



at the forefront

ANNUAL REVIEW 2019–2020



National University
Polyclinics



Safeguarding the Health of Our Communities

As the primary care arm of NUHS, NUP forms the first line of defence in the community, and plays an important role in detecting conditions early for effective treatment, managing health in the long run, and in preventing disease.

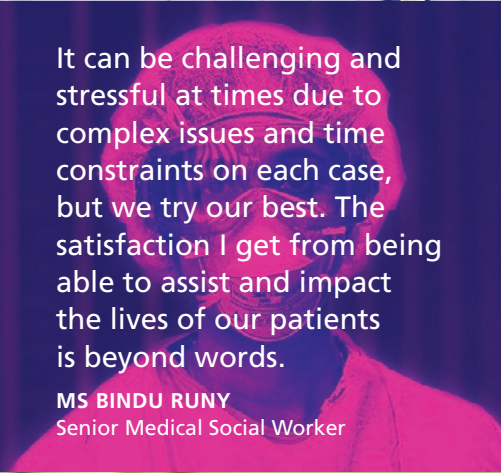
Since our inception three years ago, we have worked to ensure that we remain at the forefront of care, innovation and education, so that the community's health is safeguarded both presently and in the future.

4	CEO's Message
6	United in Our Stand Against COVID-19
8	Preparedness – Being Ready for the Future
14	Partnership – Working Together to Improve Care
20	Prevention – A Pre-Emptive Approach to Health
24	Senior Management Team
26	Awards
28	Highlights



I'm encouraged by the teamwork and friendships that I have formed at Clementi Polyclinic. I'm also very grateful for the support we have received from our community and management team.

MS THAM MIEW KUM
Patient Care Assistant



It can be challenging and stressful at times due to complex issues and time constraints on each case, but we try our best. The satisfaction I get from being able to assist and impact the lives of our patients is beyond words.

MS BINDU RUNY
Senior Medical Social Worker



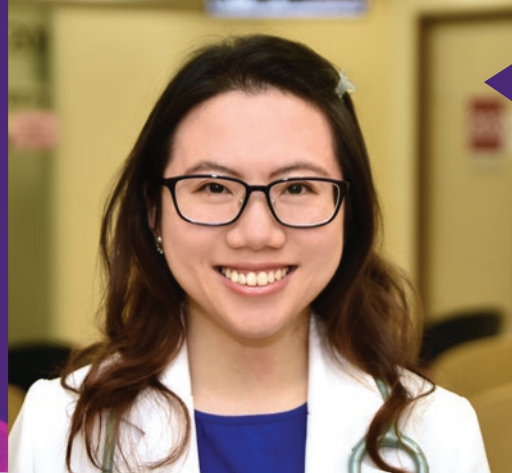
This period of time has definitely been more tiring, as we need to gown up in our PPE whenever we perform our triage duties. However, having good team camaraderie and positivity are factors that can help make the tough and long days feel easier.

MR YONG HONG FOOK
Patient Care Assistant



I stand by the phrase 'prevention is better than cure' and believe that practising preventive health will help NUP achieve new standards of healthcare.

MR PRANAV VIJAY CHANDORKAR
Senior Physiotherapist



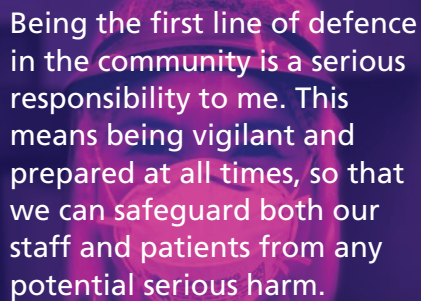
We need to constantly revolutionise our models of care, reinvigorate our people and reignite our passion, to stay true to what we do to protect and improve the health of our community, especially in times of need.

DR SKY KOH
Family Physician



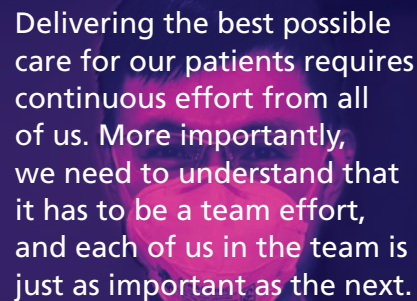
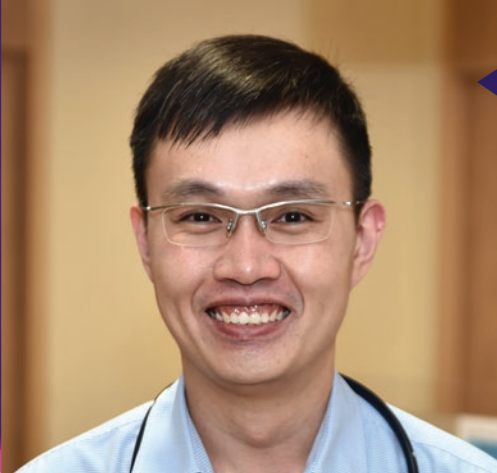
Being resilient and adaptable while staying alert and positive is important. By being a good team player, we can work better and ensure that our patients and colleagues are well taken care of.

MS YEO XIU LIN
Senior Physiotherapist



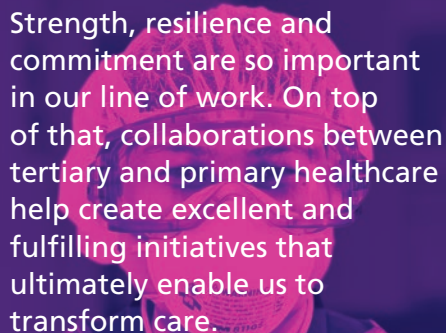
Being the first line of defence in the community is a serious responsibility to me. This means being vigilant and prepared at all times, so that we can safeguard both our staff and patients from any potential serious harm.

MS BRIANA DEARLY ANN GRAJO
Senior Dental Surgery Assistant



Delivering the best possible care for our patients requires continuous effort from all of us. More importantly, we need to understand that it has to be a team effort, and each of us in the team is just as important as the next.

DR SIAU KAI RONG
Family Physician




Strength, resilience and commitment are so important in our line of work. On top of that, collaborations between tertiary and primary healthcare help create excellent and fulfilling initiatives that ultimately enable us to transform care.

MS FATIMAH BINTE ENDUT
Nurse Clinician



More than keeping up-to-date with advances in medicine and changes in policy, we need to step up to challenges, and deal with the issues that each patient brings into the consultation room, to provide holistic care.

DR KRISTEL LOW
Family Physician



We must be ready at all times, and continue to work with our best effort to care for our community. This means serving with professionalism and passion while practising empathy.

MS JACQUELINE KONG
Senior Staff Nurse



Healthcare professionals will always be at the forefront of care. In protecting our communities, we need to adapt to changes and deal with any situation that comes our way.

MS JANIE CHUA
Principal Dietitian



We have come a long way in helping to manage the health of the communities we serve.



2020 marked a very different world for many as the COVID-19 outbreak tore through various communities and businesses. For some healthcare workers, this echoed the uncertainties seen during the 2003 SARS outbreak, but for many, this was a new and eye-opening experience.

From frontline workers to administrative departments, all of us played an important role in fighting the outbreak and managing patients to the best of our abilities. I thank each and every one of you for your dedication, compassion and courage during this time.

Being at the Forefront

As the first line of defence in the community, it is important that NUP continues to strive to remain at the forefront of care. This means staying up-to-date with advances in medicine, driving innovation to improve patient services and experiences, and training our staff with the necessary skills to remain relevant.

To do so, we place an emphasis on being prepared for the future, working closely with partners in the healthcare ecosystem, and taking a pre-emptive approach to health and care.

Prior to the COVID-19 outbreak, NUP was already making good progress in our ongoing projects and initiatives, with several projects showing excellent results and forming a strong foundation for us to build better approaches to care. This included the successful establishment of the NUP Contact Centre, and a new initiative that saw a significant rise in uptake rates for influenza and pneumococcal vaccinations among our elderly patients.

COVID-19: A Test of Our Systems and Mindset

Since NUP's inception and integration into NUHS, we have come a long way in helping to manage the health of the communities we serve.

The COVID-19 outbreak tested not only the systems in place, but the people driving it. The pandemic has reiterated the need for us to be agile and adaptable — to ensure that our processes can accommodate rapid change and loading to quickly respond to an unfolding situation, and to have a positive mindset that readies us to meet these challenges head-on, with the patient's best interests in mind.

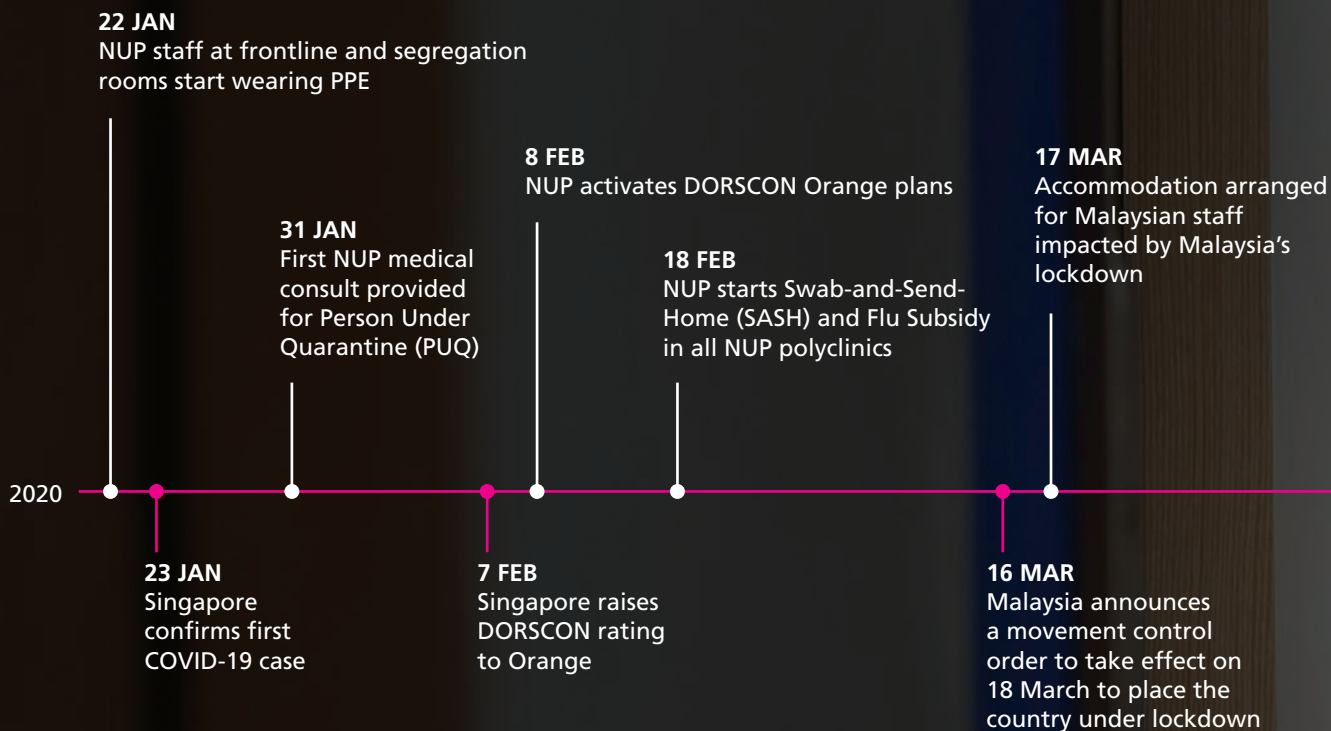
We saw this in the swift Personal Protective Equipment (PPE) training and mask-fitting for over 1,000 staff, partners and volunteers, the establishment of new workflows for the Swab-and-Send-Home initiative, as well as the implementation of iConnect.COVID in our polyclinics.

The battle against COVID-19 is far from over and we continue to evolve our approaches as the situation on the ground and around the world unfurls. Once again, I thank each and every one of you at NUP for your dedication and commitment to our patients and the community. I look forward to continuing the good work that we do, together.

DR LEW YII JEN
Chief Executive Officer

United in Our Stand Against COVID-19

With news breaking that the first COVID-19 case had been confirmed in Singapore, all teams at NUP were mobilised as Singapore raised its DORSCON rating to Orange. Our teams worked together to provide a rapid response as the situation in the community unfurled.



5 HOURS

to prepare 6 polyclinics for DORSCON Orange

25,134

swabs performed

10,772

contact tracing calls made

OVER

1,000

staff, partners and volunteers fitted for N95 masks

Figures updated as of end Aug 2020.

9 APR

Deployment of medical team to Swab Isolation Facility (SIF)

12 APR

Set up of medical post at migrant worker dormitory at Sungei Tengah Lodge

13 APR

Pilot of iConnect.COVID, a collaboration with MOHT and IHiS to improve tracking of swab and serology results

17 APR

Start of referrals from GPs for SASH

24 APR

Set up of medical post at the 1st SIF operated by NUP, with support from NUHS Regional Health System Office. The 2nd, 3rd and 4th SIF operated by NUP were set up in May

7 APR

Two migrant worker dormitories are identified as COVID-19 clusters

90%

of doctors rotated to red zone

70%

of nurses rotated to red zone

OVER
80

staff volunteered in the Swab Isolation Facilities (SIFs) and dormitories

4

SIFs set up and managed

5

dormitories supported with field medical teams

A black and white photograph of a healthcare worker in profile, wearing a surgical cap, mask, and gown, adjusting the mask. The background is a blurred outdoor scene with hills. A purple geometric shape is overlaid on the bottom left.

preparedness

BEING READY FOR THE FUTURE

DR AMANDA LOH
Family Physician,
Queenstown Polyclinic

We prepare for uncertainties in the future, and are ready to deploy new approaches in times of emergency. This ensures that we can remain a strong first line of defence for the community at all times.

Preparation Starts with Equipping and Protecting Our Frontline

With six polyclinics in operation, 90% of our doctors and 70% of our nurses have been rotated to the red zone to manage patients with symptoms of respiratory illness. NUP's ongoing ability to provide sustained and effective healthcare to our communities amidst COVID-19 hinges on how well we can protect our staff, teams and volunteers on the frontline.



Preventing the transmission of infections is a key strategy in outbreak management. The need for effective Personal Protective Equipment (PPE) and the knowledge on how to use these tools remain critical to our staff, our volunteers and the communities that NUP supports.

Early and Effective Equipping

NUP's Infection, Prevention and Control (IPC) team conducted PPE training and mask-fitting exercises for a range of frontline workers, including dental officers, general practitioners and staff working in the dormitories and the Swab Isolation Facilities (SIF). Since the start of the COVID-19 outbreak in Singapore, NUP's infection control nurses have trained over 1,000 healthcare workers on how to use PPE effectively. These exercises also entailed the fitting of masks so that the appropriate mask size could be identified for each frontline worker.

Pandemic Response – Flexible and Adaptive Teams at Work



The Swab-and-Send-Home (SASH) programme is a Ministry of Health (MOH) initiative that plays a crucial role in the prompt identification of cases as well as the screening of specific groups of asymptomatic essential workers and individuals under quarantine. Patients who meet specific criteria set out by the MOH have to undergo the test at the polyclinics. GPs can also refer potential cases to the polyclinics for testing, instead of sending them to a hospital.

Our polyclinics played a key role in making COVID-19 swabs accessible to the community in the west, helping to relieve the pressure and load at the hospital emergency departments. Positive cases were quickly identified and informed, allowing for prompt isolation and contact tracing.

Key challenges in implementing the SASH programme included responding to the frequent changes in SASH criteria at short notice due to the rapidly evolving situation, as well as coping with increasing SASH patient loads when the SASH criteria expanded.

Our response reflected not only the level of preparedness of the organisation, but also the willingness and ability of our people to work together as a team to deal with complex changes.



Dr Chua Ying Xian, Deputy Head of Pioneer Polyclinic (left) and Dr Lawrence Lam were involved in the research publications.

As a key player in ensuring the health of the community, NUP continues to share the experiences and learnings of facing a novel pandemic against the backdrop of a concurrent dengue outbreak.

Lessons from the Frontline: Fighting on Multiple Fronts

The COVID-19 outbreak presented huge challenges to the nation and its health system, and this was made all the more complex by the fact that other health issues and diseases continued to require attention.

In addition to COVID-19, Singapore saw a surge in dengue cases in 2020. The overlapping similarities in symptoms made diagnosing one or the other challenging. Coupled with cases of false-positive dengue serology results, clinicians needed to be astute and to maintain a high index of suspicion for COVID-19 infection.

To capture the learning and insights gleaned from actual experiences, two papers were published for the benefit of the wider medical community—one paper on COVID-19 and false-positive dengue serology results published in *The Lancet Infectious Diseases*, and the second on challenges faced by primary care physicians tackling COVID-19 and dengue published in *Oxford Family Practice*.

With over 10,000 dengue infections in the first half of 2020, and the gradual reopening of Singapore's economy in June, the sharing of such findings helped to highlight the importance of learning the distinguishing features between COVID-19 and dengue, and stresses the need to act with prudence by ruling out dengue early through serological testing.



Ms Teo Lay Sze, Senior Nurse Manager, played a key role in implementing iConnect.COVID in all NUP polyclinics.

Our staff were quick to adapt and adopt the new technology amid the heavy workload of the COVID-19 crisis, and NUP became the first institution to successfully launch iConnect.COVID across all its polyclinics.

Leveraging Technology to Improve Efficiency and Free Resources

As part of the efforts to curb the spread of COVID-19 in the community, NUP polyclinics conducted a significant number of swab and serology tests to identify COVID-19 infections among potential patients. A major challenge that emerged was tracking the results from these tests, and communicating them to patients so that those who tested positive for COVID-19 could be isolated and treated as quickly as possible.

Working with the MOH Office for Healthcare Transformation (MOHT) and Integrated Health Information Systems (IHiS), NUP implemented the IT system, iConnect.COVID, across all its polyclinics to manage the test results at the clinics.

The new system served as a secure platform to store test information, and enabled healthcare workers to follow through on test results seamlessly, eliminating the need for manual entry into patients' records.

The system also included an SMS notification feature that automatically informed patients of their negative test results via text. This worked to free up resources and allowed the polyclinics to focus on patients who tested positive for the virus. It also ensured that patients free of COVID-19 would receive their test results quickly for peace of mind.



Preparing Our Community to Manage Patients with Multiple Chronic Conditions

With a rapidly ageing population, Singapore has been seeing an attendant rise in disease prevalence, particularly in chronic diseases such as hyperlipidaemia, hypertension and diabetes. A local study highlighting the pervasiveness of multiple chronic conditions (MCC) in individuals has indicated that almost 2 in 5 adults aged 60 and above had three or more chronic conditions in 2017.

As we move care beyond the hospital to the community, it is vital for us to deepen our understanding of the considerations faced by people with MCC. In 2018, NUP embarked on a study that looked at the combined viewpoints of both healthcare providers and users of community care.

Published in the journal BMC Public Health, the study encompassed 26 semi-structured interviews with physicians, caregivers and patients who sought treatment in NUP polyclinics between October 2018 and February 2019. These interviews distilled a range of insights about both the positive facilitators and the barriers to seeking support for managing chronic conditions within the community for both user and healthcare providers.

Studies such as this provide strategic reflection points, helping us consider both the needs and challenges that will present themselves to healthcare institutions working towards improving community care.

Our ability to understand not just the healthcare needs of the communities around us, but also other aspects such as the ability to provide safe and quality care, and ways and means for patients to access these services, form a critical component of how we prepare ourselves for the future.

The study also helped identify some key challenges faced by patients. For example, while there are initiatives to help patients take greater ownership of their health, their ability to adopt the recommended practices is influenced by various factors, such as their home environment and work nature.

Maintaining Vigilance at All Times

The dangers and knock-on effects of equipment contamination cannot be overstressed—any breach in the chain of cross infection control in Dentistry can potentially lead to serious harm to staff and patients.

Since April 2019, the NUP Dental Services' infection control team has implemented regular recall exercises in NUP's dental clinics to ensure that staff remain vigilant in maintaining the sterility of instruments, and are familiar with the escalation process in the event of any contamination.

These recall exercises are realistic, and challenge both the situational awareness of the teams on the ground, as well as their ability to access, halt and manage ongoing activities within a span of 11 minutes.

In partnership with the Nursing department, three infection control videos were created to improve our staff's understanding of relevant protocols and processes:

1. **The recall video**, which reinforces staff's knowledge of the recall process.
2. **New safe sharps video**, which demonstrates safe sharps practices and minimises incidents of sharp injury when handling dental instruments.
3. **Instrument reprocessing video**, which helps new staff, especially health attendants who work in the sterilisation and decontamination area, to understand the instrument reprocessing process.

Raising Awareness of Infection Control in the Community

Beyond our clinic walls, Nursing's Infection, Prevention and Control team, and two oral health therapists participated in a community outreach programme held at Fei Yue Retirees Centre, Choa Chu Kang, sharing important perspectives on maintaining appropriate infection control measures at the centre, and oral health basics for clients at the centre.




Ms Gooi Lay Cheng, Senior Health Attendant, is part of the infection control team at Jurong Polyclinic Dental Services.

The regular recall exercise trains staff to be vigilant and accustomed to the recall and escalation process in the event that a recall is activated to minimise potential harm.

partnership

WORKING TOGETHER TO IMPROVE CARE

MR WINSTON CHEE
Senior Executive,
Operational Support Services



We partner and collaborate across departments and with other players in the healthcare ecosystem to treat and manage our patients' conditions within the community.



The NUP Operational Support Services team and ISS partners.

During the COVID-19 outbreak, ensuring a safe and clean environment for patients and staff became more important than ever. Working closely and learning from others helped us meet the tight timelines and urgent requests.

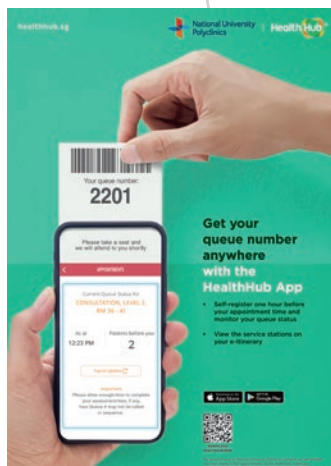
MS LAISA MAY ALILAY ALBELAR
Senior Facility Executive, ISS

Ensuring a Safe Clinic Environment for All During COVID-19

The highly contagious nature of COVID-19 resulted in a significant increase in demand for cleaning services to curb further spread of the virus within our polyclinics, and to ensure that our staff are safe as they carry out their work.

Coupled with related challenges that greatly impacted manpower such as Malaysia's Movement Control Order, Stay Home Notice for Work Permit and S-Pass holders, and other restrictions related to Singapore's national Circuit Breaker, NUP's Operational Support Services department faced a great challenge in ensuring that the polyclinics could be disinfected and cleaned in a timely manner.

Working closely with the department's long-time partner, ISS, the teams came together to allocate existing manpower to all NUP polyclinics, and ensured that the clinics were cleaned to a high standard to minimise the risk of the spread of the virus. With strong support, teamwork and commitment from all staff, the team overcame the various challenges and met the clinics' requirements.



With the help of various teams both in NUP and from other institutions, about 1 in 2 patients now use HealthHub to make their same-day appointments.

A Multi-Pronged Approach to Digitising the Patient Journey

To address the rising demand for healthcare services, NUP has undertaken significant efforts to streamline the patient journey and improve the patient experience through digital tools.

A key project is the migration of key physical touchpoints to the HealthHub digital platform. This includes the Mobile Registration feature on HealthHub which allows patients to complete certain tasks, such as self-registering and obtaining their queue number, via the HealthHub app before arriving at the polyclinic. NUP worked with Health Promotion Board's Digital Marketing team to bring the initiative to life.

Beyond shifting certain services to HealthHub, NUP worked with partners to encourage patients to harness the online tools for their appointments.

Getting Patients and Caregivers Onboard

Various departments collaborated to develop outreach initiatives to raise awareness and improve the uptake of digital services among all patients. This included training frontline staff to become Digital Champions (photographed above) to help patients familiarise themselves with HealthHub for better use.

The team engaged the general public to understand their needs and concerns around moving certain services online. Working with the IHIS HealthHub team, a focus group session for patients was held to guide future enhancements to the platform.



Establishing Key Support Structures and Services

As a relatively new polyclinic group that emerged after the public healthcare recluster in 2017, NUP has made strides in establishing itself as a public primary care provider in the western region of Singapore. In part, this has been made possible through ensuring that the right support structures are in place for patients to access polyclinic services promptly.

Contact centres provide basic but key services for patients and the general public, such as the handling of appointment requests and general enquiries. After the recluster exercise, contact centres under the National Healthcare Group Polyclinics and SingHealth Polyclinics continued to provide services for NUP polyclinics. In May 2019, approval was granted for NUP to set up its own contact centre.

The new Contact Centre department (photographed above), together with various departments under NUP, from Operations to Materials Management, Human Resource, Operational Support Services, IT and Communications, collaborated to set up the facilities and systems, recruit and train new staff, and establish workflows. The NUP Contact Centre was successfully launched in February 2020.

Building an Inclusive Workplace

NUP also embarked on a mass recruitment drive for the new Contact Centre, and our Human Resource department partnered with several players to ensure that hiring was inclusive.

They linked up with representatives from SGenable and SPD (Serving People with Disabilities), and arranged for visits to the new Contact Centre office to evaluate the conduciveness of the workspace for employees with disabilities. Several representatives from the Contact Centre also attended SGenable's Disability Management Workshop, which helped to deepen their understanding of the challenges faced by employees with disabilities, and factor these challenges into the refurbishment of the workspace.

There are plans to collaborate with the NUHS Contact Centre to introduce new systems that will help provide more coordinated support and share more comprehensive information with callers.

Developing Future-Ready Family Physicians



As the primary care arm of NUHS, NUP is committed to ensuring that our family physicians are equipped with the necessary skills to tackle the increasingly complex patient profile seen in the community.

To this end, NUP has worked with several partners, both within NUHS and externally, with key players such as the College of Family Physicians Singapore (CFPS), on various projects to ensure that family physicians and family medicine residents have the right exposure during their training.

One such project is the collaboration with Jurong Community Hospital that was launched in 2018, to provide guidance for NUP doctors enrolled in the CFPS Fellowship programme. Recently, the programme structure was enhanced to include more practical sessions, such as journal critique and clinical tutorial sessions, and increased interactions with the NUHS Department of Family Medicine's Primary Care Research Unit, to help trainees further develop their research and clinical skills.

Supporting the Family Medicine Residency Programme

In support of the NUHS Family Medicine Residency Programme, NUP enables family medicine residents to run continuity clinics at Choa Chu Kang Polyclinic and Pioneer Polyclinic, ensuring that they have hands-on experience throughout their training.

NUP also runs the Master of Medicine (MMed) in Family Medicine Bridging Programme, which helps to prepare family medicine residents for their postgraduate examination. The programme has ensured a 100% passing rate for the participating NUHS Family Medicine residents in both 2018 and 2019.

Working with Specialists to Develop an App for the Elderly Community

Among ageing patients, detecting a decline in physical and mental capacity is a top priority. By identifying at-risk elderly early, healthcare providers can intervene and manage their conditions, which can reduce the risk of further disability and improve their quality of life.

However, such assessments can be difficult to conduct in a community care setting, and require the expertise of a specialist—a geriatrician or a geriatric nurse practitioner.

Under the HOPE Programme, NUP partnered with the National University Hospital (NUH) Geriatrics Department to develop an app-based screening tool—the Rapid Geriatric Assessment (RGA) app—to help health providers screen for specific signs of mental and physical decline. Besides screening for frailty, the app also screens for sarcopenia (muscle loss), anorexia and cognitive impairment within an average of five minutes.

The app includes four assessment questionnaires that can be conducted by trained care coordinators or nurses. Responses are analysed by the app and the scores are shared with the doctor on the same day, so that an appropriate care plan can be developed based on the results. In addition to the questionnaires, patient education tools were also added to make it a one-stop app for healthcare providers to address common issues among the elderly.

Since its launch, the app has been widely used to screen elderly patients in NUP, and has been proven easy and quick to use to detect signs of physical and mental decline, even without a specialist present.

After rigorous testing by NUP staff and NUH research assistants, the RGA App prototype was made available for use in late FY2019. The app helped to screen 61% of the eligible patients in Bukit Batok Polyclinic and Choa Chu Kang Polyclinic.

Training Our Frontline Staff to Manage Complex Conditions



In line with the NUHS' community health approach to deliver care closer to home and to ease the workload of hospital departments, NUP partnered with the Ng Teng Fong General Hospital (NTFGH) Geriatrics Department to train staff in managing multiple morbidities among frail elderly patients in the polyclinics.

Staff in NUP who look after patients with chronic conditions were trained to use the Comprehensive Geriatric Assessment framework for elderly patients who have been identified as frail or pre-frail. Under the framework, suitable interventions would be drawn up to provide elderly patients with better care and to help them with their daily activities.

The team from NTFGH sent a multidisciplinary team, made up of a geriatrician, an advanced practice nurse and an operations manager, to NUP polyclinics to help train our family physicians, care managers and physiotherapists. The training enabled our staff to provide more in-depth patient assessments, and appropriately refer patients to other primary care colleagues, such as physiotherapists, social workers and dietitians, for further care within the community.



prevention

A PRE-EMPTIVE APPROACH TO HEALTH

MS JACQUELINE KONG
Senior Staff Nurse,
Jurong Polyclinic

We focus on preventing the onset of more serious conditions, and employ early screening tools and new care approaches to ensure that patients receive care even before they need it.



Creating New Workflows to Improve Vaccination Rates

Uptake of influenza vaccination among elderly patients who were reviewed by care managers almost quadrupled in two years, increasing from 8% to 30%, while rates increased by more than nine times for pneumococcal vaccinations, from 3% to 28%.

Influenza and pneumococcal diseases are a major cause of mortality and morbidity among older patients. This makes vaccinations against these diseases an important step in protecting the elderly.

However, despite the national recommendations and widespread availability of vaccines, vaccination rates among the elderly remain low. At NUP, it was recorded that between September 2017 to August 2018, eight percent of the elderly who were reviewed by NUP care managers were vaccinated against influenza, while only three percent had received pneumococcal vaccination.

To address the low uptake among the elderly, a new initiative was implemented in early 2019 to train NUP care managers with the necessary skills and knowledge to administer both vaccinations for elderly patients.

The initiative created a new workflow that allowed care managers to educate the elderly on the benefits of preventive vaccinations, and administer the vaccinations in the same session, seamlessly. This point-of-care intervention helped to reinforce the educational messages that care managers were communicating to patients, and reduced the waiting time for patients to receive the vaccinations.

As a result, NUP saw a significant increase in the uptake rates of influenza and pneumococcal vaccinations among the elderly.

Value Driven Outcome Project to Improve Control of Blood Pressure

High blood pressure is a major concern among patients with diabetes and chronic kidney disease. Research has shown that prompt blood pressure control may lead to long-term reductions in blood pressure and reduces the risk of further complications, making it a key factor to manage.

Data from Choa Chu Kang Polyclinic in early 2019 showed that 56% of patients with diabetes under the age of 80, as well as 31% of patients with chronic kidney disease, were within their blood pressure target.

A team at Choa Chu Kang Polyclinic embarked on a quality improvement project, aimed at developing new approaches that encouraged more patients to manage their blood pressure in an effective and sustainable manner.

The team attended Just-in-Time training by the Quality Department to refresh their understanding of the Quality Improvement methodology, which allowed them to focus on interventions of higher impact. A new care path was piloted, in which care managers would educate patients on the use of a new home blood pressure monitoring sheet, share more about discounted or loanable blood pressure sets, and discuss medication titration with doctors.

The team found that tackling the issue of home blood pressure monitoring was very impactful. When patients were tasked to monitor their home blood pressure, it also encouraged them to take responsibility for managing their hypertension.

By early 2020, 61% of diabetes patients and 37% of chronic kidney disease patients achieved their blood pressure target.

The project is part of the NUHS Value Driven Outcome initiative to ensure that healthcare services provide good, quality care that is affordable and sustainable.



Optimising Screening Rates to Catch Diabetic Complications Early

Screening and treating complications from diabetes will result in better outcomes for patients. The diabetes mellitus screening bundle consists of eye screening, foot screening and blood tests for kidney function, and has picked up early disease in these organs, allowing for timely interventions.

To encourage more patients to undergo the screening bundle, several teams across NUP worked closely to address the different barriers to screening. While the Clinical Services and Health Informatics departments focused on tracking and analysing screening rates, various teams on the ground, including Medical, Nursing and Clinic Operations, implemented practical initiatives to encourage uptake. Doctors actively recommended patients for the screenings, nurses optimised resources to ensure appointment slots were available, and operations staff helped to group screening appointments with patients' routine diabetes appointments for their convenience.

As a result, NUP managed to achieve an uptake rate of 72.1% for the screening bundle in 2019, above the national target of 70% and the institutional improvement target of 70.9%.



Evaluating Approaches to Prevent Diabetes

As part of Singapore's 'War on Diabetes', the Agency of Care Effectiveness published an Appropriate Care Guide in the management of pre-diabetes in 2017. The guide recommends the systematic management of pre-diabetes, through both lifestyle intervention and pharmacological measures.

As NUP adopted the guidelines in May 2018, a retrospective study was conducted in 2019 at Jurong Polyclinic to evaluate how closely healthcare professionals had adhered to the process indicators stipulated in the guidelines, and to evaluate if there was any association between close adherence to the guidelines and weight loss or diabetes development in pre-diabetic patients.

The guidelines identified several process indicators that should be focused on to improve patient outcomes, such as twice-yearly blood pressure and body mass index readings, as well as twice-yearly blood tests and yearly fasting blood sugar and fasting lipids tests.

Interestingly, the study found that closely adhering to the recommended guidelines did not necessarily translate to better health outcomes. The findings from the study reinforced the need for a multi-tiered approach, involving both patients and healthcare providers, to effectively tackle a complex metabolic disease like diabetes. This could include the introduction of a disease education programme that would complement the institutional actions outlined in the guidelines.

Preventing Complications Through Good Prescribing Practices

Diabetes is a leading cause of renal impairment, and many patients with diabetes also live with chronic kidney disease. To prevent further complications among such patients, medication dosage guidelines have been published to reduce the risk of dosing incompatibilities.

However, several overseas studies have reported that many healthcare professionals prescribe dosages that differ from the guidelines. This is a concern due to a purported higher risk of complications, such as hypoglycaemia, and other adverse reactions to such doses in diabetic patients with renal impairment.

In 2019, a team at NUP conducted a retrospective study on a cohort of patients who had attended NUP polyclinics in the previous year. The aim was to identify the prevalence and contributing factors of such prescribing practices locally.

Results from the study found that the majority of patients with diabetes and chronic kidney disease received the recommended dosages, with 16.2% of patients receiving dosages that were inconsistent with the recommendations. Patients living with more advanced chronic kidney disease or ischaemic heart disease were more likely to receive such prescriptions.

The results from the study provided baseline data for targeted improvement initiatives to enhance clinical decision support when prescribing for patients with chronic kidney disease.

Senior Management Team



DR LEW YII JEN
Chief Executive Officer



MR SAMUEL NG
Chief Operating Officer



MS ONG JING FANG
Assistant Chief Operating Officer



MS DAWN SIM
Head, Communications and
Service Quality



DR TAN KIM KIAT
Head, Bukit Panjang Polyclinic



DR ZHANG ZHI PENG
Head, Choa Chu Kang Polyclinic



DR KEITH TSOU
Director, Clinical Services



MS JANCY MATHEWS
Chief Nurse



DR MEENA SUNDAM
Director, Family Medicine
Development



DR VOO YAU ONN
Chief Medical Informatics
Officer and Director, Quality



DR WENDY WANG
Director, Dental Services



MR MATTHEW NG
Chief Financial Officer



MR SIMON TAN
Chief Human Resource Officer



DR KWEK SING CHEER
Head, Bukit Batok Polyclinic



**DR ANANDAN GERARD
THIAGARAJAH**
Head, Clementi Polyclinic



DR FRANCO WONG
Head, Jurong Polyclinic



DR TAN WEE HIAN
Head, Pioneer Polyclinic



DR ALICIA BOO
Head, Queenstown Polyclinic

Awards

NATIONAL DAY AWARDS 2020

Public Administration Medal (Silver)

DR LEW YII JEN
Chief Executive Officer
Family Physician, Senior Consultant

Public Administration Medal (Bronze)

DR MEENA SUNDRAM
Director, Family Medicine Development
Family Physician, Senior Consultant

Commendation Medal

MDM SERENE FOO
Senior Assistant Director, HQ Operations

MS ANN TOH
Senior Manager, Clinical Services

Efficiency Medal

MS TEO LAM BEE
Senior Staff Nurse, Queenstown Polyclinic

MS KHALISAH LEONG
Senior Patient Service Coordinator, Queenstown Polyclinic

MS VIVIAN MAN
Senior Oral Health Therapist,
Jurong Polyclinic Dental Services

MS MICHELLE ZHENG
Senior Service Team Leader, Clementi Polyclinic

MS CHUNG HWEE CHING
Senior Manager, Quality

Long Service Medal

MS PREMARANI D/O VELLACHAMY
Senior Staff Nurse, Choa Chu Kang Polyclinic

HMDP AWARDS 2020

Individual Award

DR ALICIA BOO
Head and Family Physician, Associate Consultant,
Queenstown Polyclinic

Team Award

DR TAIJU RANGPA
Family Physician, Associate Consultant,
Bukit Batok Polyclinic

HEALTHCARE HUMANITY AWARD 2020

MS CHEE WAN LIN
Senior Staff Nurse, Choa Chu Kang Polyclinic

MOH NURSES' MERIT AWARD 2020

MS LETCHIMI MUTHUSAMY
Nurse Manager, Queenstown Polyclinic

MS EVON OH
Nurse Clinician, Clementi Polyclinic

**NUHS EDUCATORS' DAY
AWARDS 2020**

NUHS Teaching Excellence Award

DR CHUA YING XIAN

Deputy Head and Family Physician,
Associate Consultant, Pioneer Polyclinic

DR CHRISTINE NG

Family Physician, Choa Chu Kang Polyclinic

MS VASANTHA D/O SUPRAMANIAM

Senior Staff Nurse, Choa Chu Kang Polyclinic

MS YEO XIU LIN

Senior Physiotherapist, Pioneer Polyclinic

NUHS Young Clinician Mentor Award

DR JOANNE KHOR

Family Physician, Jurong Polyclinic

NUHS Inter-Professional Teaching Award

DR DAVID TAN

Deputy Director, Family Medicine Development
Family Physician, Senior Consultant

NUHS Heroes Education Award

MS CHAN SU SIE

Senior Staff Nurse, Bukit Batok Polyclinic

**NUHS NIGHTINGALE
AWARD 2020**

MS JOSE SWAPNA

Senior Staff Nurse, Bukit Batok Polyclinic

**MS NOORADLIN MARINA BINTI
MOHAMMAD JUNAIDI SEE TOH**

Senior Staff Nurse, Choa Chu Kang Polyclinic

MS VICKRAMAN JAYANTHI

Assistant Nurse Clinician, Clementi Polyclinic

MS WANG NA

Advanced Practice Nurse, Jurong Polyclinic

MS ONG LI PING

Senior Staff Nurse, Pioneer Polyclinic

**NUS MASTER OF
NURSING PROGRAMME**

MS SHERMIN CHIENG

Senior Staff Nurse, Bukit Panjang Polyclinic

Best Graduating Student, Class of 2020

Wee Kim Wee Medal

Lee Foundation Medal in Nursing

Libby Tin Peh Medal

Highlights

17 Apr 2019	Queenstown Polyclinic Dental Services began implementing regular recall exercises as part of cross infection control measures.
6 May 2019	Jurong Polyclinic Dental Services began implementing regular recall exercises.
1 Jul 2019	New Resident Continuity Clinic opened at Choa Chu Kang Polyclinic (CCK) to accommodate the increase in number of NUHS Family Medicine (FM) residents enrolled in 2019.
1 Jul 2019	In partnership with NTFGH, Bukit Batok Polyclinic (BBK) and CCK began using the Comprehensive Geriatric Assessment framework to assess frail and pre-frail elderly patients and to draw up appropriate interventions.
28 Sep 2019	NUP Open House was held at CCK in collaboration with e2i and SG Enable, as part of recruitment efforts in setting up the NUP Contact Centre and Bukit Panjang Polyclinic.
Oct-Dec 2019	NUP HR spearheaded the NUHS Personnel File (P-file) Digitalisation Project and digitalised close to 1,000 employee P-files, in an effort to streamline processes and improve efficiencies.
11 Oct 2019	Community outreach programme on infection control and oral health was held at Fei Yue Retirees Centre, Choa Chu Kang.
Nov-Dec 2019	NUP achieved a high response rate of 97%, a sustainable engagement score of 81% and a culture index of 79% for the NUHS 2019 Employee Engagement Survey.
4 Nov 2019	First batch of digital champions were trained to promote the use of digital services amongst patients and caregivers.
20 Nov 2019	All NUHS FM residents enrolled in the NUP MMed FM Bridging Program passed their MMed examinations in 2019.
Dec 2019	NUP achieved an uptake rate of 72.1% for the diabetes mellitus screening bundle in 2019, above the national target of 70% and the institutional improvement target of 70.9%.
31 Dec 2019	NUP achieved an overall score of 96.3% in the 2019 Patient Experience Survey (PES), significantly higher than the national polyclinic score of 92.5%.
3 Feb 2020	NUP Contact Centre began operations.
27 Feb 2020	Research paper, "Facilitators and barriers of managing patients with multiple chronic conditions in the community: A qualitative study" was published in BMC Public Health.
Mar 2020	Through a Value-Driven-Outcome quality improvement project, there was a significant 5% increase in the number of CCK patients with diabetes, as well as a 6% increase in the number of CCK patients with chronic kidney disease, who achieved their blood pressure target.
4 Mar 2020	Research paper, "Covert COVID-19 and false-positive dengue serology in Singapore", was published in The Lancet Infectious Diseases.
31 Mar 2020	18,227 elderly patients from BBK and CCK were screened for frailty in FY2019, using the Rapid Geriatric Assessment App that was co-developed by NUH and NUP.
4 May 2020	iConnect.COVID was rolled out in all NUP polyclinics.
6 May 2020	Research paper, "Roles and challenges of primary care physicians facing a dual outbreak of COVID-19 and dengue in Singapore", was published in Oxford Family Practice.



Although the job is risky, it's never crossed my mind to give up. Learning, especially during a pandemic, may be challenging as we have to adapt and react swiftly. But there is always something new to learn, and that is what keeps me going.

MS KAREN TEO
Patient Care Assistant, Choa Chu Kang Polyclinic

The first day working in the dormitory felt surreal, under the sweltering heat, fogged goggles and fear of improperly adjusting my PPE. But the constant support from the leadership, my peers, and collaborative care with my nurses and swab assistants kept my spirits high.

DR CHUA YING XIAN
Deputy Head and Family Physician,
Associate Consultant, Pioneer Polyclinic



When I do my part well in primary care, my healthcare colleagues in the hospitals are better able to focus on patients who need emergency care. Helping to screen and monitor the health of migrant workers in the dormitories was the least I could do as a healthcare professional.

MS ALARVARASI D/O SAMYNATHAN
Senior Staff Nurse, Clementi Polyclinic



The National University Polyclinics (NUP) was established on 17 March 2017 as the primary care arm of the National University Health System.

As part of the Ministry of Health's restructuring of the public healthcare system in 2017, NUP was formed to provide affordable, accessible, comprehensive and coordinated primary care to the western region of Singapore's population.

NUP polyclinics include

- Bukit Batok Polyclinic
- Bukit Panjang Polyclinic
(upcoming)
- Choa Chu Kang Polyclinic
- Clementi Polyclinic
- Jurong Polyclinic
- Pioneer Polyclinic
- Queenstown Polyclinic
- Tengah Polyclinic
(upcoming)
- Yew Tee Polyclinic
(upcoming)

**NATIONAL UNIVERSITY
POLYCLINICS**
1 Jurong East Street 21
Singapore 609606

nup.com.sg

