

MEDIA RELEASE

New strategies and new mindsets in the war on diabetes: initiatives by NUHS for polyclinics and GPs to adopt a patient-centred approach and improve diabetes care

- **New centre for chronic disease releases successful results of pilot initiative at NUH which seeks to transform clinic encounters for patients living with diabetes**
- **Expanding pilot initiative in selected National University Polyclinics**
- **NUHS plans to roll out collaborative model to over 70 private GPs under its primary care network**

17 November 2019 — The war on diabetes is a national effort and requires all hands on deck – everyone has a role to play, including doctors, nurses, allied health professionals, and patients themselves. In conjunction with World Diabetes Day, and true to this year’s theme of “Advancement in Diabetes Care and Management”, Diabetes Singapore, in partnership with the National University Health System (NUHS), has organised an event on 17 November 2019 (Sunday) to raise public awareness of diabetes. At the event, NUHS highlighted the following strategies and success in diabetes care.

Pilot initiative under NUHS new centre for chronic disease shows results

1 Diabetes is a common chronic condition affecting about half a million people in Singapore and its incidence is set to rise further if nothing is done to fight the disease. Waging the War on Diabetes, National University Health System (NUHS), the western public healthcare cluster caring for some 1.1 million persons, has set up a new Centre of Excellence in Chronic Disease Prevention and Management to carry out research and develop innovative programmes to help patients with chronic non-communicable diseases such as diabetes and cardiovascular disease.

2 Professor Tai E Shyong, Centre Director and Senior Consultant, Division of Endocrinology, National University Hospital (NUH), said, “The Centre believes that the solution lies with an ‘engaged and activated individual’ (aka ‘patient’) collaborating with an ‘engaged and activated provider’ to achieve the best outcome.”

3 In December 2017, a Citizen’s Jury, comprising 76 members of the public, caregivers and healthcare providers, was convened by the Ministry of Health (MOH). The 76 members identified priority areas for improving diabetes care, and made more than 24 recommendations to MOH. Of these, they identified diabetes care that targets-motivation as one of the key strategies to support patients as they live with

diabetes. They recommended establishing a communication focused diabetic care clinic.

4 Instead of creating a few clinics, the NUHS aims to convert every clinical encounter into a communication focused clinic. In January 2018, the NUH Division of Endocrinology adapted and rolled out a collaborative care planning programme for diabetes developed in the U.K known as “Year of Care”¹. The model takes on a more collaborative patient-centred approach in supporting patients living with diabetes. Results are communicated to patients in a friendly, readily understood manner that was designed for patients by patients. Doctors, nurses and other health care providers are also provided with special training to arm them with techniques for uncovering patients’ true motivations and goals as well as tools for working together with patients to develop a plan of action to support them in their self-management of the disease. This way, decisions on the goals of treatment and the treatments chosen are made together (between provider and patient) in a shared decision making process.

5 Supported by a donation from the Kewalram Chanrai-Enpee Group Research Fund in Diabetes, the pilot programme using a communication-focused approach model has since shown success in activating and empowering patients for self-management to achieve improved clinical outcome. Dr Yew Tong Wei, Consultant, Division of Endocrinology, NUH, said, “Under this approach, 30 healthcare professionals in the clinics have been trained. We have also conducted care and support planning consultations for over 200 patients from January 2018 to September 2019 at NUH, and the outcomes of 67 people who have been in the programme for more than a year have been collected and show encouraging results.”

Please refer to Annex for patient profile.

6 The highlights of the results (shared for the first time) include:

- Patients rated the extent of shared decision making 8.2 out of 9 points, and those who reported experiencing full shared decision making increased by a significant 15% from baseline.
- 28% of patients had improved engagement and motivation to take action

¹ **What is “Year of Care” Programme at NUH’s “Communication-focused Diabetic Care Clinics”?**

This is a U.K.-sourced collaborative model for diabetes care which includes the empowerment of patients and caregivers in order to make better care decisions, align the goals of both patients and care team, and use principles of motivational interviewing, to shift the power to more patient-centred care. The clinics use a new protocol to obtain blood results first two weeks before the consultation. Patients undergoing the new model of care will receive a personalised care planning results letter prior to their annual review. The letter contains the most recent results of their key laboratory tests for them to look through. It also prompts them to think of the concerns that they would like to raise to their care team. This will better prepare patients for their consultation and enable greater involvement in the care planning process. The care team and patients then collaboratively will also review the patients’ adherence to their set goals and care action plans to achieve better health. They will be encouraged to adopt healthy lifestyles, and also be supported for self-management through resources and community programmes organised by the primary care teams from the Regional Health Systems, Health Promotion Board and Voluntary Welfare Organisations. For more information on the programme, please go to <https://www.youtube.com/watch?v=F0j-ijvcySg>

- They live better with diabetes as reflected in a 19% statistically significant reduction in the scores indicating level of emotional distress from diabetes.
- Mean HbA1c (glycosylated haemoglobin data), which is the 3-month average of glucose level, for enrolled patients has improved from 8.5% to 8.1%, which is statistically significant.
- The proportion of patients who achieved an ideal target for their glucose control increased by 2.5 times after 1 year in the pilot programme
- The cholesterol, weight, and glucose levels in enrolled patients all observed an improved trend, with 15% of the patients achieving an ideal target level across all three readings - more than doubled from baseline.

NUHS expands diabetes care programme to its polyclinics

7 The National University Polyclinics (NUP) in collaboration with NUH Division of Endocrinology, has expanded the communication-focused approach into polyclinics for a trial in a collaborative care planning project known as PACE-D (Patient Activation through Community Empowerment/Engagement for Diabetes Management). In Pioneer Polyclinic and Jurong Polyclinic, patients enrolled in PACE-D will receive their test results prior to their visit and undergo a more collaborative consult with the doctors and nurses of their care team. These patients will also be referred to suitable community programmes to empower them for self-management of their chronic conditions.

8 Up to 6,000 will be recruited over a period of three years for the trial, of which half will undergo the collaborative consult with care teams, to determine the efficacy of PACE-D. NUP will review the programme's success before exploring the possibility of expansion to all of its six polyclinics.

9 Prof Tai added, "Living well with diabetes requires the active participation of patients. The "Year of Care" is a tried-and-tested collaborative model which has proven effective in delivering managing and improving outcomes for people living with diabetes in the U.K. and Australia. We have adapted this into our protocol and made good progress in coming up with a more engaged, collaborative and consultative approach to help patients live better with diabetes. We hope to scale it to benefit more patients within the primary care sector including the private GPs who see more of such patients."

NUHS' efforts on clinical quality improvement for its PCN GPs yields positive results

10 Singapore sees about 80% of primary care doctors in private GPs, while the rest are in polyclinics. However, private GPs only take on 59% of the chronic disease workload in the nation². "Private GPs in Singapore can play a bigger role in chronic disease management, while we seek to drive more clinical improvement in primary

² Source: Ministry of Health, Primary Care Survey 2014

care outcome,” says Professor Doris Young, Head, Department of Family Medicine, NUHS.

11 The Plan, Do, Study, Act (PDSA) model, which has been used by the Australian Primary Care Collaboratives Programme, has shown improvements in not only Australian general practice but also now, in Singapore private GP setting where this model has been piloted, for diabetic care for a year now.

12 Under the Primary Care Network (PCN) programme, NUHS has set up a chronic disease registry to track its private GPs patients’ progress in chronic disease management. With this registry, the team initiated the PDSA model which works by cycles. Led by Prof Doris Young, the PDSA cycle guides GPs through a process of comparing their patients’ progress with its polyclinics’ data and analysing clinics’ clinical outcomes and process indicators, subsequently establishing processes to achieve improved clinical goals. The GPs are encouraged to adopt best practices to work towards improved clinical outcomes.

13 At the first PDSA focus group session in December 2018, some PCN partners came together to share that many of the high blood pressure readings were attributable to ‘white coat hypertension’ in patients at their clinics. The solution of home blood pressure monitoring was proposed, and with the help of the NUHS RHS, home blood pressure monitors were made available for the GPs’ patients to borrow.

Please refer to Annex for more examples of quality improvement in PCN GPs.

14 The results of this one-year pilot so far with four private GPs in the Choa Chu Kang primary care network, had been positive:

- 75% of people living with diabetes in the PCN achieved HbA1c<8% comparable to its polyclinics’ data
- 72% and 92% of people living with diabetes achieved their respective systolic and diastolic blood pressure (BP) targets respectively better than benchmark
- 94% of people living with diabetes achieved LDL-cholesterol target of <4mmol/L, comparable to benchmark
- The PDSA discussion also revealed problems GPs face such as: patients declining to start medication due to concerns of side effects; and possible over-reliance on BP taken in clinics versus home monitoring. The GPs are encouraged to tap on nurse counselling and home BP-monitoring services to improve clinical outcomes.

15 Dr Ho Han Kwee, Director of NUHS Primary Care Partnerships, said, “Every diabetes patient should have a regular family doctor to look after their health needs. Their regular family doctor will be able to link them up with relevant hospital specialist at the appropriate time. NUHS PCN offers residents in the west an alternative option at 71 different locations near their homes. These PCN partners are

supported by NUHS nurse and coordinators, as well as the PDSA framework of regular clinical quality tracking and improvements.”

Please refer to Annex for profile of a GP that has benefitted from PDSA.

NUHS partners Diabetes Singapore for “World Diabetes Day Singapore 2019” for the first time:

16 NUHS has partnered Diabetes Singapore (DS) for the first time at this year’s “World Diabetes Day Singapore 2019”, themed “Advancement in Diabetes Care and Management” which is a part of a global awareness campaign to promote the prevention and management of diabetes mellitus. The event saw about 300 members of the grassroots organisations, healthcare providers as well as members of the public. Mr Edwin Tong, Senior Minister of State, Ministry of Law and Ministry of Health, was the Guest-of-Honour at the event held at the Ng Teng Fong General Hospital (NTFGH), a member institution of NUHS.

17 Other highlights of the World Diabetes Day 2019 event include:

- Onsite chronic disease screening, diabetes eye and foot screening, diabetes blood monitoring (HbA1c)
- Public talks in the afternoon by healthcare professionals
- Primary Care Network GP Symposium (by invitation only) on PACE-D and PDSA

18 Mr George Lee, Executive Director of Diabetes Singapore, said, “Diabetes Singapore serves over 4,000 patients and performs more than 6,000 screenings a year. As Singapore’s only registered charity dedicated to the fight against diabetes, we are grateful for the support of our PCN partners so that we may continue to reach out to more service users.”

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About the National University Health System (NUHS)

The National University Health System (NUHS) aims to transform how illness is prevented and managed by discovering causes of disease, development of more effective treatments through collaborative multidisciplinary research and clinical trials, and creation of better technologies and care delivery systems in partnership with others who share the same values and vision.

Institutions in the NUHS Group include the National University Hospital, Ng Teng Fong General Hospital, Jurong Community Hospital and Alexandra Hospital; three National Specialty Centres - National University Cancer Institute, Singapore (NCIS), National University Heart Centre, Singapore (NUHCS) and National University Centre for Oral Health, Singapore (NUCOHS); the National University Polyclinics (NUP); Jurong Medical Centre; and three NUS health sciences schools – NUS Yong Loo Lin School of Medicine (including the Alice Lee Centre for Nursing Studies), NUS Faculty of Dentistry and NUS Saw Swee Hock School of Public Health.

With member institutions under a common governance structure, NUHS creates synergies for the advancement of health by integrating patient care, health science education and biomedical research.

As a Regional Health System, NUHS works closely with health and social care partners across Singapore to develop and implement programmes that contribute to a healthy and engaged population in the Western part of Singapore with about 1.1 million population.

For more information, please visit www.nuhs.edu.sg.

ANNEX

“Year of Care” Patient Profiles

- Evelyn Yeung (杨雯玉), 50, was diagnosed with Type 1 diabetes in 2017 and subsequently enrolled in the Year of Care pilot programme under the NUH Division of Endocrinology. Thanks to the collaborative care model, Mdm Yeung is able to engage in a two-way open discussion with her doctor about her diabetes management.

As a tertiary institution adjunct lecturer, Mdm Yeung is often busy and has irregular meal times. She feels the generic diet advice she initially received was not suitable considering her schedule and lifestyle. During her consultations in the Year of Care programme, Mdm Yeung is able freely share these concerns and challenges she faced, and to work together with the care team to explore diabetes management plan that best works for her. She is empowered to come up with solutions and implement them with the support of the care team. At her suggestion, Mdm Yeung is currently trying out having two meals a day and cutting carbohydrates out of her diet. She proactively manages her condition through such continuous efforts and she feels comfortable to share information

about her health with the doctor, who then provides feedback and suggestions. Over the past year, she has seen improvements in her cholesterol level.

“I feel more empowered in knowing that I am an equal in the decision making process. As the one who is living with diabetes, I know my body best and it is important for me to take on a proactive role in planning for my diabetes care,” said Mdm Yeung.

- Mr Wong Siew Heng (黄绍兴), 67, has been living with Type 2 diabetes since some 20 years ago. He is aware of the harm of the condition and wants to keep it under control. Before enrolling in the Year of Care programme, the long-time patient at NUH Endocrinology clinic made sure to listen to the doctor’s instructions and tried his best to follow them, though sometimes he was unsure of the rationale behind these instructions. In addition, he did not feel the need to proactively monitor his progress and understand his blood test results, as he trusted the doctor to feed him the information.

After enrolling in the Year of Care programme, Mr Wong is able to have engaged conversations with the doctor, proactively asking questions and discussing with the doctor what would make him healthier, rather than simply listening to the doctor’s instructions. He is also prompted to think about his condition when he receives the test results prior to his consultation session.

“Participating in this programme makes me realise that it’s really the patients who have the onus to manage our condition, and the doctor and the care team are here to ‘help us help ourselves’ in diabetes management,” said Mr Wong.

Examples of quality improvement amongst PCN partners done through PDSA

- From the data collected, the frequency of HbA1c being done was below national average. PCN partners gave feedback during PDSA discussion that many patients did not like the blood taking for HbA1c and thus declined. NUHS PCN then worked with POCT (Point of Care Testing) HbA1c analyser provider for a collective deal for better price for NUHS PCN partners. This resulted in greater adoption of POCT HbA1c testing and better acceptance amongst patients.
- It was observed from the data collection from GPs that the rate of diabetes foot screening, which people living with diabetes need to undergo annually, is between 21-54%, falling below national benchmark. During discussion with the GPs, gaps were identified such as lack of patient awareness and inconsistent requirements for GPs to self-check patients for this screening. Following this, PCN care coordinators and NUHS teamlet worked closely with the GPs to strengthen patient education, arrange for podiatrist to conduct training for in-house screening, and provide standardised guidelines to such processes.

PDSA GP Profile

Leveraging on the PDSA model, Dr Kwong Kum Hoong (邝锦雄医生) of Princeton Family Clinic (仁德家庭药房) is able to come together with other NUHS PCN partners and gain insights from the collective data to identify his clinic's strengths and areas for improvements, as well as how the clinic has performed against the national benchmark. From there, he is able to share the challenges he faced and compare notes with the other GPs. With the support of the NUHS PCN team, GPs will then be able to come up with constructive solutions and consolidate resources to implement them.

In the sharing session, Dr Kwong noted that the take up rate for diabetes foot screening at his clinic is lower than national benchmark. The same problem is also observed in other GPs. This may be attributable to lack of patient awareness, inconsistent requirements for GPs to self-check patients, or inconvenience on the patients' part as they may be referred elsewhere for their screening. A solution hatched during the discussion amongst GPs and NUHS PCN team is to for a more standardised screening across partner GPs. To do so, NUHS will arrange for podiatrists to conduct training sessions for the GPs to enable them to conduct standardised in-house diabetes foot screening for their patients, in particular for those who are non-compliant to screening. At the same time, the partner GPs are encouraged to tap on the PCN care coordinator to engage the patient on the importance of diabetes foot screening, and to utilise the mobile screening bus under NUHS' partnering service providers to conduct screening sessions near the patients' homes.

"The PDSA model provides a more structured approach for GPs like us to continuously improve our quality of care, leading to better clinical outcomes for our patients. It is a good platform for us to not only to share ideas and learn from one another, but also to come up with innovative solutions and improve together as a whole," said Dr Kwong.

Glossary

National University Health System (NUHS)	国立大学医学组织
National University Hospital (NUH)	国立大学医院
National University Polyclinics (NUP)	国立大学综合诊疗所
Diabetes Singapore	新加坡糖尿病协会
Centre for Chronic Disease Prevention & Management	慢性疾病预防与管理中心
Year of Care	保健之年
Patient Activation through Community Empowerment/Engagement for Diabetic Management (PACE-D) programme	激励自我管理糖尿病计划

Plan-Do-Study-Act (PDSA)	循环式（临床）质量管理
Prof Tai E Shyong, Director, Centre for Chronic Disease Prevention & Management, NUHS and Senior Consultant, Division of Endocrinology, NUH	戴一雄教授，国立大学医学组织慢性疾病预防与管理中心主管及国立大学医院内分泌科高级顾问医生
Dr Yew Tong Wei, Consultant, Division of Endocrinology, NUH	尤东暉医生，国立大学医院内分泌科顾问医生
Dr Ho Han Kwee, Director, Primary Care Partnerships, NUHS	何汉贵医生，国立大学医学组织基层医疗伙伴关系部门主管
Professor Doris Young, Head, Department of Family Medicine, NUHS	杨绮玲教授，国立大学医学组织家庭医学部主任
Dr Tan Wee Hian, Deputy Head, Pioneer Polyclinic and Family Physician & Associate Consultant, NUP	陈伟贤医生，先驱综合诊疗所副主任及国立大学综合诊疗所副家庭顾问医生
George Lee, Executive Director, Diabetes Singapore	李耀华，新加坡糖尿病协会执行董事
Evelyn Yeung (patient profile)	杨雯玉
Wong Siew Heng (patient profile)	黄绍兴
Dr Kwong Kum Hoong, Princeton Family Clinic (GP profile)	邝锦雄医生，仁德家庭药房