



Making a difference

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vision Defining Tomorrow's Medicine

mission Care to Heal
Educate to Empower
Innovate to Advance

values Compassion
Integrity
Collaboration



SingHealth Fund (SHF) champions **research, education** and **patient care** causes to support SingHealth's vision of defining tomorrow's medicine and to unleash the potential of Medicine to enable better health for future generations.

Your gifts have made a real and tangible difference to the lives of patients, their loved ones and have empowered healthcare professionals to accelerate the search for cures and sharpen their capabilities to provide even better care.

Thank you for your gifts of hope. Together, we can create a healthier tomorrow.



Ms Haslina Wannor (seated), with her daughter

“Research is our only hope for a cure.”

Ms Haslina Wannor, suffers from systemic scleroderma, a rare and complex autoimmune disease that causes her immune system to attack large areas of her skin, blood vessels and internal organs. This leaves her short of breath and energy, limiting her daily activities.

Current treatments can only suppress her immune system. Research really is the only hope for Ms Haslina and thousands of other patients who are currently living with incurable diseases.

Research

Quantum leaps in biomedical sciences, technology and research over the last few decades have been nothing short of phenomenal. From the discovery of DNA to uncovering the complete set of human genetic information, these advancements have sparked extraordinary medical progress.

Today, we live longer and healthier lives, but evolving disease patterns, chronic illnesses and an ageing population continue to pose healthcare challenges. Our focus on medical research drives clinical excellence.

In FY18, SHF supported:

62 research programmes
and projects

Highlights

- Facial burns can leave raised scars that are itchy, painful and disfiguring. Face masks made from tight elastic fabric can reduce scarring but few patients will wear them in public. The alternative, transparent face masks currently require a cast of the patient's face to be made which is a messy and uncomfortable process. To solve this problem, burns specialists at the Singapore General Hospital (SGH) are conducting research using 3D printing to make transparent facial masks to treat facial scars.
- Breast cancer is the number one cancer and the leading cause of cancer death in Singapore women, but not all breast tumours are the same. Pathology Academic Clinical Programme (ACP) is looking into ways to better understand factors that influence breast cancer behaviour, the biology of different breast tumours and how they progress. The findings will help doctors refine treatment plans so patients can receive the most appropriate care and reduce the risk of their cancer spreading or recurring.

These research projects are supported by the SGH Health Development Fund which is part of SingHealth Fund.

- Thirty participants are currently enrolled in a pilot clinical trial to study if an exercise programme specially formulated by the National Heart Centre Singapore (NHCS) can slow down heart ageing in older people. The programme was developed by NHCS researchers after they established important links between physical activity and the extent of heart ageing.

This first phase of the research is supported by Hong Leong Foundation and National Medical Research Council (NMRC), which provided the data that kick started the clinical trial.

From bench to bedside

SingHealth Fund partners with the National Health Innovation Centre to co-fund research projects that improve patient care. To accelerate healthcare innovation, the national grant funding agency also provides strategic guidance to help us turn our scientific discoveries into new therapies, medical procedures and devices.

- KK Women's and Children's Hospital (KKH) has developed a new, safer way to perform neuraxial procedures commonly used for surgery and labour epidural analgesia. Currently, doctors find the landmark for needle insertion by palpation, which may be challenging in certain patients. Now the researchers have developed an automated ultrasound system that helps identify the correct site for needle insertion, increasing the accuracy and success rate of injections for spinal anaesthesia on the first attempt.
- Weakened and damaged valves in leg veins cause blood to pool, resulting in varicose veins. In advanced cases this can lead to venous leg ulcers, which if untreated, can become infected and lead to cellulitis, gangrene and even amputation. Doctors at SGH are developing a wearable portable device that electronically stimulates the calf muscles to safely and comfortably improve blood flow in leg veins. A safety trial showed a 30 per cent increase in venous blood flow in participants and further work is underway to fine-tune the electrical stimulation to optimise blood flow in leg veins while ensuring the device remains safe and easy for patients to use.
- Rinsing and spitting after tooth brushing is important for oral hygiene, but are challenging for people with swallowing problems caused by conditions such as dementia, stroke, cancer or burns. Oral hygiene tools available for their use are not easy to use in the home. To address this problem, the National Dental Centre Singapore (NDCS) has developed an oral irrigation-suction device as small as a canned drink, which connects to a tap. It has a flexible head for irrigation and suction from the mouth, and ejects debris directly into the sink. The washable device also has options for optical fibre visualisation for patients with limited ability to open their mouths.

“ Our research and innovation must ultimately benefit our patients and bring about better health for Singaporeans. This is why we keep striving for innovative breakthroughs that will fuel new ways to deliver care. ”

Professor Wong Tien Yin

Deputy Group CEO (Research & Education), SingHealth



Professor Tan Kok Hian

The Benjamin Sheares Professor in Obstetrics and Gynaecology

Professor Tan Kok Hian is the first professor to be conferred the Benjamin Henry Sheares Professorship in Obstetrics and Gynaecology (O&G). The Professorship was established in FY2018 through a gift from the Sheares family, to honour the second President of Singapore and the nation's father of modern O&G.

The Professorship will enable Prof Tan to carry on Prof Sheares' legacy of advancing O&G clinical care, medical research and education. Prof Tan specialises in the metabolic health of pregnant women. The Professorship will enable him to further study the innovative use of ambulatory continuous glucose monitoring to enhance care for women with gestational diabetes.

Professor Sheares did pioneering work in pre-eclampsia and Prof Tan will continue this research legacy by studying and developing the use of novel biomarkers for the optimal monitoring of women with pre-eclampsia.

Education

SHF supports continuing education for healthcare professionals to ensure they have the necessary clinical skills, knowledge and leadership capabilities to provide safe and effective care for patients. These skills also prepare them to handle the healthcare challenges of the future.

In FY18, SHF supported:

57 education programmes

Highlights

Talent Development Fund (TDF)

Formal and non-formal training programmes to build SingHealth's human capital.

743 recipients

Alice Lee IAN Graduate Certificate/Diploma

Enabling NUS nursing degree graduates to specialise in Wound, Ostomy and Continence nursing.

11 new recipients

14 on-going recipients

Supplementary Health Manpower Development Programme (HMDP)

Co-funded by the Ministry of Health to develop SingHealth staff to meet evolving healthcare needs.

123 recipients

Palliative Care Educational Courses for Healthcare Professionals

Improving care for terminally ill patients so they can live well and leave well.

52 Pharmacists

100 Home-care nurses

Training/upgrading of Nursing Personnel programmes

Scholarships to Advanced Practice Nurses to pursue a Doctor in Nursing Practice programme.

6 on-going recipients

Target Zero Harm

Recognising staff who have made an impact on patient safety and supporting training in patient safety, infection control and quality improvement.

14 individual recipients

31 team recipients

“ With the technical skills and clinical knowledge I gained from the course, the Radiology Department has expanded the neonatal ultrasound imaging service and is currently developing a neonatal training programme. Now more premature babies can be screened for head and abdomen abnormalities and receive care they need. ”

Lee Hsueh Er Sally

*Principal Radiographer II (Management)
Department of Radiology, SGH
HMDP award recipient
Overseas Neonatology Ultrasound course*

“ The Clinical Leadership programme has definitely contributed to enhancing my knowledge and decision-making which determine the quality and efficiency of care given to patients in our healthcare setting. ”

Shirlena Wong Tieu Kwee

*Asst Director, Nursing,
Operating Theatres, SGH
TDF Nursing award recipient
Master of Science (Clinical Leadership)*

“ The course has equipped me with knowledge and capabilities on clinical leadership and decision-making, critical thinking, and health research. With the training, I am confident in performing my new role as Nursing Lead of RHS-Community Nursing Team to anchor the population health at the Community of Care Zones. ”

Xu Yi

*Senior Nurse Clinician
RHS Community Nursing, SGH
TDF Nursing award recipient
Master of Science (Clinical Leadership)*

“ The programme helped to further develop my skills and knowledge in managing complex cases. It improves my ability to critically appraise evidence and implement physiotherapy services at a more advanced level. ”

Chang Shin Yin

*Senior Physiotherapist, SGH
TDF Allied Health Professional award recipient
Master of Science (Musculoskeletal Physiotherapy)*

Games to sharpen life-saving skills

Around one in seven newborn babies have difficulty taking their first breath or sustaining breathing, so specially trained doctors, nurses and midwives provide the support the infants need. This ranges from gentle suctioning to supporting breathing, external heart massage and medication.

Staff who provide this neonatal resuscitation must undergo retraining every two years, however skills and knowledge learnt are known to decline four to six months after training. To combat this, doctors at SGH's Department of Neonatal & Developmental Medicine have developed a computer simulated game to help staff sharpen these life-saving skills.

The player takes the team lead role in various realistic clinical scenarios, and performance is scored at the end of the gameplay based on his or her knowledge, technical skills, appropriateness of actions taken and leadership abilities. The web-based game provides learners with the flexibility to practice at a time convenient to them, without the need for physical mannequins or a scheduled class with limited space.

This education tool was designed and developed with support from SGH Health Development Fund which is part of SingHealth Fund.



Asher (seated), with his mother

“Thank you for giving me hope and the practical support I need to help me achieve my dream.”

Asher has myotonic dystrophy, an incurable genetic disorder that causes gradual muscle wasting. He has difficulty walking and is unable to hold a pen due to muscle weakness, but these challenges have not stopped him from attending university.

With help from the NNI Fund, Asher now has a motorised wheelchair to improve his mobility and an assistive device with eye tracking technology to communicate. These devices assist the 26 year old as he pursues his dream of becoming a prison psychologist.

Patient Care

A little help at the right time can make a world of difference to our patients. Your gifts give our patients more independence, helping them to study, work and live longer, healthier lives.

In FY18, SHF supported:

more than

1,860 patients

47 programmes



“I lost my leg to diabetes but your gift helped save my sight.”

Mr Steven Seow was an oil rig safety officer when he fell, and a bruise on his leg ended in an amputation. At the same time, he learnt he had diabetes and early signs of diabetic retinopathy, which causes damage to the blood vessels at the back of the eye.

With no job, four children to support and medical bills to pay, Mr Seow couldn't afford the \$10,000 medication he needed every year to prevent permanent blindness. Fortunately, Singapore National Eye Centre's VisionSave stepped in to cover the cost and Mr Seow is now looking for a job.

Mr Lim received support from the Financial Assistance for Pre- and Post-transplant Needy Patients programme which helps needy patients requiring renal, haematopoietic stem cell and liver transplants at SGH. The programme provides financial help for investigations and treatment that are not covered by Medifund assistance, as well as transport costs.

“ I was unable to work while I was recovering from my liver transplant in 2018 and my wife, who is a cleaner, was supporting our family. I needed to attend frequent medical appointments at SGH during my recovery but the cost of taxis was too much for us. The financial assistance I received helped reduce this burden and allowed me to focus on getting better and living with my new liver. ”

Mr Lim

Highlights

Supporting cancer survivors

Cancer survivors often need long term support to manage the physical, mental and emotional scars left by the disease.

- More children now recover from cancer, but the chemotherapy and radiation therapy that saved their lives can cause health challenges months and years later. As the youngsters' brains mature, they may experience a range of neurocognitive deficits and late effects. The **CCF Psychosocial and Supportive Care Programme for Paediatric Oncology** aims to develop a holistic paediatric oncology and supportive care programme. This programme integrates three complementary components, namely, neuro-psychosocial support, rehabilitation and dietetics and nutritional care.
- The psychological impact of cancer can last long after successful treatment. To address this, the National Cancer Centre Singapore (NCCS) ran **EnReach Retreat**, a three-day two-night retreat for 36 cancer survivors and 32 caregivers and children, to help them bond and support each other. Feedback from participants after the retreat was positive, with nearly 9 out of 10 saying they were more ready to embrace hope in their life.

The retreat was supported by Hong Leong Foundation.

The programme was made possible by the Children's Cancer Foundation (CCF).

From healthcare to health

Prevention is better than cure, so SHF is supporting institutions' initiatives to improve public awareness of Singapore's top killer diseases and learn ways to reduce their risk.

- Cancer is the number one cause of death in Singapore. So NCCS created a mobile cancer education bus to reach out to schools, community centres and workplaces. Between 1 March 2015 and 30 April 2018, more than 42,700 people visited the **Cancer Edu-Bus** to learn more about cancer and screening through fun and interactive exhibits.

The bus was co-funded by the Ain Society.

- Cultivating healthy habits from a young age is key to keeping most cardiovascular diseases (CVD) at bay. At NHCS's **SingYouth Heart Challenge & Lecture 2018**, more than 70 secondary and tertiary students gained invaluable insights and a deeper appreciation of CVD by taking part in the research challenge. The Challenge aims to inspire the youths, their families and communities to adopt heart healthy lifestyles and spark interest in CVD medicine.

The Challenge was sponsored by Edwards Lifesciences Foundation.

Helping the elderly age well

A seemingly minor event such as an infection or a new medication can significantly affect the health of an older person living with frailty. A gift from the Ng Kim Suan Foundation is helping Sengkang General Hospital (SKH) develop and deliver initiatives to help older patients and residents.

- The SKH frailty screening programme, **IPPT-S**, has reached out to 566 seniors since it started in 2017. IPPT-S assesses flexibility, strength and balance to prevent the risk of falls. Follow-up testing in January 2019, found that many seniors who were identified as pre-frail at the initial screening had improved their health status to 'robust' six months later. The seniors may have benefited from SKH's 16 week exercise and nutrition programme. IPPT-S also identified depression as a significant problem among seniors.

“ I took part in the IPPT-S because I wanted to know how fit I am. I hope to get a better score in my next test! ”

Mdm S Bte M

64-year-old IPPT-S participant

- Rehabilitation after an operation is common, but now clinicians and therapists are trying to improve the nutritional and physical function of patients before they go for surgery. The **Programme for Enhanced Elderly Recovery @ SKH** (PEERS) is a pilot pre-rehabilitation programme for the frail and elderly. So far, 35 patients have gone through PEERS before having surgery for colorectal cancer. The results are encouraging: safer surgery, faster recovery times and very few needing further rehab in a community hospital.

“ Before I had surgery for bowel cancer I needed to use a walking frame. After the PEERS programme and surgery I feel stronger, more confident and I no longer need the walking frame! ”

Mr C

81-year-old PEERS participant

Others

SingHealth Fund also supported Academic Clinical Programmes (ACPs) to facilitate the advancement of Academic Medicine (AM) and support strategic research and education projects and programmes that have a cluster-wide impact.

In FY18, SHF supported:

26 projects

Singapore Cord Blood Bank

Newborn babies in Singapore are helping to save lives through the donation of their cord blood, which is a rich source of blood stem cells that can be successfully used to treat blood related cancers, immune and genetic diseases.

With the support of SingHealth Fund, Singapore Cord Blood Bank (SCBB) facilitates these life-saving treatments by collecting and storing public cord blood donations and providing family cord blood banking services for parents who opt to store cord blood units for their families.

In FY18, SCBB facilitated:

18 cord blood transplants **5** local **13** overseas

25 Cord Blood Units (CBUs) used for transplants

176 CBUs released for Institutional Review Board approved research

“ We were distraught when our first-born, Esmond, was diagnosed with the rare immune disorder Combined Immunodeficiency. He was just three months old. Medication didn't help and his doctor advised us that a cord blood stem transplant was our only chance of a cure, but my husband and I were not suitable matches.

Thankfully, we found a cord match through SCBB and Esmond had his transplant when he was 15 months old. The recovery was rocky, but two years later we were finally given the all clear. Today Esmond is a happy and active six-year-old who has just become a big brother. ”

Lydia Lee
Esmond's mother



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