

BEHIND EVERY PATIENT

NATIONAL NEUROSCIENCE INSTITUTE ANNUAL REPORT 2009



NATIONAL NEUROSCIENCE INSTITUTE

“The year, 2009 was an eventful one for the National Neuroscience Institute. Among the many, the most memorable milestone was our 10th Anniversary. Since NNI started operations in 1999, we have always put our patients first. Ten years later, our mission to provide the best neuroscience care to our patients still stands strong. We remain steadfast in our commitment towards excellence in the neuroscience.

Our partnerships with Singapore’s major hospitals have continued and grown stronger. Patient care was enhanced through the use of technology and acquisition of new equipment. In keeping with our aim to nurture the next generation in the neurosciences, we continue to be actively involved in training and organising scientific updates and conferences to healthcare professionals in Singapore, around the region and beyond.”

Professor Lee Wei Ling
Director, National Neuroscience Institute

PATIENT CARE

In the middle of last year, the National Neuroscience Institute (NNI) set up a new Neuroimmunology and Neuroinfectious disease sub-specialty clinic. Patients suffering from auto-immune or infective neurological disorders can now seek treatment from this weekly clinic, which also evaluates in-patients with complex neuroimmune and neuroinfectious disorders.

In April 2009, the Neuroradiology department installed a new bi-plane flat panel neuroangiographic machine so that neurointerventional procedures can be done with access to clearer images and thus lower radiation doses. Some procedures can also be done more accurately with the new system.

Apart from acquiring new equipment, NNI has also increased its support for patients with multiple sclerosis. In 2008, the institute set up a Neuroimmunology Database and Tissue Repository. This is a repository of DNA, blood cells, plasma, serum and cerebrospinal fluid, collected and banked during routine diagnostic investigations. The repository is linked to a comprehensive database of patient data such as phenotype, exposure to risk factors and family history. The database and tissue repository will be a vital tool in the study of diseases such as multiple sclerosis (MS). In addition to the database, NNI will also be part of a multi-centre clinical trial to treat MS. The randomised, placebo-controlled trial aims to treat patients with early signs of MS to delay relapses and disability.

EDUCATION

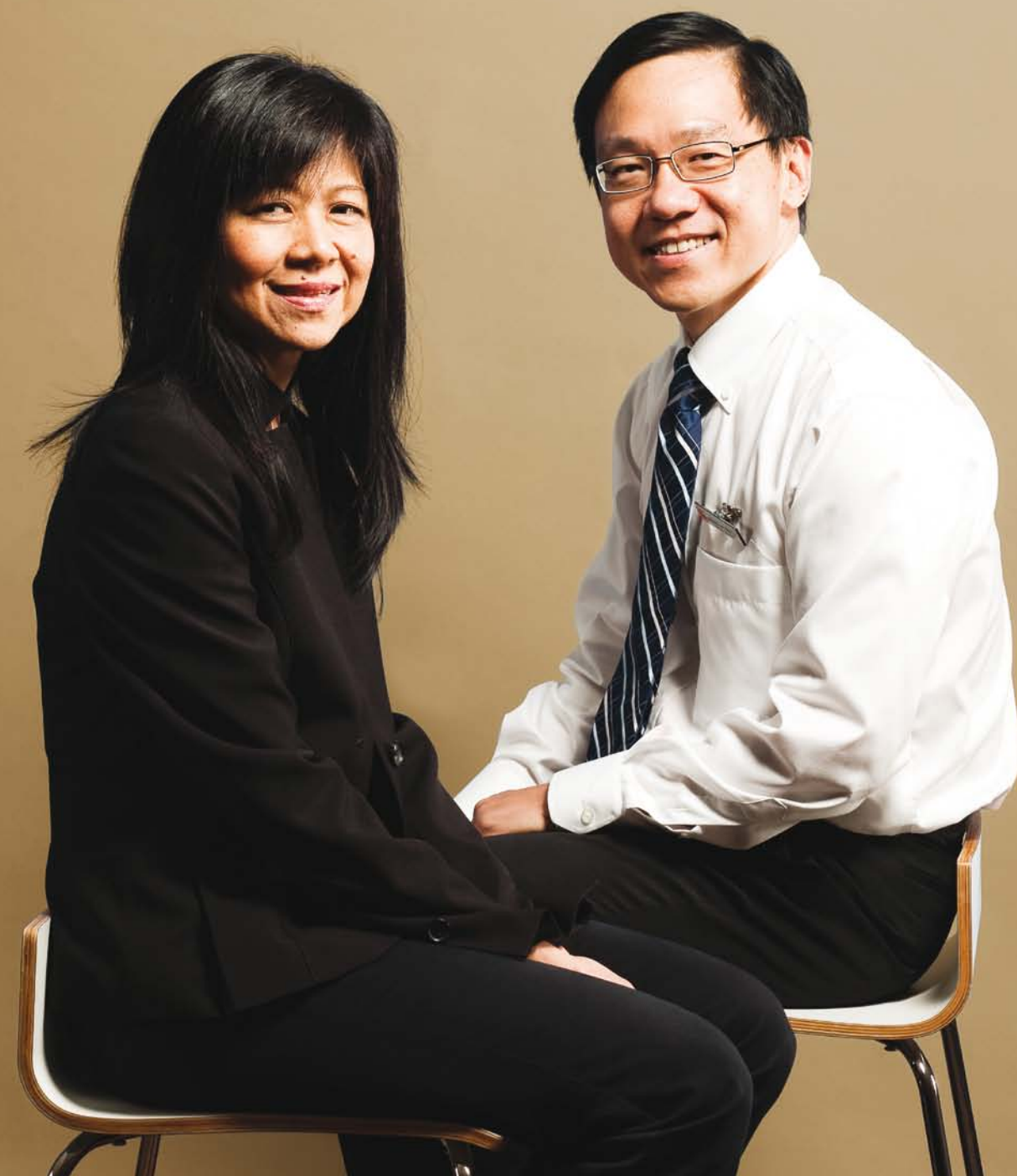
The NNI has an Office of Neurological Education (ONE) that aims to make neurology more accessible to undergraduates and post-graduates. In the last year, ONE has been pioneering new teaching methods such as team-based learning, debates and video for medical students at the National University of Singapore and the Duke-NUS Graduate Medical School. Team-based learning involves getting students to think and debate diagnostic and therapeutic options using real-life case scenarios. ONE is also evaluating the use of debates as a learning strategy at the Duke-NUS Graduate Medical School.

To cater to the US-style residency that has kicked off in 2010, NNI has been converting resident teaching into a series of videos or interactive slides. This way, residents will be able to prepare for their posting before stepping into NNI. NNI is also shifting the way it teaches residents. Previously, the emphasis was disease-based learning. However, the new emphasis is on case-based learning so that medical officers can learn how to handle patients presenting common symptoms such as weakness, dizziness or headache.

NNI is actively involved in continuing medical education and organising advanced training and conferences to healthcare professionals in Singapore, around the region and beyond. Since 1999, it has organised the annual Advanced Neuroradiology Course and Singapore Stroke Conference and the Neurosurgical Approaches Course since 2007.

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Ten days in a coma from a severe brain infection is terrifying. Ms Margina Lee did more than wake up in 2006, she made a full recovery and is back at work, thanks to the care of her multidisciplinary care management team at NNI who provided excellent medical and nursing care while she battled her way back to health. With her is A/Prof Lee Kim En, NNI Deputy Director, Senior Consultant and Head of Department of Neurology (TTSH Campus).



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In 2009, NNI organised over five medical conferences and several workshops. The workshops included the NNI-Community Care Partners Programme series of workshops on Psychosocial, Speech Therapy and Nutrition for nurses and allied health professionals who care for patients with Parkinson's Disease.

In June 2009, NNI organised the first Singapore seminar on Spine Nursing. The following month, the Neurocognitive Symposium, the first such event in Southeast Asia, was held. More than 200 hundred participants attended, with more than 30 from the neighbouring countries.

RESEARCH

NNI was part of an international, multi-centre study into strokes that points the way for better identification of the type of stroke suffered. The study showed that patients that have suffered from "lacunar strokes" are likely to show signs of this in the retina's network of blood vessels. As a result, neurologists are now looking at new causes for lacunar strokes.

Associate Professor Lim Kah Leong, Senior Research Scientist at NNI-TTSH campus, Associate Professor Tan Eng King, Senior Consultant Neurologist at NNI-SGH campus, and the NNI Translational Clinical Research Programme team members published a study in last September's issue of Journal of Neuroscience, a leading international neuroscience journal. The researchers had developed a new fly model of Parkinson's disease (PD), which displays features closely resembling the human condition. Studying the new model could help unlock mysteries that surrounds brain cell death in PD patients and speed up drug discovery efforts. NNI staff are also doing research into the rehabilitation of stroke patients. Associate Professor Ang Beng Ti of NNI is working with Dr Guan Cuntai from the Institute for Infocomm Research and Dr Karen Chua from Tan Tock Seng Hospital (TTSH) on technology to help rehabilitate stroke patients. Called ArtsBCI (Advanced rehabilitation therapy for stroke based on Brain Computer Interface), the project is funded by the Agency for Science, Technology and Research.

OUR PEOPLE

In March 2010, Dr Rajinder Singh, a Consultant in the Department of Neurology, NNI-TTSH Campus, won the Best Singhealth Clinical Practice Improvement Programme Award for his project which helped acute

stroke patients receive intravenous recombinant tissue type plasminogen activator (IV r-TPA) quickly upon admission. Thanks to his project, the median door-to-needle time dropped from 75 minutes in 2008 to 50 minutes in 2009. In addition, more than 83 per cent of patients received their IV r-TPA in 60 minutes or less from the time they were admitted, compared to 40 per cent in 2008. By being able to administer the IV r-TPA sooner, patients shorten their hospital stay, reduce their disability level and improve their outcomes.

COMMUNITY ENGAGEMENT

On World Stroke Day last October, NNI stroke team from both the SGH and TTSH campuses worked with partners to produce materials such as posters, flyers and pocket-sized information cards to raise awareness about strokes, how they can be prevented and how they can be recognised.

In July last year, NNI organised a public forum called "Your Brain and Nervous System – How can they affect you?" The forum covered common neurological conditions and their treatment options. The forum was held in conjunction with NNI's 10th Anniversary.

KEY FIGURES	FY 09	FY 08
Workload per annum		
Specialist Outpatient Clinic Attendances	38,238	37,731
Staffing (as at end Mar)		
Total	191	192
Doctors	66	65
Nurses	22	21
Allied Health Professionals	32	32
Others	72	73

Note: Staffing figures refer to Filled Posts, in terms of Full-Time Equivalent, and may not add up to total due to rounding.

AWARDS & ACCOLADES

MOH Nurses' Merit Award 2009
Chan Wai Yee

National Day Awards 2009 (Long Service)
Tien Sin Leong

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One day in 2006, Mdm Ong Siew Bee's (seated) world changed with the diagnosis of a brain tumour, meningioma. Her surgery and treatment at NNI that year led to a full recovery, thanks to the care and treatment she received from NNI's multi-disciplinary team. With her is Ms Cyzilia Kang, Senior Radiographer.

