



A Gift to EMPOWER RESEARCH

Text by Koh Sheng Dong Dovan

Medical research in Singapore recently received a boost thanks to a generous donation by the Jong family to the Lee Kong Chian School of Medicine (LKCMedicine) of Nanyang Technological University (NTU). The donation, made in memory of the late Mr Jong Soy Leong, will hopefully lead to advances in the field of dementia. His son, Mr Jason Jong, reflected on the motivations behind his family's contribution and shared his late father's story.

Mr Jong Soy Leong's background

Having been born into an underprivileged family, the late Mr Jong was forced to drop out of school to support his family. Yet he pursued education on his own terms, apprenticing at an optical shop during the day and attending part-time courses conducted by British optometrists in the evening. His commitment led him to establish his own optical shop which eventually became Mandarin Opto-Medic Co Pte Ltd, serving opticians, optometrists and ophthalmologists in Singapore and some neighbouring countries.

The late Mr Jong believed that empowering individuals with skills and knowledge was the key to making the world a better place. His unwavering sense of moral duty was rooted in his personal belief that the ripple effect created by charity would lead to the betterment of society. As such, he never turned a blind eye towards those in

need. Throughout his life and until his final days, the late Mr Jong had a deep affinity for the eye care industry. Despite his passing, his family has no doubt that he would like to continue what he had started. Thus, his family is carrying out his will to support and uphold his passion for the fields and areas he cared for deeply.

The donation and its impact on dementia research

The Jong family has donated S\$1,000,000 to LKCMedicine to enhance research programmes within the institution. This support has facilitated the integration of ophthalmology into the dementia research programme, enabling the exploration of the emerging field of mild cognitive impairment detection using retinal imaging. By supporting research involving ophthalmology, the contribution by the Jong family honours the late Mr Jong's legacy, as it aligns with his lifelong passion and commitment to the eye care industry. Additionally, Mandarin Opto-Medic Co Pte Ltd provided a long-term loan of its most advanced optical coherence tomography machine to LKCMedicine's Dementia Research Centre (Singapore) (DRCS) for clinical study, supporting the Jong family's donation for dementia research.

With the help of the donation, DRCS has embarked on two pivotal research objectives that were previously beyond

their reach: the integration of retinal imaging into the Biomarkers and Cognition Study in Singapore (BIOCIS), and the launching of a customised lifestyle modification programme under the Cerebrovascular Health, Optical Imaging, Cognition and Evaluation of Lifestyle Intervention Study (CHOICE).

The BIOCIS study is a longitudinal study aimed at understanding the complexities of cognitive impairments in Southeast Asians. Participants will undergo assessments to characterise biomarkers of dementia through neuroimaging, fluid biomarkers, cognitive assessments, behavioural and lifestyle profiles, retinal scans, and microbiome indicators. BIOCIS is enhancing its research methodology by integrating retinal imaging alongside traditional MRI neuroimaging.

As explained by A/Prof Nagaendran Kandiah, Director of DRCS, retinal imaging explores new avenues for understanding dementia by observing changes in the eye's microvasculature. Researchers aim to identify early biomarkers for dementia by observing changes in blood flow within the eye. This could indicate early cerebral microcirculation alterations and help to predict the progression of dementia. BIOCIS plans to link retinal scans with brain, blood and cognitive data to discover new biomarkers within the Asian context.

Running parallel to BIOCIS, the CHOICE study explores the impact of lifestyle modifications on individuals with mild cognitive impairment (MCI). The study will select 200 individuals from the BIOCIS cohort and track them over three years through neuropsychological tests, plasma biomarker analysis, eye evaluations and neuroimaging. A concurrent, randomised, open-label lifestyle intervention study will enrol 100 MCI patients with small vessel disease to evaluate the effects of tailored lifestyle interventions, such as exercise, digital cognitive activities, and nutritional adjustments, against conventional cognitive health education.

As specific research initiatives like BIOCIS and CHOICE begin to unfold, Prof Joseph Sung, NTU Senior Vice President (Health and Life Sciences) and Dean of LKCMedicine, sheds light on how such donations are integral to the broader educational and institutional objectives.

Philanthropy in medicine

Prof Sung emphasised how donations play an integral part in enabling medical education to adapt to the ever-evolving healthcare landscape. "Medical education is about preparing students for the current healthcare landscape, and the needs, changes and challenges that lie ahead," he explained. He highlighted how the support from donors such as the Jong family enables LKCMedicine to be better enabled and more progressive in its exploration of educational programmes and pedagogy, such as by incorporating virtual reality in anatomy, and utilising computer-aided systems in their team-based learning sessions and

teaching tools that leverage generative artificial intelligence.

Prof Sung also reflected on how past contributions have transformed the institution. He recounted the gift of \$150 million donated by the Lee Foundation, even before the school admitted its first cohort. Further elaborating on the impact of recent donations, he notes how the Jong family's donation has bolstered the BIOCIS study, enabling researchers to use new research techniques previously beyond their reach. The integration of retinal imaging into the BIOCIS study may benefit patients in need who require a cost-effective alternative to MRI scans.

Looking forward, Prof Sung outlined how these philanthropic gifts support LKCMedicine's vision of redefining medicine and transforming healthcare. "Innovation of health is needed to achieve healthcare equity; to ensure that the hard-to-reach populations have easy access to essential services such as mental health support and dementia care, and to improve the processes in hospitals so that everyone can receive the care they need," he stated. Donors play a crucial role as their contributions help to enhance the school's ability to educate and inspire the next generation of healthcare leaders.

In conclusion, the Jong family's generous donation is more than just a financial contribution: it is a catalyst for change. By enabling the integration of new technologies such as retinal imaging in dementia research, this contribution not only honours the late Mr Jong Soy Leong but also encourages

research breakthroughs. It allows us to have a better understanding of diseases to improve treatments and patient care, benefitting our society as a whole.

Acknowledgements

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