



Main photo: At the topping-out ceremony on Jan 20 are (from left): A/Prof Cheah Wei Keat (chairman, JurongHealth Medical Board); Mr Lim Yong Wah (chairman, JurongHealth Board); Mr Foo Hee Jug (chief executive officer, JurongHealth); A/Prof Muhammad Faishal Ibrahim (Parliamentary Secretary for Health and Transport); and Health Minister Gan Kim Yong.

Inset: The topping-out slab, bearing over 4,000 signatures and well-wishes from the community, making its way to the top of Ng Teng Fong General Hospital.

PHOTOS: JURONGHEALTH

A new dawn in health care

Residents in the western part of Singapore can look forward to Ng Teng Fong General Hospital's launch this December

Douglas Chew

NG TENG Fong General Hospital (NTFGH) is one step closer to opening its doors to the public. The hospital marked the completion phase of the building's structure with a topping-out ceremony on Jan 20.

Work on the superstructure had been proceeding smoothly since September 2012, and Mr Foo Hee Jug, chief executive officer of Jurong Health Services (JurongHealth), is looking forward to the hospital's opening in December this year. "It has been almost five years since we embarked on a journey — an amazing journey that has seen the growth of JurongHealth since 2009, as well as the transformation of this space," he says.

"Each time I come to the site, my heart skips a beat when I see the structures steadily taking form and shape over the months."

As the public health-care cluster in the west of Singapore, JurongHealth is building and will run the new integrated health-care hub comprising the 700-bed NTFGH and the 400-bed Jurong Community Hospital (JCH). It currently manages Alexandra Hospital and Jurong Medical Centre.

Topping out

Minister for Health Gan Kim Yong graced the event, flagging off the hoisting of the topping-out cement slab to the 16th floor of NTFGH's ward tower.

"We have outlined our capacity expansion plan in our Health Care 2020 master plan. Ng Teng Fong General Hospital is one important part of that Health Care 2020," he says, referring to the master plan unveiled in 2012 to enhance the accessibility, affordability and quality of health care in Singapore.

The one-tonne slab bore over 4,000 signatures and well-wishes from the community, collected in an earlier event at the nearby Jem shopping mall.

There, the public had the opportunity to take fun pictures on top of a 3D anamorphic floor art depicting the future facility by local artist Ben Qwek, learn more about what NTFGH has to offer and be a part of its legacy — as the slab they signed will be permanently cast in the hospital building.



Standing at the link bridge between NTFGH and Devan Nair Institute for Employment and Employability to watch the hoisting of the topping-out slab are (from left): Ms Ellen Lee (Government Parliamentary Committee for Health and MP for Sembawang GRC); A/Prof Muhammad Faishal Ibrahim (Parliamentary Secretary for Health and Transport); Madam Halimah Yacob (Speaker for Parliament and MP for Jurong GRC); Dr Amy Khor (Senior Minister for Health and Manpower, and Mayor for Southwest District); Mr Lim Yong Wah (chairman, JurongHealth Board); Mr Gan Kim Yong (Minister for Health); and Mr Foo Hee Jug (chief executive officer, JurongHealth).

PHOTO: JURONGHEALTH

This cement slab will be replicated and placed in the new hospital as a commemoration of the building's completion milestone.

Members of the press were given a sneak peek of what awaits future patients, in a tour of the building site.

The structures of the Emergency Department, Operating Theatres, Diagnostic Services and Singapore's first combined Intensive Care Unit and High Dependency facility are ready.

The unique fan-shaped ward with a window for every patient will improve ventilation, privacy and comfort, allowing patients to enjoy natural light, greenery and outdoor views, thus creating a conducive healing environment.

Beyond the progress of the infrastructure, JurongHealth has been working hard to implement critical software and streamline patient processes, such as its "One Bill, One Queue, One Patient Experience" at the Specialist Outpatient Clinics.

This hassle-free system will allow patients, with just one queue number and one bill, to receive all the treatment needed even if it involves multiple medical disciplines and tests.

Taking shape

"Planning, designing and building this integrated development from the ground up has given the team many opportunities to review the current workflows, think out of the box, look at current systems and processes critically and pilot new ideas for the new hospitals," says Mr Foo.

Next door and linked by a bridge, JCH's building is also making good progress. The two hospitals will be integrated at the infrastructure, clinical and administrative level, ensuring swift and smooth transfer of patients.

NTFGH will provide acute care while JCH will provide rehabilitative or sub-acute care.

"Co-locating the acute and the community hospital 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," adds Mr Foo.

The surrounding retail developments have been readying for the imminent opening of NTFGH, with Westgate mall



already erecting signs pointing to the hospital in preparation for the future link between the two buildings.

NTFGH is currently linked to the Devan Nair Institute for Employment and Employability, and is within easy reach of Jurong East MRT Station and Bus Interchange.

Moving forward

While JurongHealth is looking forward to serving the needs of the public with this new health-care hub, the regional health system for the west has been taking a holistic approach to the community's health-care needs, forging partnerships with primary, intermediate and long-term health-care providers.

Like-minded general practitioners (GPs) at the Lakeside Family Medicine Clinic are taking care of patients with chronic diseases, while another group of GPs is collaborating with JurongHealth

on its Integrated Care Pathway Programme for Chronic Obstructive Pulmonary Disease patients. In the pipeline are efforts to better engage primary care partners through Integrated Care Pathway Programmes for diabetes, stroke, heart failure and hip fracture, and health promotion through regular community-based screenings in partnership with Southwest Community Development Council, the People's Association and the Health Promotion Board.

PHOTOS: CHONG JUN LIANG

Currently with 3,000 staff, JurongHealth will need another 1,000 staff when both hospitals open.

Actively seeking out those who have the heart and passion for transformative care, Mr Foo says: "It is very important to have the right people who genuinely care for others in health care."

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PHOTOS AND ARTIST IMPRESSION: JURONGHEALTH

Delivering a seamless experience for patients

Building Ng Teng Fong General Hospital and Jurong Community Hospital simultaneously has enabled JurongHealth to plan an integrated journey for patients across the acute and community hospital settings, and to maximise opportunities to share substantial support services, reports **Narendra Aggarwal**

Intensive Care Unit

Ng Teng Fong Intensive Care Unit (ICU) is set to transform the model of intensive care with the formation of the first Intensive Care Medicine Department in Singapore.

The department will helm the first combined ICU and High Dependency Unit, and streamline care that cuts across the different conventional ICUs (Surgical, Medical, Cardiac and Neurosurgical).

The ICU has a dedicated floor with 74 out of 700 beds in the acute hospital for patients in need of high dependency or intensive care. It adopts a multi-professional team approach, involving critical care nurses, res-

piratory therapists, physiotherapists, critical care dietitians and pharmacists, for the delivery of holistic care.

Says Dr Tan Chee Keat, head and senior consultant, Intensive Care Medicine Department: "Our critical care complex houses both ICU and high dependency beds. The modular rooms and co-location of the ICU and high dependency beds allows for convertible flexibility between intensive care or high dependency to reduce the need for physical and care team transfers.

"Intensive care patients whose conditions have improved are seamlessly managed as

high dependency patients in the same room, cared for by the same team."

Besides creating a conducive environment with natural lighting to help intensive care patients during their recovery, he adds that there is also "an integrated outdoor terrace, fitted with the necessary equipment and supply points, for stabilised patients to enjoy a little sunshine and fresh air as part of the rehabilitative care plan".

Says staff nurse Nur Liyana: "Singapore's first combined Intensive Care and High Dependency facility will be managed by one team, in one location, ensuring one standard of care for enhanced patient safety."



Ms Nur Liyana, Staff Nurse

Emergency Department

NTFGH's emergency department is one of the areas designed to integrate functional and spatial relationships to optimise resources, cut waste and promote efficient and effective workflow processes for better and faster patient care.

As one of the most important parts of the general hospital, "the emergency department has been designed to be trauma-ready, more responsive, with streamlined workflows, and at the same time, geriatric-friendly for better patient care," says Dr Gary Choa, consultant, Emergency Medicine Department.

Strategically located at the heart of the hospital, the emergency department is adjacent to various services, such as Operating Theatre, ICU, Radiology (Imaging), inpatient wards and other procedural services, to swiftly transfer patients, when required.

"Patients at the emergency department may need immediate medical intervention and the resources required must be rapidly accessible to meet crisis situations," says Dr Quek Lit Sin, senior consultant and head, Emergency Medicine Department.

"With the ageing population, we have also built in elder-friendly features to provide a conducive environment to reduce the stress level for this group of patients, especially during such emergency situations. With our proximity to Jurong Island, the emergency department is also designed to be trauma-ready to step up to any crisis involving mass casualties or hazardous materials."

The emergency department has many patient-centred features and has been designed for faster turnaround times and configured to address patients' concerns up front. Among other features, its capacity can be increased to prevent bottlenecks, the central registration desk will be replaced with kiosks and greeters, and there will be bedside registration and documentation.

For entry, there will be a dedicated ambulance drop-off from Boon Lay Way and swift access into the core of the emergency department for resuscitation and critically ill patients, as well as a separate dedicated drop-off driveway for walk-in patients.



Dr Gary Choa, Consultant, Emergency Medicine Department

Fan-shaped Wards

A special feature of NTFGH is the revolutionary fan-shaped ward which has been designed with a window for every patient.

This will significantly improve ventilation, privacy and comfort for patients.

In addition to subsidised and private wards, this concept is also being extended to ICU and high dependency beds to promote healing for critically ill patients.

"The window for every patient concept will help our patients heal better in a more comfortable and conducive environment," says Dr Janthorn Pakdeethai, associate consultant, JurongHealth's Department of Medicine.

"Our unique fan-shaped wards will provide greater privacy and comfort for our patients," adds staff nurse Audrey Chia.

The attributes of the fan-shaped ward includes enhancement of patient comfort and recovery as patients will be able to enjoy greater privacy because they can choose to face their own window instead of a fellow patient when they rest.

They can also draw the curtains and yet maintain good ventilation, as well as enjoy the view of the sky gardens located on every floor, creating a conducive and healing environment for both patients and visitors.

Even during wet weather, patients will be able to enjoy the well-ventilated environment with effective use of storm louvres to keep out wind-driven rain.

The wards also have enhanced ventilation and optimising natural light features. For

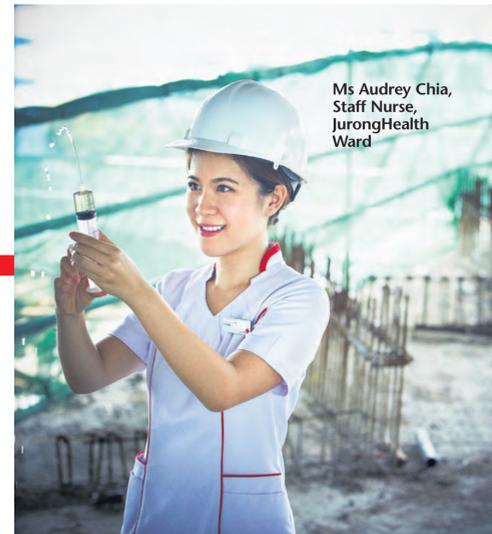
subsidised patients, the east-west orientation of ward towers takes advantage of prevailing wind conditions to promote ventilation.

Patients in private wards will have the choice of an air-conditioned room with individual thermal control or a naturally ventilated environment.

There is also enhanced working environment and infection control for staff.

Without the traditional low headwall shared between two back-to-back beds, the fan-shaped layout of the ward also optimises infection control.

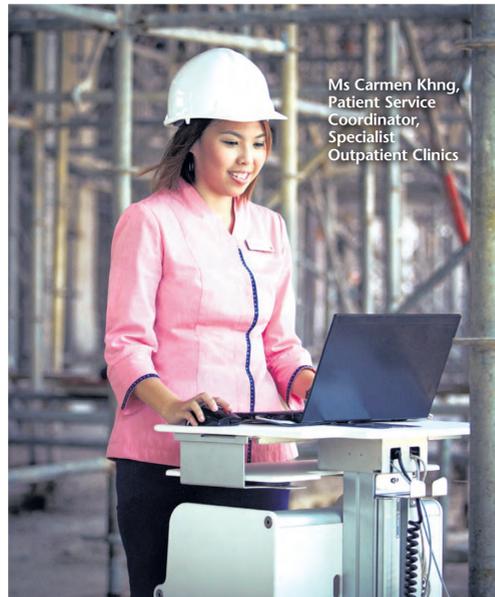
Improved and enlarged space around the beds also allows more manoeuvring room for nurses to conduct procedures and bedside care.



Ms Audrey Chia, Staff Nurse, JurongHealth Ward



Mr Abdul Rashid Jailani (left), Assistant Director of Allied Health, Jurong Community Hospital



Ms Carmen Khng, Patient Service Coordinator, Specialist Outpatient Clinics

Jurong Community Hospital

What is new and special at Jurong Community Hospital (JCH) is that for the first time in Singapore, an acute care hospital and a community hospital are being built at the same time and on the same site.

One of the initiatives to help transform health care is to create an indoor simulated living environment to help patients as they wait to return home to function as independently as before. The unit will have features such as living, kitchen and dining areas, master bedroom with attached bathroom, common bathroom, service yard and storeroom-cum-apartment shelter.

Located next to this flat will be a concept store stocking a wide range of assistive devices such as wheelchairs, walking canes, feeding accessories and other useful items that patients and their relatives can buy.

"Our rehabilitation facilities and services will help our patients integrate back into their daily activities with ease," says Mr Abdul Rashid Jailani, assistant director of allied health, JCH.

Patients will also be able to receive outdoor rehabilitation treatment in a spacious and open garden for training in ambulation and road safety to prepare them for community integration and safe use of the transport system.

Overall, patient care will improve as the co-location of JCH and NTFGH is intended to facilitate better integration of services such as shared laboratory, radiology, dietetic and operational support services. JCH patients will also continue to receive inputs from NTFGH specialists such as geriatricians and rehabilitation medicine physicians, where required.

Also, from the perspective of patient care, there will be a smoother and hassle-free experience for patients transferred from one facility to the other, thus enabling patients to receive care which is efficient, seamless, comfortable and accessible.

Operating Theatres



Dr Harvinder Raj, Consultant, General Surgery

"Our 18 Operating Theatres are built for precise procedures with patient safety and good clinical outcomes in mind," says Dr Harvinder Raj, consultant, General Surgery.

The adoption of a clean core concept is a key feature of the Operating Theatres. Sterile instruments will be at the core of the Operating Theatres — the cleanest part of the complex. As things are used and soiled, they will "flow" outwards and eventually into the sluice room which is located at the periphery of the complex. This system will aim to minimise contact between sterile and soiled instruments.

All Operating Theatres will have lead lining to cater to the higher demand for minimally invasive surgery, which is dependent on image intensifiers. Also, all Operating Theatres will have laminar flow to ensure the air quality at the operating site is clean.

NTFGH will have a first multi-discipline hybrid Operating Theatre for advanced imaging, and two integrated Operating Theatres for less invasive surgery.

A clean core design will reduce cross-contamination of the sterile carts as they are parked in the staging area in preparation for the day's cases. Catering for less invasive surgery also means shorter inpatient stays for patients and less pain.

With an ageing population, the strain on the limited health-care resources means the hospital must be more efficient with what it has, and it can do this by leveraging on technology.

Specialist Outpatient Clinics

Patients can expect a fuss-free experience at NTFGH and JCH. Visits to the hospital that involve multi-disciplines or varied tests will be streamlined on the same day, if possible, thus reducing travel time and cost.

Such a streamlined process will be welcomed by the next-of-kin of patients who need to be accompanied.

At the Specialist Outpatient Clinics, the outpatient experience is supported by an integrated system for better coordination of appointments. The position of patient service coordinator is also created to serve

as a key point of contact for patients to coordinate appointments and direct their inquiries.

"Patients and visitors will feel very comfortable from the minute they enter the Specialist Outpatient Clinics at NTFGH, as the building design is seamlessly integrated with amenities, supporting way-finding system and more, designed for the unique needs of our patients and visitors," says Mr Ng Kian Swan, assistant chief operating officer of service operations.

In fact, the patient service coordinators' mobile numbers and e-mail addresses will

be printed on their name cards so they can be reached for help and support when needed, he adds.

In addition, the consultation rooms come with a dual swivel screen that allows clinicians to retrieve patient information or education resources. This will enable them to engage their patients better as they will both have sight of what is shown or discussed on the screens.

"The 'One Bill, One Queue, One Patient Experience' will make your visits to the Specialist Outpatient Clinics hassle-free," says patient service coordinator Carmen Khng.

Fast facts

Here are some new features to look out for in the upcoming Ng Teng Fong General Hospital and Jurong Community Hospital

There will be **700 beds** at Ng Teng Fong General Hospital and **400 beds** at Jurong Community Hospital.



There are **876 carpark spaces** at both hospitals.



To date, over **200 volunteers** have signed up to guide patients and visitors around the hospital.



There is **1 satellite pharmacy** on every clinic floor of the Clinic Tower.



There will be **15 gardens** including a Community Garden for the public to try their hand at gardening at the 1st floor of the Clinic Tower.



There are **18 operating theatres** that are state of the art.



5 link bridges ensure accessibility internally within both hospitals and externally to surrounding developments such as Westgate mall, Devan Nair Institute of Employment and Employability, and Jurong East MRT Station and Bus Interchange.



There will be **120 ergonomically friendly consultation rooms** with dual swivel screens for better patient-doctor communication.



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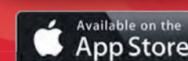
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