Media Release
(Embargoed until after 1 pm on 19 May 2023 World Family Doctor Day)

NUHS and NUP family doctors mark World Family Doctor Day with impactful research and inclusive clinical care curriculum

- NUP family doctors authored Singapore’s first outpatient primary care study in antimicrobial resistance, titled “Prescribing Antibiotics in Public Primary Care Clinics in Singapore”, with over 3.2 million outpatient consultations conducted over three years at seven polyclinics, sourcing 141,000 oral prescriptions and 108,000 topical prescriptions.

- NUP family doctors and NUHS Family Medicine co-designed a core curriculum with PWDs, titled “Communications with Persons with Disabilities” for medical students undergoing Family Medicine training. Scored a 10-point improvement on ATDP-O scale (a validated scale used to measure societal attitudes toward PWDs).

Singapore, 19 May 2023 –

First Study on antibiotic resistance in outpatient primary care

National University Polyclinics (NUP) family doctors presented findings from Singapore’s first primary care study concerning antibiotic prescriptions, in an attempt to combat antimicrobial resistance within primary care in Singapore. Published last month in April 2023, and titled “Prescribing Antibiotics in Public Primary Care Clinics in Singapore”, the lead author, Dr Sky Koh, a Family Physician, Associate Consultant from Bukit Batok Polyclinic, with Dr Vivien Lee, a family physician from Choa Chu Kang Polyclinic, and Adjunct Associate Professor Victor Loh, a Family Physician and Senior Consultant from the Department of Family Medicine, National University Health System (NUHS) as co-authors, shared the findings of this research supported by the Singapore Ministry of Health’s National Medical Research Council under its Centre Grant Programme.

The authors had collected a large sample data from 3.2 million outpatient consultations over three years at the seven NUP polyclinics. Sourced from 141,944 oral prescriptions and 108,357 topical prescriptions, the study aimed to address antibiotic prescription prevalence and patterns of antibiotic prescriptions for adults in primary care, and identify potential care gaps for improvement. It is essential for Singapore to develop an antimicrobial stewardship programme in primary care and monitor proper documentation of diagnosis for antibiotic prescriptions for reasons of preventing misuse and overuse of antimicrobials. The findings will also pave the way for the development of local antibiotic guidelines and policies within primary care and
improve governance and stewardship in the post COVID-19 era, as healthcare in Singapore reforms toward a population health model known as “Healthier Singapore”.

3 From data analysed from [1 Jan 2018 to 31 Dec 2021], oral antibiotic prescribing had significantly reduced due to the COVID-19 pandemic, with an 84% reduction of prescriptions for respiratory conditions. There was an overall reduction in oral antibiotic prescriptions over the three years coinciding with the COVID-19 pandemic. This was most apparent for respiratory conditions (at 30%). During the COVID-19 pandemic, altered patient health-seeking behaviour and increased referral to hospitals for severe disease which was not presented in primary care, may have reduced community antibiotic prescription rates. The reduction was a greater proportion in 2021 compared to visits for respiratory conditions from 2019. This might be the result of successful public health measures such as mask wearing, social distancing and awareness that COVID-19 is a virus rather than bacteria. In 2020 and 2021, the increased accessibility of testing to the public and usage in primary care clinics or the diagnosis of COVID-19, national vaccination drives, the implementation of vaccine-differentiated safe management measures, may have led to the reduction. The antibiotic prescription rate reduced with age, was likely due to a higher proportion of older patients attending for chronic disease visits compared to younger patients. This could also be due to poorer knowledge associated with younger patients in Singapore, leading to more presentation and antibiotic requests. Several studies that have been performed in developed countries also revealed a general trend of a reduction in antibiotic prescription in primary care during the pandemic.

4 Skin and genitourinary conditions have overtaken respiratory to be the top two conditions needing oral antibiotics. Data from 2021 showed that skin and genitourinary conditions account for the majority of total oral antibiotic prescriptions, and highlight changes in antibiotic prescriptions as a result of changing infection prevalence. Oral antibiotics were most prescribed for skin and soft tissue conditions (29%), and followed by genitourinary conditions (15%) in 2021. About 12.3% of oral antibiotics were prescribed without any documented diagnosis of infection. The study also found more increasing inappropriate diagnoses for dual (both oral and topical) antibiotic prescriptions for use on skin conditions, despite discouragement from guidelines and studies on possible increased risk of antimicrobial resistance. There is demand and expectation from younger patients. These interesting findings shed light on the complex dynamics occurring within the primary care consultation, where both physician and patient factors may influence antibiotic prescribing patterns.

5 The limitation of the study is that infections diagnoses were not always entered appropriately when seeing patients for multiple complaints. Within the clinics, the lack of prioritisation in terms of ensuring the accurate coding of diagnosis for antibiotic prescriptions, had made the assessment and determination of the indications for antibiotic prescriptions challenging. This was evident in the two gaps identified: the increase in oral antibiotics prescribed for chronic condition diagnoses and topical skin antibiotic prescriptions with non-skin diagnoses.

6 This study will be presented by Dr Vivien Lee, at the World Organization of National Colleges, Academies and Academic Associations of General Practitioners / Family Physicians (WONCA) conference to be held in Sydney, in October 2023. Dr Sky Koh said the team will next focus on three areas, namely, skin (acne),
genitourinary conditions and the paediatric population seen by family doctors in primary care. Moving forward, NUP will start an outpatient antimicrobial stewardship programme and continue to study prevalence of antibiotic prescribing and improve its appropriateness.

New curriculum to teach medicine students effective communications with PWDs

7 Primary care doctors fulfil about 90% of the health and care needs of the community. Persons with disabilities (PWDs), such as in visual, hearing and mobility, in Singapore comprise 13.3% of people who are 50 years old and above, according to Ministry of Social and Family Development’s Nov 2018 report on total number of persons with disabilities in Singapore. Every healthcare practitioner will encounter such persons in the course of work. Adj A/Prof Victor Loh, who is also the Education Director, Family Medicine and Director, Foundations of Clinical Practice at NUS Yong Loo Lin School of Medicine (NUS Medicine), and Dr Vivien Lee had co-designed with PWDs, and introduced the workshop as core curriculum for third-year medical students who are studying in the Family Medicine posting at NUS Medicine. Launched in July last year, it has now become part of the main medical curriculum and regular fixture within the Family Medicine posting, known as “Communications with Persons with Disabilities” workshop. Dr Vivien Lee is also a lecturer with the Division of Family Medicine, NUS Medicine.

8 Uncertain about whether to raise one’s voice when talking with persons with hearing loss, or moments of awkwardness looking for the right words when asking to examine patients with amputated limbs, the course aims at teaching doctors-to-be how to approach these PWDs with sensitivity, inclusivity and empathy, and raise their awareness and early exposure to PWDs, while at the same time, carrying out effective doctor-patient communication, history-taking and anticipating needs in relation to a medical consultation. Adj A/Prof Victor Loh and Dr Vivien Lee, who were also the anchor tutors of the course, conducted literature review that would form the basis of the workshop. The lesson plan co-designed with PWDs, touches on the “Dos and Don’ts” when communicating with patient educators, who are themselves PWDs. They would enact a scripted clinical presentation to highlight to the students some conundrums that PWDs face. This is followed by role-playing with a patient educator who has a disability. For example, explaining an x-ray result to a patient with visual impairment and communicating with a patient who is hard of hearing and accompanied by a sign language interpreter. After the role-play, students will share their views and PWD educators will also share experiences in real-life with the students.

9 The curriculum resulted in significant improvement of attitudes (based on the ATDP-O scale) by 10 point, towards PWDs. The range of scores on the ATDP (a validated scale used to measure societal attitudes toward PWD), can vary from zero to 120. The higher scores indicate greater understanding and acceptance.

This initiative will be presented on 23 May 2023 this month at the Asia Pacific Medical Education Conference held in Singapore.

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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.

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

About the National University Hospital System’s Department of Family Medicine

Academic family medicine in Singapore may trace its roots to 1971 when undergraduate training in family medicine was first started. The establishment of the Department of Family Medicine, National University Health System (DFM, NUHS) on 1st February 2018 marks a key milestone in the development of Family Medicine in Singapore.

The department aims to achieve excellence in Family Medicine education, research, and practice. DFM works closely with colleagues at NUP in all of these areas.

For more information regarding the milestones of how DFM was established, and on the faculty please visit NUHS Family Medicine.

About the National University Polyclinics

The National University Polyclinics (NUP) is a member of the National University Health System (NUHS), a leading academic health system and one of three public healthcare clusters in Singapore.

NUP provides primary care treatment for acute illnesses, management of chronic diseases, women and children health services, and dental care at its network of
polyclinics at Bukit Batok, Bukit Panjang, Choa Chu Kang, Clementi, Jurong, Pioneer, and Queenstown (with Taman Jurong, Tengah and Yew Tee to come).

As part of an integrated academic health system, NUP collaborates with the hospitals and national specialty centres within NUHS as well as partners in the community, such as general practitioners, grassroots, and social care agencies, to provide patient-centred care for the population.

For more information, please visit www.nup.com.sg.