

OFFICIAL OPENING OF NG TENG FONG GENERAL HOSPITAL & JURONG COMMUNITY HOSPITAL

TRANSFORMING CARE. BRINGING HEALTH TO EVERY HOME.

SPECIAL



A patient converses with PM Lee and Mr Foo and relates his experience at the Ng Teng Fong General Hospital.

Raising the bar of healthcare

Ng Teng Fong General Hospital and Jurong Community Hospital stand out for their pioneering design and novel approach to integrating acute and community care

IAN DE COTTA

ROOFTOP gardens and verdant greenery on every floor deliver an image of lush living.

But this is the Ng Teng Fong General Hospital (NTFGH), a state-of-the-art medical institution, and adjoining it are the Jurong Community Hospital (JCH) and NTFGH Clinic Tower, equally green.

Built to serve the 900,000 residential and business community in the western catchment area of Singapore, the facilities started operations four months ago and were officially opened by Prime Minister Lee Hsien Loong on Oct 10.

When fully operational, the JurongHealth-managed NTFGH and JCH will add 700 acute and 400 community hospital beds to the national healthcare capacity.

The pioneering design of the hospitals stands out from other typical medical facilities and the concept follows through inside.

Beds, especially in the six and 12-patient wards, are configured to have their own windows.

Natural light and ventilation integrated with external gardens and outdoor terraces are also evident throughout the hospitals.

NTFGH and JCH were built as



From left: Mrs Tan Ching Yee, Permanent Secretary (Health); Mr Cedric Foo (MP for Pioneer SMC); Mr David Ong (MP for Bukit Batok SMC); Dr Chia Shi-Lu, chairman, Government Parliamentary Committee for Health; Mr Chee Hong Tat, Minister of State (Health and Communications & Information); A/ Prof Cheah Wei Keat, chairman, Medical Board, JurongHealth; Ms Ho Ching, chief executive officer, Temasek Holdings; Ms Grace Foo, Minister for Culture, Community and Youth; Mr Gan Kim Yong, Minister for Health; PM Lee Hsien Loong; Mr Lim Yong Wah, Chairman, JurongHealth; Mr Foo Hee Jug, CEO, JurongHealth; Dr Amy Khor, Senior Minister of State (Health and the Environment & Water Resources); Dr Lam Pin Min, Minister of State for Health; Mr Patrick Tay, member of Government Parliamentary Committee for Health; Mr Ang Wei Neng, MP for Jurong GRC; Madam Rahayu Mahzam, MP for Jurong GRC; Dr Tan Wu Meng, MP for Jurong GRC; MG (NS) Ng Chee Khern, Second Permanent Secretary (Health). PHOTOS: JURONGHEALTH

patient-centric hospitals aimed to enhance the medical treatment experience and recovery of those under their care.

Noting that Singapore's healthcare needs are increasing with a growing ageing population, Prime Minister Lee says NTFGH and other hospitals in the pipeline have been planned to meet those demands.

Seamlessly connected

"I am very happy we now have Ng Teng Fong General Hospital and the Jurong Community Hospital built and operating," adds Mr Lee. "And because these are new developments, we had the chance to design the buildings from a fresh start around the patient."

He says that as NTFGH and JCH are connected, medical care is also seamless from the moment a patient is admitted until the time he

recuperates. "In Jurong Community Hospital, we have a mock-up three-room HDB flat, just to help patients ease back into their home environment, while they are recuperating. And they will continue to be looked after by care teams from both sides, the general hospital, if necessary, or the community hospital, which most of the time will be adequate."

JurongHealth chief executive officer Foo Hee Jug says that since opening their doors in June, NTFGH and JCH have cared for over 6,300 inpatients. With 500 out of 700 beds at NTFGH now operational, the acute hospital has an occupancy rate that is as high as 80 per cent, while at JCH, 175 of the 400 beds are available, he adds. More beds will be added progressively to both hospitals as part of their phased opening plan.



Integrated, streamlined

This is the first integrated development of an acute general hospital and a community hospital in Singapore where the two hospitals have been planned, designed and built at the same time to create a seamless experience for patients as they recover, while achieving economies and synergies of co-location. Ms Joanne Yap, chief operating officer, JurongHealth says: "The twin



During the event, the public were given free blood pressure tests and blood tests. PHOTOS: CHONG JUN LIANG

development of NTFGH and JCH has given us the opportunity to streamline operations right from the start. The two hospitals are wired up to leverage on technology for safe patient care, efficiency and productivity.

"Both hospitals ride on the same IT infrastructure and application solutions such as the electronic medical record, digital imaging, medication preparation, dispensing and administration, meal orders and food preparations, visitor management, and integrated logistics support from warehouse to service points, just to name a few."

The streamlined formula is also at the core of emergency care of patients from the point of admission, as the Emergency Department, Operating Theatre and Intensive Care Unit (ICU) are stacked together in a vertical column.

These departments have dedicated trauma lifts that allow patients to be moved swiftly across the delivery of critical care, where time is of the essence.

With an ageing population and the growing prevalence of chronic diseases, we need to do more with the community and grassroots partners, relevant agencies and other intermediate and long-term care providers to help our community stay well and live well.



MR FOO HEE JUG
chief executive officer
JurongHealth

They are also supported by relevant adjacent services like Radiology to minimise the unnecessary movement of transfer and pave the way for swift access to treatment.

The follow-through system that has been built into NTFGH or JCH has also been applied at the NTFGH Clinic Tower.

One bill, one queue

"At our specialist clinics, we have incorporated a 'one bill, one queue system' where a single registration number is given to the patient for the various service points," says Mr Foo.

"We have also placed satellite pharmacies on most clinic floors, which are supported by a central packing area with an efficient pneumatic tube system.

"With this process, medication for patients is prepared and tubed to the respective satellite pharmacies for patients to collect after consultation and to make one payment before heading off."

Despite the aesthetic appeal of NTFGH, JCH and the clinic tower, and the drive to increase capacity and capabilities, Mr Foo says JurongHealth is fully tuned in to doing more to look after the health of the community.

"By the time a resident turns up at the hospital, he is already ill," he says. "With an ageing population and the growing prevalence of chronic diseases, we need to do more with the community and grassroots partners, relevant agencies and other intermediate and long-term care providers to help our community stay well and live well."

"We can help make life, health and healthcare more wonderful by the way we approach health and healthcare."

NTFGH and JCH are a showcase of design excellence at the heart of Jurong East.



Healthcare

Ng Teng Fong General Hospital and Jurong Community Hospital offer holistic approach to healthcare

FRIENDLY
The future of public healthcare is friendlier, more efficient and fuss-free. And it is here. The integrated healthcare hub, Ng Teng Fong General Hospital (NTFGH) in Jurong, comprises three towers – the NTFGH Clinic Tower, the NTFGH Ward Tower and the Jurong Community Hospital – all built and conceptualised as a single integrated concept. But it is style with a substantive purpose: To serve the patient seamlessly, comfortably and efficiently. It is, simply, "FEBulous", if you consider how Friendly, Easy and breezy it will be for patients.

EASY
NTFGH is designed for efficiency and ease of movement. Built from ground up with an adjacent step-down care at Jurong Community Hospital, it serves to ensure swift and smooth transfer of patients across the two hospitals, providing optimal care for patients.

BREEZY
Mr Foo Hee Jug, chief executive officer of JurongHealth, explains: "Planning two new hospitals from ground up has allowed us the opportunity to see, feel and examine the space from the perspectives of our patients and their loved ones. "Within NTFGH and JCH, the infrastructure is designed with our patient journey in mind. The systems and the processes are integrated into the infrastructure space planning as we create a fuss-free environment with patient safety, quality medical care, enhanced comfort and convenience in mind. "Co-locating the acute and the community hospital also allows us to deliver seamless care and better management of patient load with the aim to provide the right care, at the right place, at the right time." Key areas such as wards and clinics are modular to allow for flexible conversion of space should there be a need to expand any outpatient services or ward configuration to meet the changing needs of patients. The combined intensive and high dependency care concept also allows for convertible use of the rooms according to demand.

Among the nation's healthcare firsts: A window for every patient and unique fan-shaped wards. Designed to provide patient privacy, the orientation and the distinctive layout of the ward offers a conducive healing environment, improves ventilation and maximises natural lighting to increase patients' comfort and the rate of recovery. The design also improves infection control and provides a safer workplace for the healthcare team. Patients not only go through treatment with comfort and care, but another significant first: A one-queue and one-bill system at the clinics. For the convenience of patients and their caregivers, every patient will be issued a single queue number for all service points in the entire patient journey for the day, and will only need to make a single payment at the last point of service. Satellite pharmacies at almost every clinic floor, in addition to a larger Outpatient and Retail Pharmacy on Level 2 enable patients and caregivers to collect their medication at the end of their visit.

NG TENG FONG GENERAL HOSPITAL

TOWER A

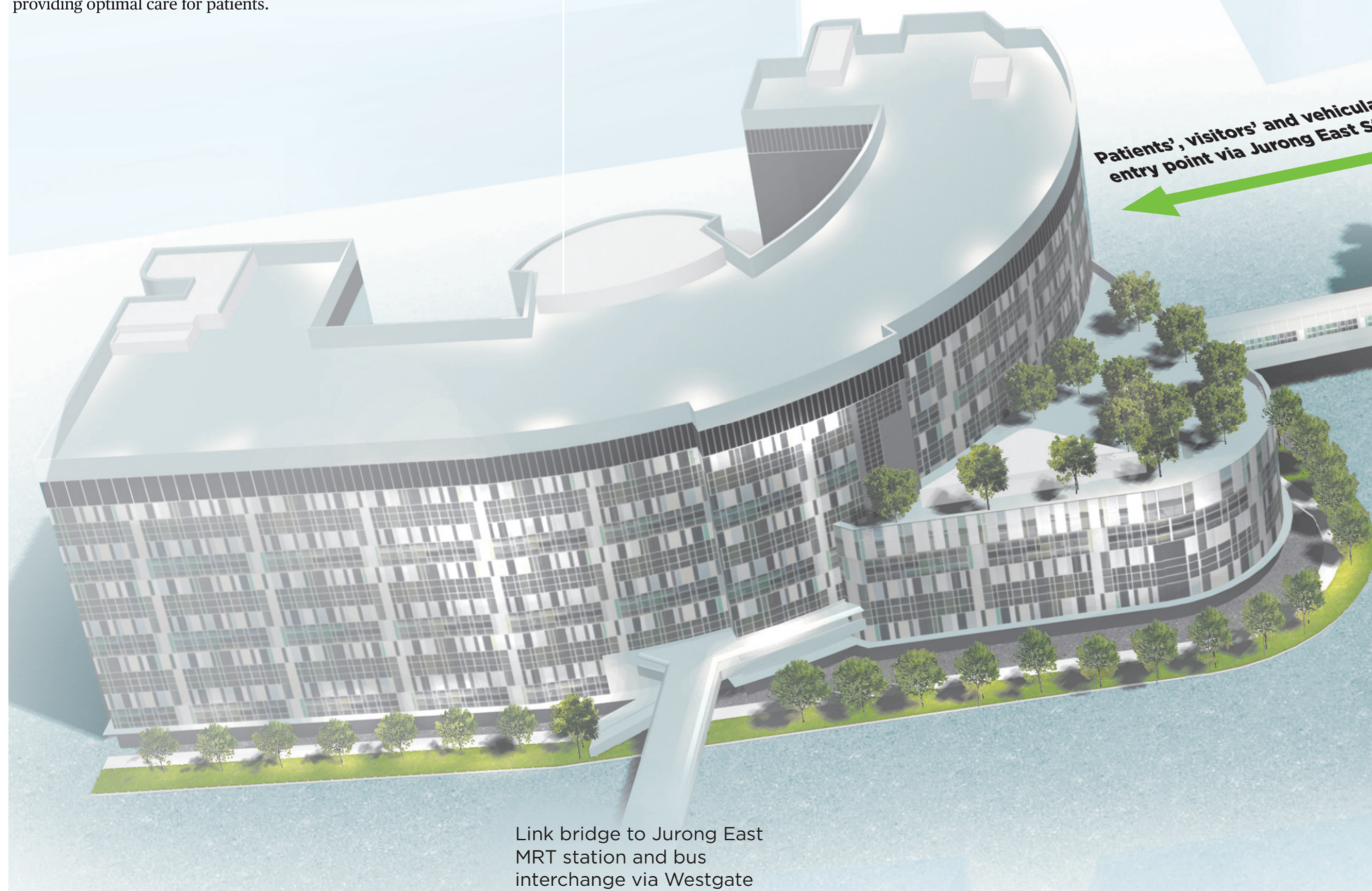
NTFGH Clinics

The Specialist Outpatient Clinics (SOC) at Tower A bring together a diverse multi-disciplinary team of medical experts to manage various medical conditions.

TOWER B

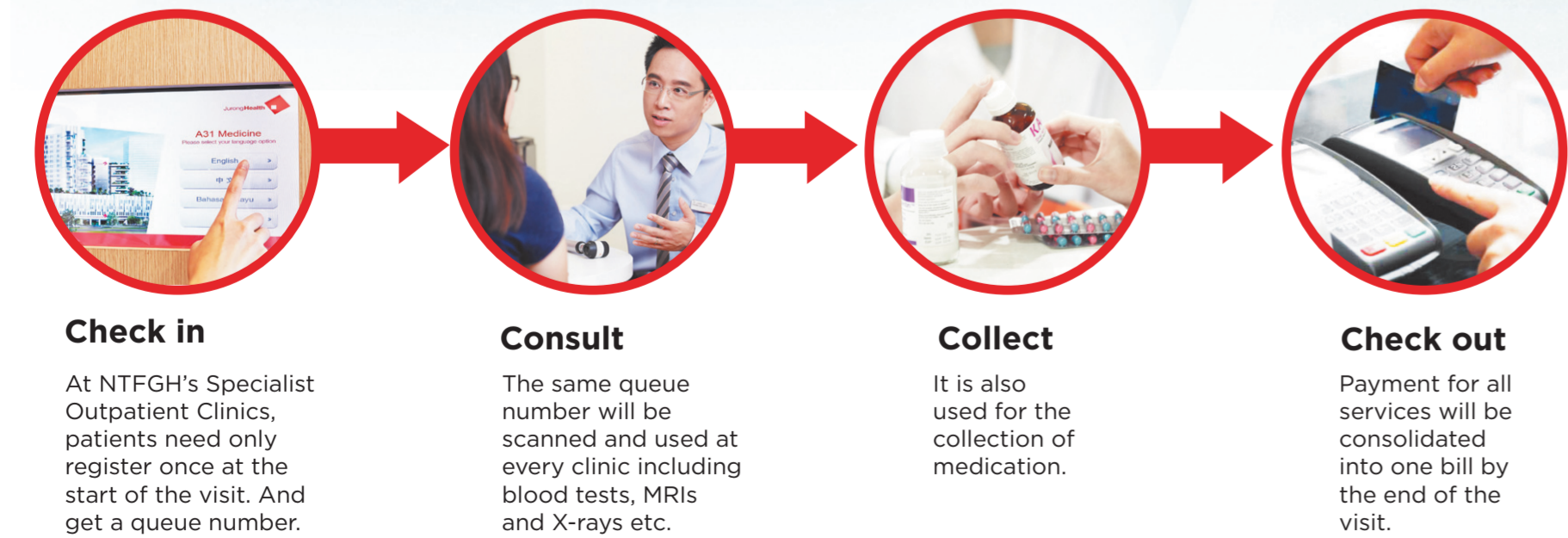
NTFGH Wards

With 700 beds, the ward tower also houses critical care services, including the Emergency Department, Operating Theatres, Intensive Care Unit and other diagnostic and treatment services.



Link bridge to Jurong East MRT station and bus interchange via Westgate

ONE QUEUE, ONE BILL, ONE PATIENT EXPERIENCE



WARDS

WARD DESIGN
The innovative fan shape design of the wards in NTFGH and JCH is unique and revolutionary as it provides a window for every patient, significantly improving ventilation and maximising natural light. These attributes not only enhance the patient's comfort and rate of recovery, they also improve infection control.



The ward design also provides a more spacious and conducive working environment for the medical team.

JURONG COMMUNITY HOSPITAL

TOWER C

Community hospital

Patients who require sub-acute and rehabilitative care can be seamlessly transferred to the community hospital.



OPERATING THEATRES

Level 3
A dedicated complex of 18 operating theatres, equipped with computerised and integrated equipment for smooth, modern and up-to-date surgical management. Using hybrid, 3D and computer precise navigation, state-of-the-art and advanced minimally invasive surgical procedures can be performed.



INTENSIVE CARE UNIT

Level 4
Singapore's first combined Intensive Care Unit (ICU) and High Dependency (HD) Unit streamline care that cuts across the different conventional ICUs (Surgical, Medical, Cardiac and Neurosurgical). This allows patients to be cared for by the same team. The 'window for every patient' concept extends to ICU and HD patients as well, and comes with an outdoor garden so that stable ICU and HD patients can enjoy some fresh air.



EMERGENCY DEPARTMENT (ED)

Level 1
An ambulance-only drop-off from Boon Lay Way allows direct access into the ED for critically ill patients. A separate drop-off driveway for walk-in patients is at the opposite side of the building. The ED is pandemic, mass-casualty and trauma ready with modular trauma suites that can be combined for a larger care team for severe trauma cases.



700 BEDS AT NG TENG FONG GENERAL HOSPITAL

400 BEDS AT JURONG COMMUNITY HOSPITAL

5,000 PAIRS OF CARING HANDS

15 GARDENS

120 ERGONOMICALLY-FRIENDLY CONSULTATION ROOMS

WINDOW FOR EVERY PATIENT

5 LINK BRIDGES

18 OPERATING THEATRES

SATELLITE PHARMACY ON ALMOST EVERY FLOOR AT NTFGH CLINICS

876 CARPARK LOTS

550 SOLAR PANELS

Milestones of Ng Teng Fong General Hospital and Jurong Community Hospital

- 2009**
 - June 11: Jurong Health Services (JurongHealth) is formed and the senior management team start to come together over the next few months.
 - Oct 22: The JurongHealth Board holds its first meeting and the Senior Management team has its first walkabout at the construction site of Ng Teng Fong General Hospital (NTFGH) and Jurong Community Hospital (JCH).
- 2010**
 - Jan 15: Former Health Minister Khaw Boon Wan visits the first life-sized mock-up of a hospital ward at Alexandra Hospital.
 - June 23: JurongHealth launches its vision, mission and values on its first anniversary.
- 2012**
 - Nov 9: The Groundbreaking Ceremony of NTFGH and JCH is held.
- 2013**
 - July 27: The BUILD WITH US! Your Gateway to Health event introduces services and patient-centric features for the community at NTFGH and JCH.
- 2014**
 - Sept 8: A signing ceremony is held for the commencement of the Superstructure phase for JurongHealth's new hospitals in the west.
 - Jan 20: The final cement slab, covered in over 4,000 signatures and well wishes from the community is hoisted to the top of the NTFGH ward tower at the Topping Out Ceremony.
 - Feb 9: JurongHealth obtains the Temporary Occupation Permit for Tower A - NTFGH Clinics.
- 2015**
 - March 12: JurongHealth obtains the Temporary Occupation Permit for Tower B - NTFGH Wards.
 - June 29 and 30: NTFGH opens its doors at 8am on June 30 after the successful transfer of remaining patients from Alexandra Hospital on June 29.
 - June 5: JurongHealth obtains the Temporary Occupation Permit for Tower C - Jurong Community Hospital as well as the two link bridges to Westgate and Big Box.
 - Oct 10: Official opening of NTFGH and JCH.

Getting patients back on their feet

The new Jurong Community Hospital seeks to improve patients' lives through all-encompassing sub-acute and continuing care



Jurong Community Hospital has been built with the aim of prioritising health, safety and convenience when patients move from the adjoining NTFGH. PHOTOS: CHONG JUN LIANG

ESTHER TEO

WITH its glinting, wavy façade and cascading garden terraces, some people may think the new Jurong Community Hospital (JCH) does not look like a typical place of healing.

But its unique structural design is just one of the ways Singapore's very first fully dedicated sub-acute and continuing care specialist hospital is seeking to transform health-care here.

JCH's opening is timely — its medical director, Dr Chua Chi Siong, says that as Singapore's population ages, the profile of illnesses here has changed greatly.

He explains: "Now, there are more chronic diseases and while survival rates are higher due to medical advances, these can still culminate in loss of bodily functions for patients.

"Acute hospitals 'fix' health problems, but post-acute care is required after that to mobilise the patients and help them reintegrate into the community."

Built adjoining the new Ng Teng

Fong General Hospital (NTFGH), this is the first time in Singapore an acute care community hospital and a community hospital have been built concurrently and are co-located.

Sharing laboratory, radiology, dietetic and operational support services, the two hospitals play an intricately collaborative role in patient care — JCH receives patients from NTFGH and helps free up hospital beds there for those who need urgent care. It can also tap on the larger hospital's expertise in specialised areas such as geriatric care.

NTFGH's assistant chief operating officer, service operations, and JCH's director of operations Ng Kian Swan says: "Patients enjoy a smoother and hassle-free experience when they are transferred from one facility to the other."

Real-life situations

Dr Chua says that JCH's ethos focuses on promoting health and disease prevention as well as helping patients achieve the highest quality of life possible.

Acute hospitals 'fix' health problems, but post-acute care is required after that to mobilise the patients and help them reintegrate into the community.

“To that end, the hospital is custom-built to create a healing environment for patients with a suite of rehabilitation options.

Its Mobility Park — the first of its kind in Singapore — is an outdoor rehabilitation area featuring simulated transport facilities such as an MRT train carriage, bus and taxi to teach patients suffering from phys-



By replicating real-life situations in a 3-room flat, the Life Hub allows patients to make an easier transition when they are back home.



ical impairment how to use public transport safely.

"The facility enables patients to break away from the confines of the wards and indoor gymnasium, and to receive outdoor rehabilitation treatment in a more spacious and open garden," says Mr Ng.

JCH's Life Hub is another innovative facility that prepares patients for their transition back into the home environment.

It features a simulated three-room HDB flat with a fully interactive learning environment showcasing best practices in home health and safety, offering solutions for patient and elderly home

care management skills.

To provide a "one-stop solution", the attached retail pharmacy stocks a wide range of assistive devices such as wheelchairs, walking canes, feeding accessories and other useful items, which patients and their families can purchase to install at home.

Next up is a supermarket shelf area to teach patients the types of healthy food to buy, says Mr Ng.

A place of healing

Dr Chua says a lot of thought was put into making JCH as pleasant and safe for patients as possible.

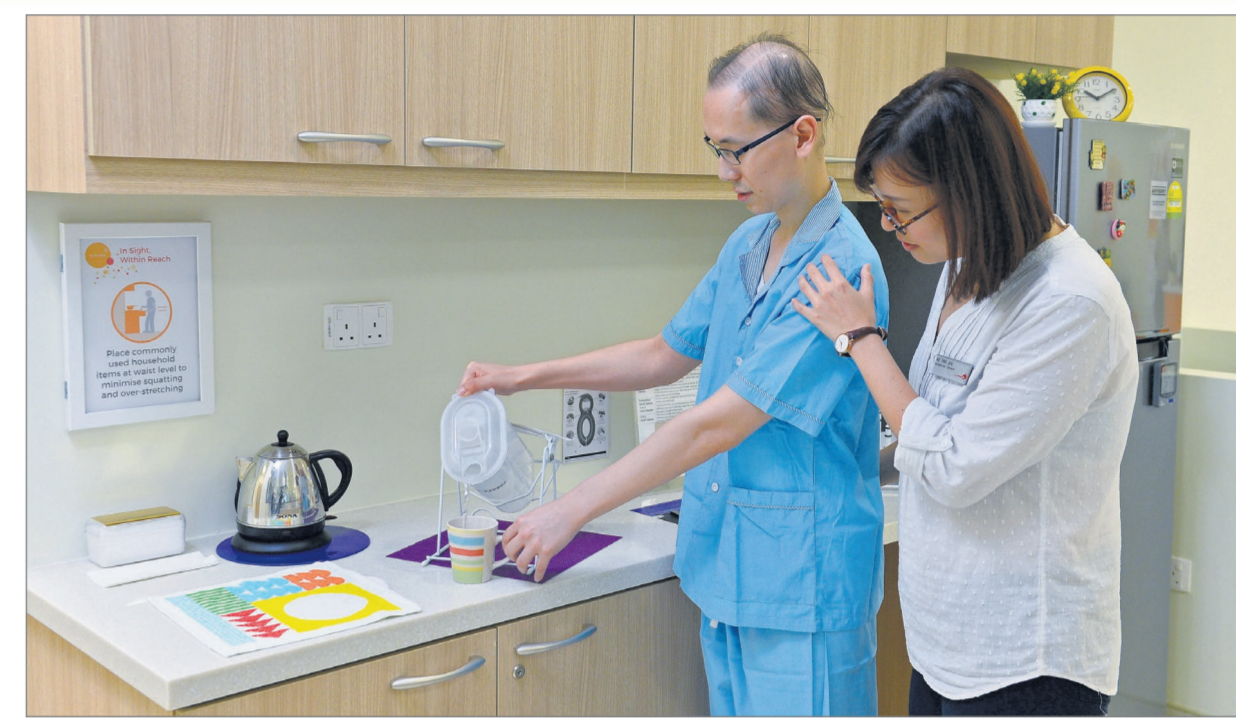
Even with different bed number configurations, the layout of JCH's

wards is a replica of NTFGH's, so patients who transfer over will not be unsettled by the change in surroundings.

Each ward has an attached toilet and nurse's substation located close by so patients can be attended to earlier, preventing falls.

The wards' fan-shaped layout with a window at each bedside promotes ventilation and enhances patients' privacy.

The better light penetration also helps patients recover by improving their mental state and reinforcing their natural circadian rhythm — especially beneficial for dementia patients, says Dr Chua.



Beds in the wards are staggered to control the spread of infections better and a special fan system with a carbon filter pumps in clean air during the haze periods.

As JCH patients tend to stay longer — for up to about 30 days — the hospital also organises activities to keep them occupied, says Mr Ng.

Patients can stroll in the safe confines of a gated "healing" garden on Level 4.

According to Dr Chua, the activity of "wandering" can be very thera-

peutic for dementia patients.

Other fun activities patients can engage in either alone or with their family members include festival celebrations, karaoke, handicraft and gardening classes.

Dr Chua says: "At JCH, it is a different kind of satisfaction than at acute hospitals where things are more 'exciting'.

"Here, as we watch patients' functions improve and they cheer up over time, the therapeutic relationship we share is priceless."

sph newspapers: special

EDITOR Leong Phei Phei
 PROJECT EDITOR Kenneth Goh
 WRITER Esther Teo CONTRIBUTOR Ian De Cotta
 CHIEF SUB-EDITOR Uma Venkatraman
 ART DIRECTOR Chris Tan
 PHOTOGRAPHER Lynette Chia, Vikki Chan
 PHOTOGRAPHER Chong Jun Liang
 ADMIN MANAGER Zain Afridi
 ADVERTISING SALES Nancy Kan (9761-6215), Lina Tan (9620-1355)
 For reproduction of articles or reprints of photographs, call Sph's Information Resource Centre 6396 5506 or 6396 5726. E-mail feedback to sph@sph.com.sg

Congratulations to JurongHealth on the Official Opening of Ng Teng Fong General Hospital & Jurong Community Hospital

PLATINUM SPONSOR

GS E&C

GOLD SPONSORS

ANTECHNIC 美光電器工程私人有限公司 BEE KONG ELECTRICAL ENGINEERING PTE LTD

ZEISS

ISS **NEC** **PERMASTEELISA GROUP** **PHILIPS** **pico**

PARTNER SPONSORS

SHINRYO CORPORATION (SINGAPORE BRANCH) **SIEMENS** **TOSHIBA** Leading Innovation >>>

ESCHMANN **IBR** HealthBiz Resource Pte Ltd

IDSMED **sats** **SurqiPro** **ziehm imaging** dedicated to clinical innovation **Alcatel-Lucent** Enterprise

BENEL **COFELY** **ELECTRO CALORIQUE** **HOSPIMEK** **Johnson & Johnson** SINGAPORE **STORZ** KARL STORZ — ENDOSKOPE **NSK BAUSTOFFE** serving the best **TEAM5** **東美建築私人有限公司** HONG BEE CONSTRUCTION PTE LTD **AM** ALPHAMED

BENAIRE **CANTEL MEDICAL** **FRESENIUS MEDICAL CARE** THE RENAL COMPANY **CONSULTANTS** **OLYMPUS** Your Vision, Our Future **BIBI & BABA** UNIFORMSMART **CONTINENTAL STEEL** **CRIMSIGN** GRAPHICS **東建裝修(新)私人有限公司** DONG JIAN (SINGAPORE) PTE LTD **FLAMELITE (S) PTE LTD**

FOONG AH WENG CONSTRUCTION PTE LTD **FULLSUN MARKETING PTE LTD** **GETZ SINGAPORE** **INSUL-DEK** **Johnson Controls** **Medical Imaging Systems Pte Ltd** "Your Partner In Advanced Technology..." **ncs** making IT happen **NEW ART** INTERIOR PTE LTD **Office Planner Pte Ltd** **oticon** PEOPLE FIRST **Princess' LANDSCAPE & CONSTRUCTION PTE LTD** 太子園巴馬建築私人有限公司 **Richi** **AIR LIQUIDE**

swisslog inspired solutions **SYSTEM2** bespoke modular solutions **Woodlands Prometric** **ZERO SPOT** **ASSA ABLOY** **BAUSCH + LOMB** A Valeant Company **deluge** Fire Protection (S.E.A.) Pte. Ltd. **DESIGN OBJECTIVES** CONSULTANTS **Nikon** **EMC²** **FUJITEC** **GiGATT** International Marketing Pte Ltd **ITS GROUP** **ITS GROUP** **LUCK NEWHOUSE GROUP** **neu** NEUINDUSTRIES **OSK** YOUR TRUSTED PARTNER SINCE 1984 **TCM**

SUPPORTING SPONSORS

First Stewards Pte Ltd **ARCADIS** **CPG** **PMLink** **3M** **AXE BRAND** **BRANDS** **California** **Cetaphil** **Fitness First** **innisfree** **OWL** SINCE 1956 **J S LOW** **STARBUCKS** **Tai Sun**