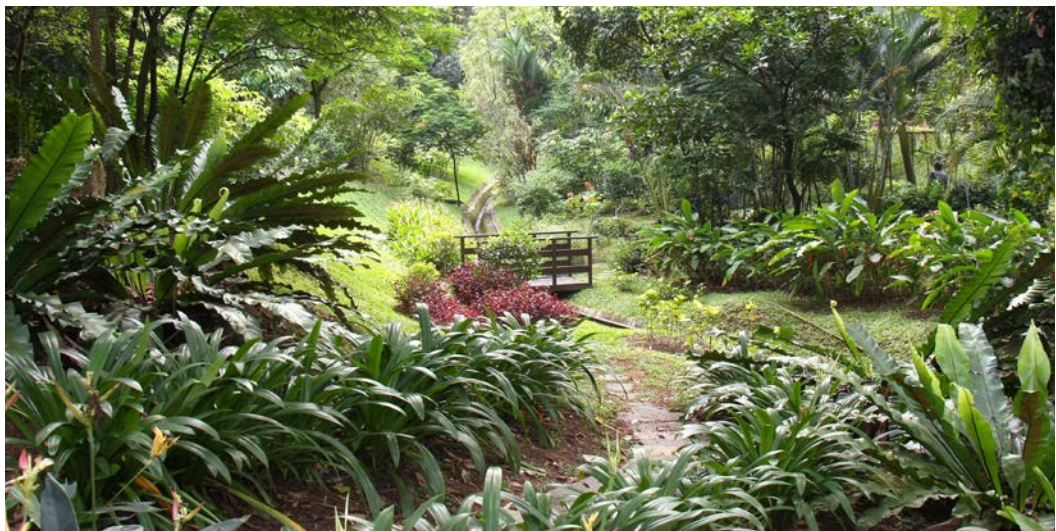
Rosalind, who spearheaded the garden initiative, started transforming the garden as a retirement present to the hospital. The passionate gardener – who had dedicated 37 years to the hospital as an Occupational

Therapist – has since continued to gift the hospital with her green thumbs, overseeing the greening of the Yishun Pond, KTPH and YCH.

Gardening and greenery, she points out, play an important role in achieving AHS's vision of ensuring the best outcomes for patients, especially in their rehabilitation. "For one, gardening is an extension of occupational therapy because it strengthens muscles, eyesight, mental function and hand-eye coordination."

The enjoyment of the landscaping, complete with water features and local wildlife is also multi-sensory and aids in healing and stress relief, she added. Apart from adding beauty and promoting healing to the hospital, the gardens also bring in the community.

The rooftop gardens at both KTPH and YCH – which grow an abundance of fruit and vegetables – are tended by a dedicated team of 23 volunteer gardeners. Some produce are used for patients' meals while the extras are sold every Monday, Wednesday and Friday at AHS's own farmer's market.



The AH gardens were transformed into a tropical healing oasis which included a Butterfly Trail with over a 100 species of butterflies.



AHS gardeners and volunteers, showing off their harvest at the KTPH rooftop garden. From left: Mr Jason Loke, Mr Low Lum Soon, Mr Joe Lum, Mr Simon Chan, Mr Jeffrey Tay, Mr Hur Tze Huan, Mr Lim Ah Sien, Ms Wong Yoke Chan, Ms Rosalind Tan and Mr Robert Lo.



Mr Robert Lo, a longtime volunteer, harvesting starfruit for the tri-weekly "market" where fresh and organic produce from the rooftop gardens are sold to staff and members of the public.



2008
Community in Bloom Award (Best Community Garden) and Community in Bloom Platinum Award for AH

Ministry of the Environment and Water Resources President's Award for the Environment for AH

2009
BCA Green Mark Platinum Award

2010
SIA-NParks (Singapore Institute of Architects-National Parks Board) Skyrise Greenery Awards – First Prize

AHS officially adopted Yishun Pond; rejuvenation works transformed Yishun Pond and its surroundings into a multi-generational, health-promoting garden



2011
 Design & Health
 International Academy
 Award – International
 Health Project
 (over 40,000 m²)

FutureGov Awards –
 Healthcare Organisation
 of the Year

President's
 Design Award

Landscape Industry
 Association (Singapore)
 Gold Award and
 Best of Category
 (Implementation,
 Commercial); Silver
 Award (Turnkey) for
 Yishun Pond

FutureArc Green
 Leadership Award
 – Institutional
 Architecture

Singapore Institute
 of Architects Design
 Award for Healthcare
 Facility 2011

BCA Universal Design
 Award (Gold) –
 Institutional Building

SIA Building of the Year

AHS WINS DIAMOND COMMUNITY IN BLOOM AWARD

KTPH's efforts in urban farming were recognised with the top Diamond Award at the 2016 Community in Bloom Awards after attaining the Platinum achievement banding for the fourth consecutive year. The Community in Bloom Awards is a biennial competition spearheaded by NParks and is aimed at promoting the efforts of community gardeners.

A GREEN ENVIRONMENT IS A HEALTHY ONE

AHS's mission of health extends to its environment. Going beyond meeting environmental legislation requirements, AHS has developed a comprehensive sustainability framework to create a clean, green and healthy environment for patients, staff and visitors.

A wide range of energy- and water-efficient technologies are also integrated into the design to make daily operations more sustainable. For instance, the calibration of toilet flush sensors and installation of a dry pump system for the pond to provide 95% of irrigation needs for KTPH's landscape resulted in a 6.4% drop in NEWater use in 2016.

Despite an increased patient load of about 3% (43,457 patients) in 2016 over 2015, potable water use fell 3%. This can be attributed to various water saving measures and the renovation of Foodfare from July to November 2016.

For these efforts, KTPH was re-certified under the Singapore Standard SS 577:2012 for its Water Efficiency Management System in June 2016. Six months later – after a rigorous series of audits – KPTH's Energy Management System (EnMS) achieved ISO50001 certification.



Chief Gardener Rosalind Tan with AHS's homegrown giant pumpkin, which weighed 12kg and had a girth of almost 170cm. It snagged the top prize in the yearly Community Garden Edibles Competition in 2016. The mega-pumpkin was so heavy that a harness had to be constructed to support it on the vine.

Cementing its green commitment, KTPH became a member of the Global Green and Healthy Hospitals network on 1 October 2016. We have committed to achieving two of the 10 Agenda Goals: to reduce, treat and safely dispose healthcare waste; and to purchase and serve sustainably-grown and healthy food.

RECYCLING AND REDUCING WASTE

Today, AHS's recycling efforts have increased from seven categories to 10. Added to the list are batteries, fabrics and recyclable electronic items. In 2016, a total of 140,575 kg of recyclable waste was collected (averaging 11,715kg per month). This marks a small increase of 3,052kg (2%) over 2015.

KTPH also partnered the National Environment Agency in food wastage reduction outreach. The aim is to address the problem of rising food waste in Singapore and go towards a national goal of becoming a Zero Waste Nation under the Sustainable Singapore Blueprint 2015.

SUSTAINABLE DESIGN FACTS

The hospitals are orientated in north-east and south-west direction to reduce exposure to direct sunlight and lower the demand on cooling systems.

Open spaces, large windows in the wards and being located next to Yishun Pond improve air flow and ventilation. These have helped to reduce indoor temperature by one degree Celsius overall.



2012
AHS won first of three consecutive Community in Bloom Platinum Awards

2013
NPark's Landscape Excellence Assessment Framework (LEAF) – Certificate of Recognition for development projects with outstanding greenery

2014
BCA Green Mark Platinum Award for YCH

Public Utilities Board (PUB) Water Efficient Building (Hospital Sector) – Gold Certificate

Community in Bloom Award (Best Community Garden) and Community in Bloom Platinum Award

2015
PUB Watermark Award

2016
Community in Bloom Diamond Award

ISO50001 Certification for KTPH's EnMS



Recycling bins are clearly marked, making it easier for staff to dispose their items in the correct bins.

Green Report Card

For the year ended 31 March 2017

Birds



Butterflies



Dragonflies and Damselflies



Fish



Plants



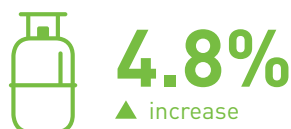
Rooftop Gardens



Electricity Consumption



Gas Consumption



Indoor Temperature



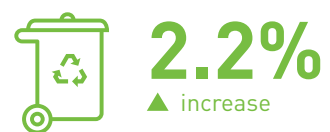
NeWater Consumption



Potable Water Consumption



Recyclable Waste



Operational Highlights

For the year ended 31 March 2017

KTPH

Beds in Service 

659

Bed Occupancy 

92%

▼ 4% from 96%

Total Inpatient Days 

219,013

▲ 6% from 207,526

Average Length of Stay 

5.1

▼ 9% from 5.6

Outpatient Attendances 

396,006

▲ 3% from 385,418

A&E Attendances 

136,186

▲ 3% from 132,171

Inpatient Admissions 

41,841

▲ 17% from 35,869

Surgery 

52,734

▲ 6% from 49,893

Day Surgery 

36,630

▲ 5% from 34,736

Inpatient Surgery 

16,104

▲ 6% from 15,157

YCH

Beds in Service 

255

Bed Occupancy 

61.7%

Total Inpatient Days 

49,028

Average Length of Stay 

23.5

Inpatient Admissions 

2,199

Awards

Community in Bloom 2016

- Diamond Award:
KTPH

People's Association Community Spirit Award 2016

- Merit Award:
AHS

SCDF Star Customer Award 2016

- KTPH

Singapore Good Design Mark 2017

- SG Mark:
Wellness Kampung@765 in conjunction with
St Luke's Eldercare Nee Soon Central Centre

Singapore Patient Action Awards 2016

- Singapore Patient Engagement
Initiative Award (Team-based):
Tri-Generation HomeCare @ North West

Biolmages Competition 2016

- Citation of Merit and Medical Education Award
in the Still Media Division:
Mr Albert Sim, Senior Imaging Specialist,
Ophthalmology and Visual Sciences, KTPH

Distinguished Senior Clinician Award 2016

- Prof C Rajasoorya, Senior Consultant,
General Medicine, KTPH
- A/Prof Sum Chee Fang, Senior Consultant,
General Medicine, KTPH

Ministry of Health Gold Medal for Professional Conversion Programme

- Nicholas Cheong, Staff Nurse, A&E, KTPH

Healthcare Humanity Awards 2016

- A/Prof Philip Yap, Senior Consultant and Director,
Geriatric Centre, KTPH
- Ms Toh Hai Moy, Senior Nurse Clinician, KTPH

May Day Awards 2016

- May Day Comrade of Labour Award:
Ms Mary Chan, Nurse Clinician, Ward B85, KTPH

Ministry of Health Nurses' Merit Award 2016

- Ms Si Chanjuan, Nurse Manager, Ward B45,
KTPH
- Ms Lynette Thng, Nurse Manager, Ward A82,
KTPH
- Ms Sathiya Veeraraghavan, Nurse Manager,
Ward A71, KTPH
- Ms Foo Meow Ling, Nurse Clinician,
Infection Control, KTPH
- Ms Sangeetha D/O Sodimani,
Assistant Nurse Clinician, Ward B86, KTPH
- Ms Kimberly Lim, Senior Staff Nurse,
AIP-CCT, AHS

National Day Awards 2016

The Public Service Medal:

- Mr Anthony Seah
Board Member, AHS

The Commendation Medal (Military):

- Mr Tan Boon Khai
Board Member, AHS

The Public Administration Medal (Bronze) and
The Long Service Medal:

- Dr Wong Sweet Fun
Chief Transformation Officer,
Hospital Administration, AHS

The Public Administration Medal (Bronze) (Military):

- A/Prof Kenneth Mak
Senior Consultant, General Surgery, KTPH

The Commendation Medal:

- Mr Donald Wai
Director, Hospital Planning, AHS

The Efficiency Medal:

- Ms Lilian Eileen Cheah
Nurse Manager, Ward D87, KTPH
- Ms Foo Tock Cheng
Senior Patient Service Associate, Dental Clinic, KTPH

The Long Service Medal:

- Mr Abdul Jamal Bin Yahaya
Senior Staff Nurse, ICU 2 (Surgical), KTPH
- Dr Azman Johan
Senior Consultant, Respiratory Medicine, KTPH
- Dr Chan Keen Loong
Head & Senior Consultant,
Psychological Medicine, KTPH
- Ms Hamidah Bte Abdul Hamid
Senior Staff Nurse, Home Care Service, KTPH
- Ms Hasmah Bte Tomin
Senior Staff Nurse, Ward B105, KTPH
- Mr Jamal Bin Rashid
Senior Staff Nurse, Geriatric Outpatient Clinic, KTPH
- Ms Kamisah Bte Hassan
Assistant Nurse Clinician, Day Surgery Centre, KTPH
- Ms Lau Bee Leng
Senior Supervisor, Customer Contact Centre, KTPH
- Ms Lim Siew Khim
Senior Staff Nurse, Medical Records Office, KTPH
- Dr Lim Tow Poh
Senior Consultant, Urology, KTPH
- A/Prof Lim Su Chi
Senior Consultant, General Medicine, KTPH
- Ms Mary Getrude
Nurse Manager, Ward B75, KTPH

- Ms Norizah Bte Aziz
Nurse Manager, Nursing Administration, KTPH
- Ms Rosnah Bte Shahdan
Senior Staff Nurse, Customer Contact Centre, KTPH
- Ms Seow Geok Huay
Assistant Nurse Clinician, Ward B95, KTPH
- Ms Tan Soon Kiow
Principal Assistant Nurse, ICU 1 (CCU), KTPH

National Healthcare Innovation & Productivity Awards 2016

- Best Practice Medal
(Workforce Transformation Category):
Nurse-led Peri-operative Care for Cataract Surgery under Topical Anaesthesia

National Outstanding Clinician Educator Award 2016

- A/Prof Pang Weng Sun,
Chairman, Medical Board, YCH &
Senior Consultant, KTPH

PS21 Excellence in Public Service Awards 2016

- Star Service Award:
Mr Mok Chee Peng, Senior Medical Social Worker, Medical Social Service, KTPH

Tan Chin Tuan Nursing Award for Enrolled Nurses 2016

- Ms Rostihar Bte Abdul Karim, Principal Assistant Nurse, Ophthalmology and Visual Sciences, KTPH

Tan Tock Seng Hospital Achievement Award

- Top Student for Advanced Diploma in Nursing (Gerontology)
- Wen Rou, Senior Staff Nurse,
Geriatric Outpatient Clinic, KTPH

Clinical Research Awards

Name of Awardee	Department	Project Title	Type of Award	Awarding Agency
Dr Edwin Seet, Dr Chen Mei Liaw, Dr Sylvia Tay, Ms Chang Su	Anaesthesia	Melatonin Premedication Versus Placebo In Wisdom Teeth Extraction: A Randomised Controlled Trial	Best Research Paper Award - 2nd prize	Singapore Medical Journal, Singapore
Dr Kumar Chandra Mohan	Anaesthesia	Eye Surgery and Anticoagulation	Invited International Speaker	World Congress of Anaesthesiologists, Hong Kong
Dr Kumar Chandra Mohan	Anaesthesia	Regional Anaesthesia for Ophthalmic Surgery	Invited International Speaker	World Congress of Anaesthesiologists, Hong Kong
Dr Kumar Chandra Mohan	Anaesthesia	Ophthalmic Regional Anaesthesia Workshop	Invited Workshop Leader	World Congress of Anaesthesiologists, Hong Kong
Dr Kumar Chandra Mohan	Anaesthesia	Anatomy for Ophthalmic Regional Anaesthesia	Invited International Speaker	4th World Congress of Ophthalmic Anaesthesia, India
Dr Kumar Chandra Mohan	Anaesthesia	Sub-Tenon's Block Workshop	Invited International Speaker	4th World Congress of Ophthalmic Anaesthesia, India
Dr Kumar Chandra Mohan	Anaesthesia	Problem Based Learning, Eye Blocks	Invited International Speaker	European Society of Regional Anaesthesia, Netherlands
Dr Kumar Chandra Mohan	Anaesthesia	The Role of Spinal Anaesthesia in Abdominal Surgery	Invited International Speaker	European Society of Regional Anaesthesia, Netherlands

Name of Awardee	Department	Project Title	Type of Award	Awarding Agency
Dr Kumar Chandra Mohan	Anaesthesia	Myths & Mysteries of Continuous Spinal Anaesthesia	Invited International Speaker	Philippines Society of Anaesthesiologists, Philippines
Dr Kumar Chandra Mohan	Anaesthesia	Role of Continuous Spinal Anaesthesia in Major Abdominal Surgery	Invited International Speaker	Philippines Society of Anaesthesiologists, Philippines
Dr Paul Wong	Anaesthesia	Hip Fracture: Pain Control - "Our Story in a Bottle"	Top Project: Invited National Speaker	National Health Group Annual Clinical Practice Improvement Programme (CPIP) Graduation, Singapore
Dr Edwin Seet, Dr Daniel Chia	Anaesthesia & Transformation Office	Mobile Phone App-Based Novel Oximetry System	Best Abstract Award	Society of Anaesthesia and Sleep Medicine, USA
Dr Sharon Pek	Clinical Research Unit	Prevalence of Peripheral Arterial Disease and Peripheral Neuropathy in Early-Onset Diabetes in a Cohort of Multi-Ethnic Patients With Type 2 Diabetes	Singapore Young Investigator Award – Clinical Research (YIA-CR) (SILVER)	Singapore Health and Biomedical Congress, Singapore
A/Prof Lim Su Chi	Clinical Research Unit	The Metabolomics of Progressive Diabetic Kidney Disease (DKD) in Young-Onset Type 2 Diabetes	Clinical Scientist Award	National Medical Research Council (NMRC)
Dr Ester Yeoh, Dr Sueziani Binte Zainudin, Ms Loh Win Nie, Ms Chua Chin Lian, Ms Sharon Fun, A/Prof Subramaniam Tavintharan, A/Prof Sum Chee Fang, A/Prof Lim Su Chi	General Medicine	Fasting during Ramadan and Associated Changes in Glycaemia, Caloric Intake and Body Composition with Gender Differences in Singapore	Annals' Gold Best Paper Award	Annals, Academy of Medicine, Singapore
Dr Lang Tee Ung, Dr Vijayadwaja Desai	Laboratory Medicine	Accuracy Rate of Fine Needle Aspiration in Lymph Node	Best Poster Award	Diagnostic Cytopathology Workshop, Yong Loo Lin School of Medicine, Singapore
Ms Nithiya Isnarti, Ms Mariem Bte Anwar, Ms Jessie Chang, Ms Lee Siok Ying, Ms Claudine Oh	Pharmacy	Structured Competency Training for Pharmacy Technician in Khoo Teck Puat Hospital	Commended Poster Award, Quality Improvement (Allied Health)	Singapore Pharmacy Congress, Singapore

Journal Publications

Department	Authors	Title of Paper Published	Journal Name	Volume	Page No.
Acute and Emergency Care	Ahn Jung Hwan, Jeon Jin, Toh Hong-Chuen, Vicki Elizabeth Noble, Jun Su Kim, Young Sik Kim, Han Ho Do, Young Rock Ha	A Novel Point of Care Ultrasound Protocol for Patients with Chest Pain, Dyspnea or Symptomatic Hypotension in the Emergency Department	SEARCH 8Es	12(3)	doi: 10.1371/journal.pone.0174581
Acute and Emergency Care	Ashish Chawla, Shobhit Swarup, Vishal Pralhad Gaikwad	Electrocardiogram: The Saviour for This Patient	Netherlands Heart Journal	24	366-367
Acute and Emergency Care	Desmond Mao, Marcus Ong	Public Access Defibrillation: Improving Accessibility and Outcomes	British Medical Bulletin	118	25-32
Acute and Emergency Care	Desmond Mao, Marcus Ong	High-Rise Residential Resuscitation - Scaling the Challenge	Canadian Medical Journal	-	doi: 10.1503/cmaj.151044
Anaesthesia	Chandra Mohan Kumar	The Wiley Spinal Catheter-Over-Needle System for Continuous Spinal Anaesthesia: Questions Remain	Regional Anaesthesia and Pain Medicine	July-August 2016, 41(4):546-7	-
Anaesthesia	Chandra Mohan Kumar, Edwin Seet	Stopping Antithrombotics During Regional Anaesthesia and Eye Surgery: Crying Wolf?	British Journal of Anaesthesia	Feb;118(2)	154-158
Anaesthesia	Chandra Mohan Kumar, Edwin Seet	Effective and Cost-Saving Incisionless Sub-Tenon's Block	Indian Journal of Anaesthesia	Jan;61(1)	84-85
Anaesthesia	Chandra Mohan Kumar, Edwin Seet	Time to Abandon Routine Preoperative Tests Before Cataract Surgery under Local Anaesthesia	British Journal of Anaesthesia	January 2016, Correspondence	-
Anaesthesia	Chandra Mohan Kumar, Edwin Seet	Cataract Surgery in Dementia Patients - Time to Reconsider Anaesthetic Options	British Journal of Anaesthesia	117	421-425
Anaesthesia	Chandra Mohan Kumar, Edwin Seet, Tom Eke, Ketan Dhatariya, Girish P. Joshi	Glycaemic Control During Cataract Surgery under Loco-Regional Anaesthesia: A Growing Problem and We Are None the Wiser	British Journal of Anaesthesia	117	687-691
Anaesthesia	Chandra Mohan Kumar, Foo Chong Wee, Chen Xinying	Reply from the Authors: Schneider Regimen Vs a Volatile Inhalation Anaesthetic (Desflurane) for Laparoscopic Adrenalectomy and Additional Considerations for Delivery of Anaesthesia	British Journal of Anaesthesia	116	432
Anaesthesia	Daryl Tan, Tan Leng Zoo, Edwin Seet	Low-Skill Flexible Bronchoscopic Intubation - Overcoming Common Pitfalls	Journal of Clinical Anesthesia	May;38	83-84
Anaesthesia	Edwin Seet, Chandra Mohan Kumar	Intubation: Never Blind Anymore [Editorial]	Trends in Anaesthesia and Critical Care	6	32

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Anaesthesia	Edwin Seet, Chandra Mohan Kumar	Clinical Relevance of Human Cadaveric Studies on Oesophageal Sealing Pressures for Supraglottic Airway Devices	British Journal of Anaesthesia	March 2016, Correspondence	Online
Anaesthesia	Edwin Seet, Chandra Mohan Kumar	Paradigm Shifts in Anaesthesia (Editorial)	Trends in Anaesthesia and Critical Care	9	doi: 10.1016/j.tacc.2016.09.001
Anaesthesia	Kumaresh Venkatesan, Tan Leng Zoo, Koh Kwong Fah, Edwin Seet	C-MAC Videolaryngoscopy Associated with Higher Force on Maxillary Incisors	British Medical Journal	June 2016, Correspondence	Online
Anaesthesia	Liaw Chen Mei, Maureen Chua, Edwin Seet	Author's Reply: Comment On: High STOP-Bang Questionnaire Scores Predict Intraoperative and Early Postoperative Adverse Events	Singapore Medical Journal	57	102
Anaesthesia	Murukuti Muruthee Vara Prasad, Lim Kim Seong, Chandra Mohan Kumar	Tracheal Injury Using a Gum Elastic Bougie within a RAE Endotracheal Tube	Anaesthesia and Intensive Care	44	428
Anaesthesia	Shahla Siddiqui	A Physician's Moral Dilemma in the Emergency Department: Going Against a Patient's Perceived Wishes	J of Emergency Medicine	51	748-749
Anaesthesia	Shahla Siddiqui	What are the Situations that Trouble Me Professionally?: The Story of "Uncle Fred"	Asian Bioethics Review	May 2016, Volume 8, Issue 2	143-145
Anaesthesia	Shahla Siddiqui	Ethical Challenges Facing Advance Care Planning	Asian Bioethics Review	March 2016 Volume 8, Issue 1	53-65
Anaesthesia	Shahla Siddiqui	Dying within Dying: Ethical Dilemmas of Treating Terminally Ill Patients with Acute Life Threatening Illnesses	Indian Journal of Critical Care Medicine	May 2016, Volume 20, Issue 5	56
Anaesthesia	Shahla Siddiqui	The Use of Four-Point Transversus Abdominis Plane Block for Liver Resection	Indian Journal of Anaesthesia	May 2016, Volume 60, Issue 5	79
Anaesthesia	Shahla Siddiqui, Alyssa Chiew, Karen Soh, T Thirumoorthy	Having It All - Burnout and Moral Distress in Working Female Physicians in a Developed Asian Country	Int J of health Sciences and Research	6	47-51
Anaesthesia	Van Zundert AA, Gatt SP, Chandra Mohan Kumar, Van Zundert TC	Vision-Guided Placement of Supraglottic Airway Device Prevents Airway Obstruction: A Prospective Audit	British Journal of Anaesthesia	Mar 1;118(3)	462-463
Anaesthesia	Van Zundert AAJ, Chandra Mohan Kumar, Van Zundert TC	Malpositioning of Supraglottic Airway Devices: Preventive and Corrective Strategies (Editorial)	British Journal of Anaesthesia	116	579-582

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Anaesthesia & Nursing	Shahla Siddiqui, Anusha Kannan, P. Sivamalar, Chai Chee Peng	A Survey of Knowledge About Ebola Haemorrhagic Fever Amongst Anaesthesia Staff	Journal of the College of Physicians and Surgeons Pakistan	April 2016, Volume 26 (4)	346
Anaesthesia & Nursing	Shahla Siddiqui, Claudia Quek, Murukuti MV Prasad, Kumaresh Venkatesan	A 6-Month Audit of Epidural Analgesia in a Teaching Hospital	Indian Journal of Pain	May 2016, Volume 30, Issue 2	101-107
Anaesthesia, Ophthalmology and Visual Sciences	Woo Jyh Haur, Ng Wei Di, Salah Maaz Mohammad, Kumari Neelam, Au Eong Kah-Guan, Chandra Mohan Kumar	Perioperative Glycaemic Control in Diabetic Patients Undergoing Cataract Surgery under Local Anaesthesia: A Survey of Practices of Singapore Ophthalmologists and Anaesthesiologists	Singapore Medical Journal	57(2):	64-8. doi: 10.11622/smedj.2016029.
Anaesthesia, Psychological Medicine & Nursing	Ong Yu Zheng, Shahla Siddiqui, Surej John, Zen Chen, Chang Su	The Prevalence of Post-Traumatic Stress Disorder in Intensive Care Unit Staff and the Common Coping Strategies Used	Annals Academy of Medicine Singapore	May 2016, Volume 45, No. 5	215-217
Cardiology	Cruz Patrick John Jacinto	Swinging Through Life: A Case of a Pendulum Heart	CASE: Cardiovascular Imaging Case Reports	1	23-27
Cardiology	William Kong, Victoria Delgado, Kian Keong Poh, Madelien Regeer, Arnold Ng, Louise McCormack, Tiong Cheng Yeo, Miriam Shanks, Sarah Parent, Roxana Enache, Bogdan A. Popescu, Michael Liang, James Yip, Lawrence Ma, Vasileios Kamperidis, Philippe J. van Rosendael, Enno T. van der Velde, Nina Ajmone Marsan, Jeroen J. Bax	Prognostic Implications of Raphe in Bicuspid Aortic Valve Anatomy	JAMA Cardiology	2(3): 285-292.	doi: 10.1001/jamacardio.2016.5228
Clinical Research Unit	Angela Moh, Sum Chee Fang, Tavintharan Subramaniam, Sharon Pek, Yeoh Lee Ying, Ng Xiaowei, Simon Lee, Tang Wern Ee, Lim Su Chi	Association of the Anti-Angiogenic Factor Secreted Protein and Rich in Cysteine (SPARC) with Vascular Complications Among Chinese Type 2 Diabetic Patients in Singapore	Journal of Diabetes and its Complications	doi:10.1016/j.jdiacomp.2016.03.029	-
Clinical Research Unit	Ang Su Fen, Lim Su Chi, Clara Tan, Jessie Fong, Winston Kon YC, Joyce Lian, Tavintharan Subramaniam, Sum Chee Fang	A Preliminary Study to Evaluate the Strategy of Combining Clinical Criteria and Next Generation Sequencing (NGS) for the Identification of Monogenic Diabetes Among Multi-Ethnic Asians	Diabetes Research and Clinical Practice	doi:10.1016/j.diabres.2016.06.008	-

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Clinical Research Unit	Dorajoo Sreemanees Raaj, Ng Shi Ling Joceline, Goh Hui Fen Jessica, Lim Su Chi, Yap Chun Wei, Chan Alexandre, Lee Yu Chia Joyce	Hba1c Variability in Type 2 Diabetes is Associated with the Occurrence of New-Onset Albuminuria within Three Years	Diabetes Research and Clinical Practice	doi:http://dx.doi.org/10.1016/j.diabres.2017.02.007	-
Clinical Research Unit	Huo Jianxin, Ma Yi, Liu Jian Jun, Ho Ying Swan, Sylvia Liu, Soh Li Ying, Chen Shuwen, Xu Shengli, Han Weiping, Hong An, Lim Su Chi, Lam Kong Peng	Loss of Fas Apoptosis Inhibitory Molecule Leads to Spontaneous Obesity and Hepatosteatosis	Cell Death and Disease	7	e2091
Clinical Research Unit	Joel Lim, Ang Su Fen, Clara Tan, Jessie Fong, Lim Su Chi	Cessation of Multiple Daily Insulin Injections in a Person with Twenty-Nine Years of "Type 1 Diabetes"	Diabetes Case Report	doi:10.4172/2572-5629.1000122	-
Clinical Research Unit	Lim Su Chi, Rajkumar Dorajoo, Zhang Xiao, Wang Ling, Ang Su Fen, Clara Tan, Yeoh Lee Ying, Ng Xiaowei, Li Na, Chang Su, Sylvia Liu, Melvin Wong, Serena Low, Amy Yao, Babitha Jeevith, Sharon Fun, Zhou Shiyi, Simon Lee, Tang Wern Ee, Tavintharan Subramaniam, Sum Chee Fang, Liu Jian Jun	Genetic Variants in the Receptor for Advanced Glycation End Products (RAGE) Gene Were Associated with Circulating Soluble RAGE Level (Srage), But Not with Renal Function Among Asians with Type 2 Diabetes: A Genome-Wide Association Study	Nephrology Dialysis Transplantation	doi:10.1093/ndt/gfw263	doi:10.1093/ndt/gfw263
Clinical Research Unit	Liu Jian Jun, Lim Su Chi, Yeoh Lee Ying, Chang Su, Tai Bee Choo, Serena Low, Sharon Fun, Tavintharan Subramaniam, Chia KS, Tai E Shyong, Sum Chee Fang	Ethnic Disparities in Risk of Cardiovascular Disease, End-Stage Renal Disease and All-Cause Mortality: A Prospective Study Among Asian People with Type 2 Diabetes	Diabetic Medicine	33	332-339
Clinical Research Unit	Liu Jian Jun, Sylvia Liu, Melvin Wong, Resham Lal Gurung, Lim Su Chi	Urinary Haptoglobin Predicts Rapid Renal Function Decline in Asians with Type 2 Diabetes and Early Kidney Disease	The Journal of Clinical Endocrinology & Metabolism	doi:10.1210/jc.2016-2094	101(10): 3794-3802
Clinical Research Unit	Liu Jian Jun, Sujoy Ghosh, Jean-P Kovalik, Ching Jianhong, Choi Hyung Won, Tavintharan Subramaniam, Ong Choon Nam, Sum Chee Fang, Scott A. Summers, Tai E Shyong, Lim Su Chi	Profiling of Plasma Metabolites Suggests Altered Mitochondrial Fuel Usage and Remodelling of Sphingolipid Metabolism in Individuals with Type 2 Diabetes and Kidney Disease	Kidney International Reports	doi:10.1016/j.ekir.2016.12.003	-

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Clinical Research Unit	Sharon Pek, Sum Chee Fang, Michelle Lin, Anton Cheng, Michael Wong, Lim Su Chi, Tavintharan Subramaniam	Circulating and Visceral Adipose Mir-100 is Down-Regulated in Patients with Obesity and Type 2 Diabetes	Molecular and Cellular Endocrinology	doi:10.1016/j.mce.2016.03.010	-
Clinical Research Unit	Serena Low, Tai E Shyong, Yeoh Lee Ying, Allen Liu, Liu Jian Jun, Kristin Tan, Sharon Fun, Zhang Xiao, Tavintharan Subramaniam, Sum Chee Fang, Lim Su Chi	Onset and Progression of Kidney Disease in Type 2 Diabetes Among Multi-Ethnic Asians Population	Journal of Diabetes and its Complications	doi:10.1016/j.jdiacomp.2016.05.020	-
Clinical Research Unit	Serena Low, Lim Su Chi, X Zhang, SY Zhou, Yeoh Lee Ying, Allen Liu, Tavintharan Subramaniam, Sum Chee Fang	Development and Validation of A Predictive Model for Chronic Kidney Disease Progression in Type 2 Diabetes Mellitus Based on A 13-Year Study in Singapore Diabetes Research and Clinical Practice	Diabetes Research and Clinical Practice	doi:http://dx.doi.org/10.1016/j.diabres.2016.11.008	-
Clinical Research Unit	Serena Low, Lim Su Chi, Yeoh Lee Ying, Allen Liu, Liu Jian Jun, Sharon Fun, Chang Su, Zhang Xiao, Tavintharan Subramaniam, Sum Chee Fang	The Effect of Long-Term Glycemic Variability on Estimated Glomerular Filtration Rate Decline Among Patients with Type 2 Diabetes Mellitus - Insights from the Diabetic Nephropathy Cohort in Singapore	Journal of Diabetes	doi:10.1111/1753-0407.12512	-
Clinical Research Unit	Tavintharan Subramaniam, Lim Su Chi, Sum Chee Fang	Association of Apolipoprotein-CIII (apoC-III), endothelium-dependent vasodilation and Peripheral Neuropathy in a multi-ethnic population with Type 2 Diabetes	Metabolism	doi:10.1016/j.metabol	-
Clinical Research Unit	Yoong Hun Ong, Wei Choon Alvin Koh, Mei Li Ng, Lim Su Chi	Glutamic Acid Decarboxylase and Islet Antigen 2 Antibody Profiles in People with Adult-Onset Diabetes Mellitus: A Comparison Between Mixed Ethnic Populations in Singapore and Germany	Diabetic Medicine	doi:10.1111/dme.13358	-
Clinical Research Unit	Zhang Xiao, Liu Jian Jun, Sum Chee Fang, Yeoh Lee Ying, Tavintharan Subramaniam, Ng Xiaowei, Chang Su, Serena Low, Simon Lee, Tang Wern Ee, Lim Su Chi	Central Arterial Stiffness is Associated with Systemic Inflammation Among Asians with Type 2 Diabetes	Diabetes and Vascular Disease Research	doi:10.1177/1479164116635021	-
Clinical Research Unit	Zhang Xiao, Liu Jian Jun, Sum Chee Fang, Yeoh Lee Ying, Tavintharan Subramaniam, Li Na, Chang Su, Serena Low, Simon Lee, Tang Wern Ee, Lim Su Chi	Ethnic Disparity in Inter-Arm Systolic Blood Pressure Difference and Its Determinants Among Asians with Type 2 Diabetes: A Cross-Sectional Study	Journal of the ASEAN Federation of Endocrine Societies	doi:https://doi.org/10.15605/jafes.031.02.02	-

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Diabetes Centre	Jeremy Hoe, Ester Yeoh, Chee Fang Sum, Lim Su Chi, Moh Sim Wong, Aznan Omar, Steven Tsai, Ping Ying Heng, Tavintharan Subramaniam	Validation of A New Formula (SMART2D) for Estimation of LDL Cholesterol in Patients with and without Diabetes	Diabetes Research and Clinical Practice	doi:http://dx.doi.org/10.1016/S0168-8227(16)31036-1	-
Diagnostic Radiology	Ashish Chawla, Tan Min On, Manickam Subramanian, Jerome Iral Ezhll Bosco	The Perianal "Horseshoe"	Abdominal Radiology (New York)	41(1)	203-204
Diagnostic Radiology	Ashish Chawla, Jagadish Narayana Shenoy, Lim Tze Chwan, Dinesh Rambachan Singh	Schematic Interpretation of Lateral Neck Radiographs of Adults in the Emergency Department: A Pictorial Review	Emergency Radiology	23(1)	79-87
Diagnostic Radiology	Ashish Chawla, Jerome Iral Ezhll Bosco, Lim Tze Chwan, Vishal Pralhad Gaikwad, Raymond Chung	Systemic-Pulmonary Artery Shunt; A Rare Cause of False Positive Filling Defect in the Pulmonary Arteries	Journal of Medical Imaging and Radiation Oncology	61(1)	82-84
Diagnostic Radiology	Chou Hong, Chin Teck Yew, Wilfred Peh	Dual-Energy CT in Gout - A Review of Current Concepts and Applications.	Journal of Medical Radiation Sciences	64(1)	41-51
Diagnostic Radiology	Cynthia Assimta Peter, Dinesh Rambachan Singh	A "Doughnut" in the Abdomen	Abdominal Radiology (New York)	42(3)	973-974
Diagnostic Radiology	Dinesh Rambachan Singh, Mukherjee P, Ashish Chawla	Turtleback Liver	Abdominal Radiology (New York)	42(1)	326-327
Diagnostic Radiology	Goh Lin Wah, Wong Su Lin, Tan Puay Hoon	Four Cases of Echogenic Breast Lesions: Case Series and Review	Singapore Medical Journal	57(6)	339-343
Diagnostic Radiology	Goh Lin Wah, Dinesh Chinchure, Lim Tze Chwan	Clinics in Diagnostic Imaging (166). Nonketotic Hyperglycaemic Chorea-Hemiballismus	Singapore Medical Journal	57(3)	161-165
Diagnostic Radiology	Kabilan Chokkappan, Kannivelu A, Sivasubramanian Srinivasan, Suresh Balasubramanian Babu	Review of Diagnostic Uses of Shunt Fraction Quantification with Technetium-99m Macroaggregated Albumin Perfusion Scan as Illustrated by a Case of Osler-Weber-Rendu Syndrome	Annals of Thoracic Medicine	11(2)	155-160
Diagnostic Radiology	Kabilan Chokkappan, Dinesh Chinchure, Ashish Chawla, Manickam Subramanian, Vijay Krishnan, Jagadish Narayana Shenoy, Sivasubramanian Srinivasan	An Approach to Various Gastric Pathologies Using an "Image Appearance-Based Classification" on Computed Tomography	Current Problems in Diagnostic Radiology	45(1)	23-38

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Diagnostic Radiology	Manickam Subramanian, Chou Hong, Kabilan Chokkappan, Wilfred Peh	Clinics in Diagnostic Imaging (174). L5 Vertebral Superior Facet Osteoblastoma (OB)	Singapore Medical Journal	58(2)	79-84
Diagnostic Radiology	Mukherjee P, Ashish Chawla, Dinesh Rambachan Singh, Raymond Chung	The "Gallbladder Pearl Necklace" Sign	Abdominal Radiology (New York)	41(5)	1001-1002
Diagnostic Radiology	Raymond Chung, Philip Touska, Robert Morgan, Anna-maria Belli	Endovascular Management of True Renal Arterial Aneurysms: Results from a Single Centre	CardioVascular and Interventional Radiology	39(1)	36-43
Diagnostic Radiology	Vishal Pralhad Gaikwad, Ashish Chawla, Lim Tze Chwan, Wilfred Peh	Clinics in Diagnostic Imaging (173). Scimitar Syndrome with Horseshoe Lung	Singapore Medical Journal	58(1)	29-33
Diagnostic Radiology	Vijay Krishnan, Lim Tze Chwan, Francis Ho, Wilfred Peh	Clinics in Diagnostic Imaging (175). Corpus Callosum Glioblastoma Multiforme (GBM): Butterfly Glioma	Singapore Medical Journal	58(3)	121-125
General Medicine	Ester Yeoh, Boon Khim Lim, Sharon Fun, Julia Tong, Lee Ying Yeoh, Chee Fang Sum, Tavintharan Subramaniam, Lim Su Chi	Efficacy of Self-Monitoring of Blood Glucose Versus Retrospective Continuous Glucose Monitoring in Improving Glycaemic Control in Diabetic Kidney Disease Patients	Nephrology (Carlton)	doi: 10/1111/nep.12978	epub
General Medicine	Wei Xin Khong, Kalisvar Marimuthu, Jeanette Teo, Yichen Ding, Eryu Xia, Jia Jun Lee, Rick Ong, Indumathi Venkatachalam, Benjamin Cherng, Surinder Kaur Pada, Weng Lam Choong, Nares Smitasin, Say Tat Ooi, Rama Narayana Deepak, Asok Kurup, Raymond Fong, My Van La, Thean Yen Tan, Tse Hsien Koh, Raymond Lin, Eng Lee Tan, Prabha Unny Krishnan, Siddharth Singh, Johann D. Pitout, Yik-Ying Teo, Liang Yang, Oon Tek Ng	Tracking Inter-Institutional Spread of NDM and Identification of a Novel NDM-Positive Plasmid, Psg1-NDM, Using Next-Generation Sequencing Approaches	Journal of Antimicrobial Chemotherapy 2016	-	3081-3089
General Medicine & Endocrine	Marius N. Stan, Vikram Sonawane, Thomas J. Sebo, Prabin Thapa, Rebecca S. Bahn	Riedel's Thyroiditis Association with Igg4-Related Disease	Clinical Endocrinology	doi:10.1111/cen.13238	doi: 10.1111/cen.13238

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General Medicine & Gastroenterology	Shail Govani, Eric Elliott, Stacey Menees, Stephanie Judd, Sameer Saini, Constantinos Anastassiades, Annette Urganus, Suzanna Boyce, Philip Schoenfeld	Predictors of Suboptimal Bowel Preparation in Asymptomatic Patients Undergoing Average-Risk Screening Colonoscopy	World Journal of Gastrointestinal Endoscopy	8(17)	616-622
General Surgery	Danson Yeo, Tan Chun Hai, Tay Siew Hua, Eugene Lim, Anton Cheng	Laparoscopic Transhiatal Repair of Esophageal Rupture in Boerhaave Syndrome is a Safe and Effective Treatment	Case Studies in Surgery	2(2)	44-48
General Surgery	Daniel Lee, Tan Yen Pin, Reyaz Singaporewalla	Salvage Technique for Intraoperative Hemorrhage During Laparoscopic Resection of Large Pheochromocytoma: A Case Report and Literature Review	World Journal of Endocrine Surgery	9(1)	1-5
General Surgery	Jun Su, Clement Chia, Surendra K Mantoo	Laparoscopic Hartmann Reversal: Video Presentation of a Case	Asian Journal of Endoscopic Surgery	9(2)	161-162
General Surgery	Ng Zhi Xu, Eugene Yang, Edwin Seet, Koh Kiok Miang, Teo Ke Jia, Low Shiong Wen, Chou Ning, Yeo Tseng Tsai, Venketasubramanian N	Cerebellar Strokes: A Clinical Outcome Review of 79 Cases	Singapore Medical Journal	56(3)	145-149
General Surgery	Quah Boon Leong, Low Hu Liang, Mark H. Wilson, Alexios Bimpis, Vincent Nga, Sein Lwin, Noor Hazlina Zainuddin, Nasser Abd Wahab, Md Al Amin Salek	Is There an Optimal Time for Performing Cranioplasties? Results from a Prospective Multinational Study	World Neurosurgery	epub	-
General Surgery	Reyaz Singaporewalla, Hwee Jolie, Lang Tee Ung, Desai Vijayawada	Clinicopathological Correlation of Thyroid Nodule Ultrasound and Cytology Using the TIRADS and Bethesda Classification	World Journal of Surgery	epub	-
General Surgery	Sachin Mathur, Jerry Goo, Tan Kok Yang, Kenneth Mak	Changing Models of Care for Emergency Surgical and Trauma Patients in Singapore	Singapore Medical Journal	57(6)	282-286
General Surgery & General Medicine	Serene Goh, Ester Yeoh, Tan Kok Yang	Impact of Perioperative Hypoglycaemia in Subjects with Diabetes Undergoing Colorectal Surgery	Int J Colorectal Dis	32 (2)	209-214
General Surgery	Tan Chun Hai, Heidi Chang, Cheah Yee Lee	Laparoscopic Removal of Intrahepatic Foreign Body: A Novel Technique for Management of an Unusual Cause of Liver Abscess-Fish Bone Migration	Journal of Laparoendoscopic & Advance Surgical Techniques	26(1)	47-50

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Geriatric Education and Research Institute & AHS Transformation Office	Michael J. Penkunas, Angelique Chan, Chek Hooi Wong, Dirk F. de Korne, Tan See Mieng Tan, Wong Sweet Fun	The Role of a Multicomponent Home-Health Intervention in Reducing Caregiver Stress in Singapore: A Qualitative Study	Journals of Gerontology: Social Sciences [The Gerontological Society of America]	00	1-12
Geriatric Medicine	Cheong Chin Yee, Jane Tan, Foong Yi-Lin, Koh Hui Mien, Denise Chen, Jessie Tan, Ng Chong Jin, Philip Yap	Creative Music Therapy in an Acute Care Setting for Older Patients with Delirium and Dementia	Dementia and Geriatric Cognitive Disorders Extra	doi:10.1159/000445883	-
Geriatric Medicine	Iris Rawtaer, Qi Gao, Ma Shwe Zin Nyunt, Lei Feng, Mei Sian Chong, Wee Shiong Lim, Tih-Shih Leed, Philip Yap, Keng Bee Yap, Tze Pin Ng	Psychosocial Risk and Protective Factors and Incident Mild Cognitive Impairment and Dementia in Community Dwelling Elderly: Findings from the Singapore Longitudinal Ageing Study	Journal of Alzheimer's Disease	57 (2017)	603-611
Geriatric Medicine	Jane Tuomola, Soon Jiaying, Paul Fisher, Philip Yap	Lived Experience of Caregivers of Persons with Dementia and the Impact on Their Sense of Self: A Qualitative Study in Singapore	Journal of Cross-Cultural Gerontology	(2):157-72	doi:10.1007/s10823-016-9287-z
Geriatric Medicine	Liang Feng, Ma Shwe Zin Nyunt, Qi Gao, Lei Feng, Tih Shih Lee, Tung Tsoi, Mei Sian Chong, Wee Shiong Lim, Simon Collinson, Philip Yap, Keng Bee Yap, Tze Pin Ng	Physical Frailty, Cognitive Impairment, and The Risk of Neurocognitive Disorder in the Singapore Longitudinal Ageing Studies	Journals of Gerontology: Medical Sciences	Volume 72	No. 3, 369-375
Geriatric Medicine	Lo Tong Jen, Ngoc Huong Lien Ha, Ng Chong Jin, Gabriel Tan, Koh Hui Mien, Philip Yap	Unmarried Patients with Early Cognitive Impairment Are More Likely Than Their Married Counterparts to Complete Advance Care Plans	International Psychogeriatrics	-	PubMed PMID: 27876108
Geriatric Medicine	Michael Penkunas, Wong Chek Hooi, David Matchar, Angelique Chan, Wong Sweet Fun	Evaluation Methodology for a Home-Based Integrated Care Program Targeting Frequently Hospitalised Older Adults in Singapore	International Journal of Integrated Care	2016;16(6): A297	doi:http://doi.org/10.5334/ijic.2845
Geriatric Medicine	Tam Wai Jia, Philip Yap	Health Care for Older Adults in Uganda: Lessons for the Developing World	Journal of the American Geriatrics Society	doi:10.1111/jgs.14560	-
Geriatric Medicine	Toh Hui Jin, Lim Zhen Yu, Philip Yap, Terence Tang	Factors Associated with Prolonged Length of Stay in Older Patients	Singapore Medical Journal	doi:10.11622/smedj.2016158.	-

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Geriatric Medicine & Psychological Medicine	Shan Huang, Konstandina Griva, Christina Bryant, Philip Yap	Non-Use of Day Care Services for Dementia in Singapore - A Dilemma for Caregivers	International Psychogeriatrics	doi:https://doi.org/10.1017/S1041610216001940	1-12
Laboratory Medicine	Wei Xin Khong, Kalisvar Marimuthu, Jeanette Teo, Yichen Ding, Eryu Xia, Jia Jun Lee, Rick Twee-Hee Ong, Indumathi Venkatachalam, Benjamin Cherng, Surinder Kaur Pada, Weng Lam Choong, Nares Smitasin, Say Tat Ooi, Rama Narayana Deepak, Asok Kurup, Raymond Fong, My Van La, Thean Yen Tan, Tse Hsien Koh, Raymond Tzer Pin Lin, Eng Lee Tan, Prabha Unny Krishnan, Siddharth Singh, Johann D. Pitout, Yik-Ying Teo, Liang Yang and Oon Tek Ng	Tracking Inter-Institutional Spread of NDM and Identification of a Novel NDM-Positive Plasmid, Psg1-NDM, Using Next-Generation Sequencing Approaches	Journal of Antimicrobial Chemotherapy	Vol 71, Issue 11	3081-3089
Nursing	Ong Shu Fen, Pamela Foong, Juanna Seah, Lavanya Elangovan, Wang Wenru	Learning Needs of Hospitalised Patients with Heart Failure in Singapore: A Descriptive Correlational Study	The Journal of Nursing Research	-	-
Ophthalmology and Visual Sciences	Catherina Josephine Goenadi, David Law, Lee Jia Wen, Ong Ee Lin, Chee Wai Kitt, Jason Cheng	The Effect of a Diving Mask on Intraocular Pressure in a Healthy Population	Case Rep Ophthalmol.	doi: 10.1159/000446423.	-
Ophthalmology and Visual Sciences	Cheung Ning, Tan Shu-Pei, Lee Shu Yen, Gemmy Cheung, Gavin Tan, Neelam Kumar, Cheng Ching-Yu, Wong Tien Yin	Prevalence and Risk Factors for Epiretinal Membrane: The Singapore Epidemiology of Eye Disease Study	British Journal of Ophthalmology	doi:10.1136/bjophthalmol-2016-308563	-
Ophthalmology and Visual Sciences	Colin Tan, Milton Chew, Jano van Hemert, Michael Singer, Darren Bell, SriniVas Satta	Measuring the Precise Area of Peripheral Retinal Non-Perfusion Using Ultra-Widefield Imaging and Its Correlation with the Ischaemic Index	British Journal of Ophthalmology	doi:10.1136/bjophthalmol-2015-306652	-
Ophthalmology and Visual Sciences	Colin Tan, Milton Chew, Louis Lim, SriniVas Satta	Advances in Retinal Imaging for Diabetic Retinopathy and Diabetic Macular Edema	Indian Journal of Ophthalmology	doi:10.4103/0301-4738.178145	-
Ophthalmology and Visual Sciences	Kelvin Li, Colin Tan	Comment on Visual Impact of Sub-Tenon Anesthesia During Combined Phacoemulsification and Vitrectomy Surgery	International Journal of Ophthalmology	doi:10.18240/ijo.2016.02.29	-
Ophthalmology and Visual Sciences	Tan Li Li, Sanjay Srinivasan, Philip Morgan	Repeatability of Infrared Ocular Thermography in Assessing Healthy and Dry Eyes	Contact Lens & Anterior Eye	doi:10.1016/j.clae.2016.01.010	-

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Ophthalmology and Visual Sciences	Tan Li Li, Sanjay Srinivasan, Philip Morgan	Static and Dynamic Measurement of Ocular Surface Temperature in Dry Eyes	Journal of Ophthalmology	2016:7285132.	doi: 10.1155/2016/7285132 . Epub 2016 Jun 28.
Ophthalmology and Visual Sciences	Yee Hah Yan, Benjamin Chang, Yip Chee Chew, Alvin Wong, Thomas Choudary Putti, Srinivasan Sanjay	Case Report: An Ominous Red Eye	Advances in Ophthalmology & Visual System	doi:10.15406/aovs.2017.06.00195	6(5): 00195
Orthopaedic Surgery	Antony Xavier Rex Premchand	Outcomes and Financial Implications of Intra-Articular Distal Radius Fractures: A Comparative Study of Open Reduction Internal Fixation (ORIF) with Volar Locking Plates Versus Nonoperative Management	Journal of Orthopaedics and Traumatology	doi:10.1007/s10195-016-0441-8	-
Orthopaedic Surgery	Aravind Kumar	The Accuracy of Prognostic Scoring Systems in Predicting Survival of Lung Cancer Patients with Spinal Metastases	The Spine Journal	16	S89-S90
Orthopaedic Surgery	Aravind Kumar	Blood Loss in Spinal Tumour Surgery: Evaluation of Influencing Factors	The Spine Journal	16	S90
Orthopaedic Surgery	Aravind Kumar	Evaluation of the Safety of Using Intra-Operative Salvaged Blood in Metastatic Spine Tumour Surgery: Using Microwell Technique	The Spine Journal	16	S62
Orthopaedic Surgery	Aravind Kumar	The Influence of Histological Subtype in Predicting Survival of Lung Cancer Patients with Spinal Metastases	The Spine Journal	16	S90
Orthopaedic Surgery	Aravind Kumar	Are We Ready for Transfusing Intraoperative Salvaged Blood in Metastatic Spine Tumour Surgery	The Spine Journal	16	S61
Orthopaedic Surgery	Aravind Kumar	Versatility of Percutaneous Pedicular Screw Fixation in Metastatic Spine Tumour Surgery	The Spine Journal	16	S90-S91
Orthopaedic Surgery	Aravind Kumar	Flowcytometric Evaluation of Intraoperative Salvaged Blood Filtered with Leucocyte Depletion Filter in Metastatic Spine Tumour Surgery	The Spine Journal	16	S61
Orthopaedic Surgery	Aravind Kumar	Metastatic Spine Tumour Surgery: Minimally Invasive Approach Versus Open Approach	The Spine Journal	16	S63
Orthopaedic Surgery	Aye Sandar Zaw, Shashidhar B. Kantharajanna, Karthikeyan Maharajan, Barry Tan, Balamurugan Vellayappan, Naresh Kumar	Perioperative Blood Transfusion: Does It Influence Survival and Cancer Progression in Metastatic Spine Tumor Surgery?	The Spine Journal	doi:10.1111/trf.13912	-

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Orthopaedic Surgery	Aye Sandar Zaw, Dhiraj Sonawane, Karthikeyan Maharanjan, Dennis Hey, Aravind Kumar, Naresh Kumar	Metastatic Spine Tumour Surgery: Does Perioperative Blood Transfusion Influence Postoperative Complications?	The Spine Journal	3	S17-18
Orthopaedic Surgery	Jonathan Tan, Kimberly Anne Tan, Aye Sandar Zaw, Dennis Hey, Aravind Kumar, Naresh Kumar	Evaluation of Prognostic Factors and a Modification to the Modified Tokuhashi Score in Patients with Spinal Metastases from Breast Cancer	The Spine Journal	3	S16
Orthopaedic Surgery	Naresh Kumar, Kimberly Anne Tan, Jonathan Tan, Aye Sandar Zaw, Aravind Kumar	The Influence of Histologic Subtype in Predicting Survival of Lung Cancer Patients with Spinal Metastases	The Spine Journal	3	S17
Orthopaedic Surgery & Anaesthesia	Rajaratnam Vaikunthan, Chandra Mohan Kumar, Anupama Roy Chowdhury, Chang Su	A Snapshot Survey of Perceptions of Healthcare Professionals on Ageing Surgeons	Postgraduate Medical Journal	July 2016	-
Orthopaedic Surgery	Tang Zhi Hao, Vaikunthan Rajaratnam	Incidence and Anatomical Distribution of Hand Tumours: A Singapore Study	Singapore Medical Journal	doi:10.11622/smedj.2016147	-
Orthopaedic Surgery	Tang Zhi Hao, Nicholas Yeoh, Jeffrey Tan	A Radiographic Study of Proximal Femur Morphology of Elderly Patients with Femoral Neck Fractures: Is There a Difference Between Ethnic Groups?	Singapore Medical Journal	doi:10.11622/smedj.2016148	-
Orthopaedic Surgery	Timothy Teo, Nicholas Yeoh, Andy Wee	Tibial Fixation in Anterior Cruciate Ligament Reconstruction - Is Supplementary Staple Fixation Necessary?	Journal of Orthopaedic Surgery	doi: 10.1177/2309499017699743	-
Sports Medicine Centre	Dinesh Sirisena	Sports Medicine in Singapore: Integrating Into Public Hospitals and Secondary Care	British Journal of Sports Medicine	doi:10.1136/bjsports-2016-096072	-
Sports Medicine Centre	Dinesh Sirisena	National Football League Concussion Lawsuit: What It Means for Other Sports and Observations from Singapore Rugby	British Journal of Sports Medicine	doi:http://dx.doi.org/10.1136/bjsports-2016-096565	-
Sports Medicine Centre	Dinesh Sirisena, Enrica Papi, Eleanor Tillett	Clinical Assessment of Antero-Medial Rotational Knee Laxity: A Systematic Review	Knee Surgery Sports Traumatology Association	doi:10.1007/s00167-016-4362-0	-
Sports Medicine Centre	Dinesh Sirisena, Annie Henderson	Singapore Rugby Union Injury Surveillance: How Do We Compare to Previous Findings in Rugby Union and Do We Need to Improve?	British Journal of Sports Medicine	doi:10.13140/RG.2.2.13290.52167	-
Sports Medicine Centre & Acute and Emergency Care	Dinesh Sirisena, Joanne Probert	International Rugby Sevens Returns to Singapore: The Medical Team's Perspective!	British Journal of Sports Medicine	Online Blog	-

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Sports Medicine Centre & Singapore Sports Institute	Ong Joo Haw, Julian Lim, Edwin Chong, Frankie Tan	The Effects of Eccentric Conditioning Stimuli on Subsequent Counter-Movement Jump Performance	Journal of Strength and Conditioning Research	30	747-754
Pharmacy	Anita Hu, Fan Weishan, Tiffany Lum	Process Re-Engineering at the Outpatient Pharmacy: Implementation of a Medication Self-Order Form	Singapore Medical Journal	-	-
Pharmacy	Adeline Wee, Ester Yeoh	Reducing Inpatient Hypoglycaemia Amongst Inpatients with Diabetes in 2 Pilot Wards	Singapore Medical Journal	-	-
Pharmacy	Brenda Chong	Impact of Transdisciplinary Pharmacist-Physician Collaboration on Cardiovascular Disease Outcomes in Khoo Teck Puat Hospital Cardiology Pharmacist Clinic	Singapore Medical Journal	-	-
Pharmacy	Constance Neo	Characterisation of Interventions Performed in the Outpatient Pharmacy	Singapore Medical Journal	-	-
Pharmacy	David Ha	Potential Technology Innovation to Transform Processes in Khoo Teck Puat Hospital Outpatient Setting	Singapore Medical Journal	-	-
Pharmacy	Debbie Do Nguyen	The Capsule- Redesigning Medication Processing and Bill Collection Flow at the Outpatient Pharmacy in Khoo Teck Puat Hospital (KTPH)	Singapore Medical Journal	-	-
Pharmacy	Elissa Wong	Reducing Fentanyl Errors	Singapore Medical Journal	-	-
Pharmacy	Joyce Tan	Inappropriate Medication Use in Nursing Home Residents and Association with the Healthcare Consequences	Singapore Medical Journal	-	-
Pharmacy	Lim Tze Kai	Evaluation of Risk Assessment Models (Padua & Caprini) in the Prediction of Venous Thromboembolism Events: A Retrospective Review	Singapore Medical Journal	-	-
Pharmacy	Low Suat Fern	Use of Cognitive Enhancers in Khoo Teck Puat Hospital Memory Clinic - A Retrospective Study	Singapore Medical Journal	-	-
Pharmacy	Oh Jing Wen	Reducing Non-Formulary Drug Requests in the Outpatient Setting Through Formulary Reformation	Singapore Medical Journal	-	-

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Pharmacy	Tyson Tan, Lim Yu Cai	Prevalence of Latanoprost Intolerance and Subsequent Travoprost Tolerance in a Singaporean Population	Singapore Medical Journal	-	-
Pharmacy	Vidhya Segar	A Proton Pump Inhibitor Deprescribing Frame Work, Pharmacist-Physician Collaborative Approach	Singapore Medical Journal	-	-
Pharmacy	Vincent See, Joyce Tan, Doreen Su-Yin Tan, Manee	Identifying Potentially Avoidable Readmissions: A Medication-Based 15-Day Readmission Risk Stratification Algorithm	Pharmacotherapy: The Journal of Human Pharmacology and Drug	doi:10.1002/phar.1896	-
Pharmacy	Wee Yueting, Doreen Tan, Gloria	Developing a Model of Care for Sustainable De-Prescribing in KTPH	Singapore Medical Journal	-	-
Pharmacy	Wee Xueting	Efficacy and Safety of Antithrombotics in Newly Diagnosed Non-Valvular Atrial Fibrillation: A Multi-Centred Retrospective Study	Singapore Medical Journal	-	-
Pharmacy	Xiang Ling	The Safety and Efficacy of Venous Thromboembolism Prophylaxis in Khoo Teck Puat Hospital	Singapore Medical Journal	-	-
Pharmacy	Yuen Kay	Incidence of Venous Thromboembolism (VTE) in Hip Fracture Unit Patients	Singapore Medical Journal	-	-
Psychological Medicine	Chan Keen Loong	Anxiety and Depression in Patients with Atopic Dermatitis in a Southeast Asian Tertiary Dermatological Centre.	Annals Academy Of Medicine Singapore	45(10)	451-455
Psychological Medicine	Chan Keen Loong	A Prospective Cross-Sectional Study of Anxiety and Depression in Patients with Psoriasis in Singapore	Journal of the European Academy of Dermatology and Venereology	30(7)	1159-1164
Psychological Medicine	Ng Tze-Pin, Ma Shwe Zin Nyunt, Lei Feng, M Niti, Tan Boon Yeow, Gribson Chan, Khoo Sue-Anne, Chan SM, Philip Yap, Yap Keng Bee	Multi-Domains Lifestyle Interventions Reduces Depressive Symptoms Among Frail and Pre-Frail Older Persons: Randomised Controlled Trial	The Journal of Nutrition, Health and Aging	doi:10.1007/s12603-016-0867-y	1-9

Alexandra Health System

Alexandra Health System is a regional healthcare system established on 1 April 2008 to take care of 800,000 residents living in northern Singapore.

Our goal is to make a difference to the population in the North by working together with our partners and empowering the community and residents to manage their health for life.



Khoo Teck Puat Hospital

Opened in June 2010, KTPH is a 590-bed general and acute care hospital which combines medical expertise with high standards of care, set within a healing environment.



Yishun Community Hospital

Opened in December 2015, YCH is a 428-bed community hospital which will cater to the sub-acute and rehabilitation needs of patients.



Woodlands Health Campus

Opening in stages from 2022, WHC will comprise a large acute care hospital, a community hospital, a nursing home and other associated facilities and services.



Admiralty Medical Centre

Located in Kampung Admiralty, AdMC will be a one-stop diagnostic and treatment centre, providing outpatient specialist services when it opens in July 2017.





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