



Creating A Better Future: Think Big, Dig Deep, Start Small, Act Fast

Liak Teng Lit

Group Chief Executive Officer

Hong Kong Hospital Authority Convention

3 May 2016

Agenda

- Hong Kong - Singapore Comparison
- Self introduction
- Khoo Teck Puat Hospital experience
- Preparing for the future

Hong Kong - Singapore Comparison

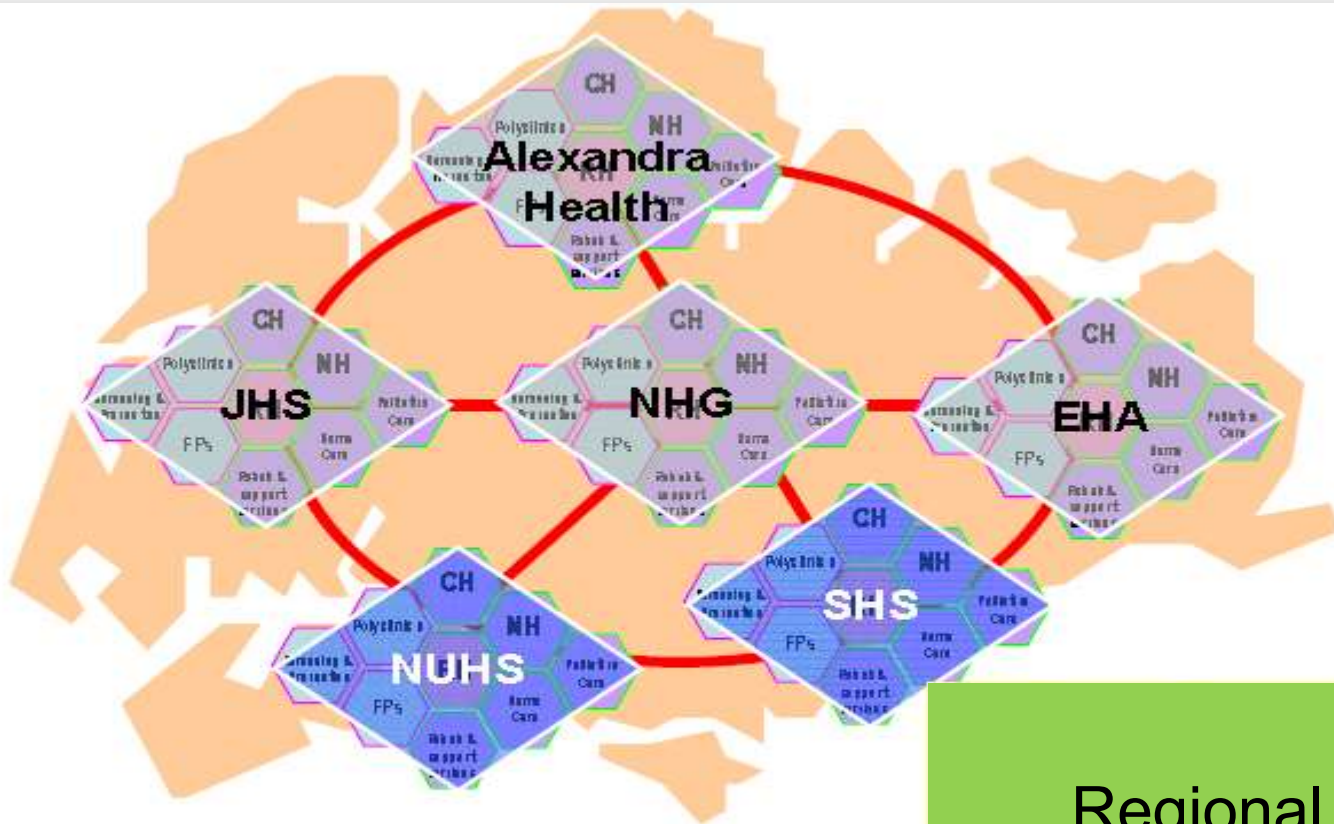
Hong Kong



Singapore



Area (sq km)	1105.7	719.1
Population ('000)	7,324.3	5,535.0
Population growth (%)	0.8	1.2
Median age (yr)	43.6	40.7
Literacy rate (%)	93.5	96.8
GDP per capita (PPP)	57,000	85,700
Life expectancy at birth (yr)	82.86	82.8
Infant mortality rate (per 1000 live-births)	1.3	1.7



Regional Health Systems in Singapore

Components of Alexandra Health System





Pharmaceutical Dept (1977)



Singapore General Hospital
(1978)



National University
Hospital (1985)



Kandang Kerbau
Hospital (1989)



Singapore General
Hospital (1991)



Toa Payoh
Hospital (1992)



Changi General
Hospital (1996)



Alexandra Hospital
(2000)



Khoo Teck Puat Hospital
(2010)


Think **BIG**




Think BIG



Khoo Teck Puan Hospital
Singapore Health



Dig Deep



Khoo Teck Puan Hospital
Singapore Health

Start Small




Start Small



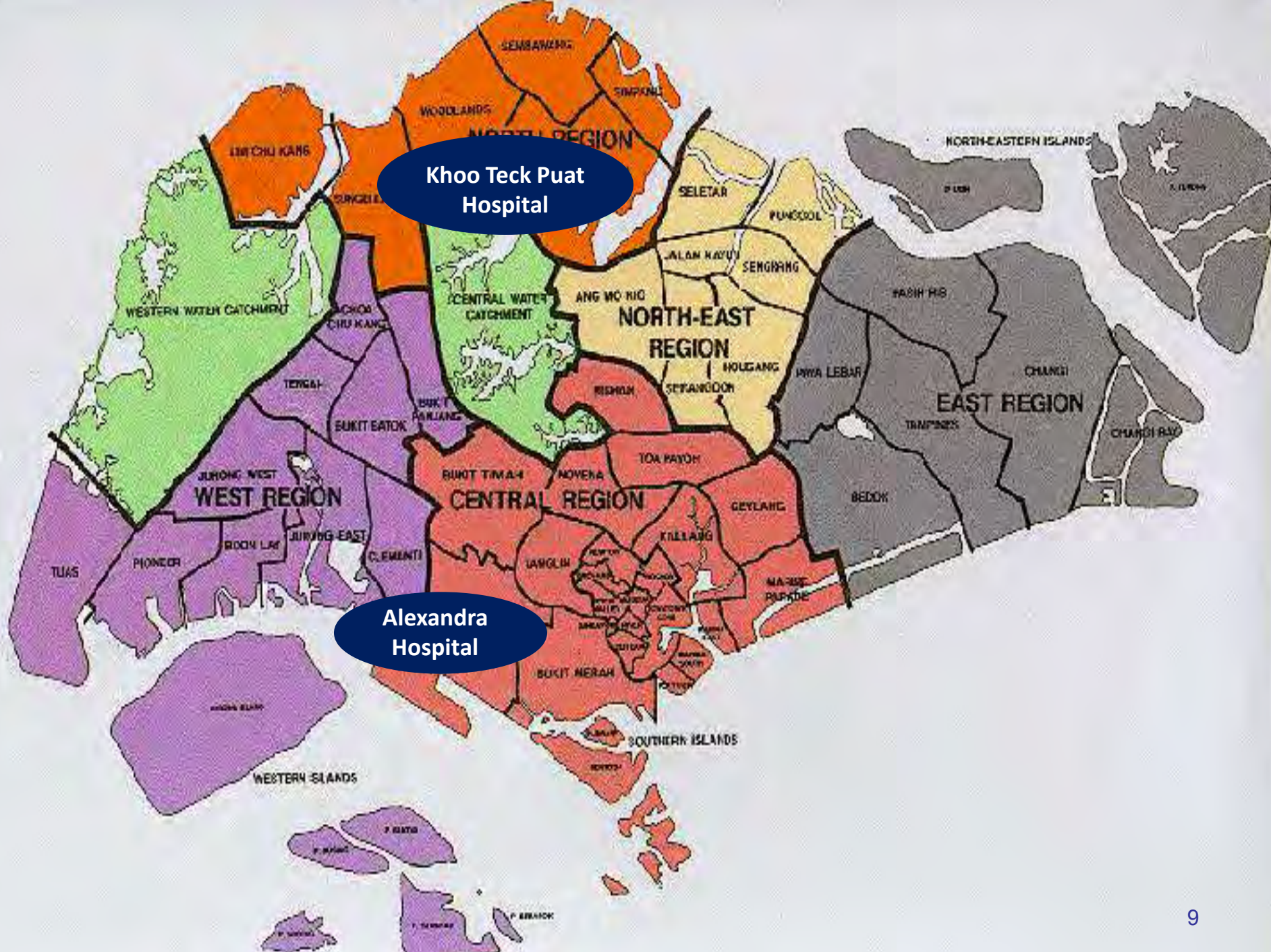
Khoo Teck Puan Hospital
Singapore Health



Act **Fast**



Khoo Teck Puan Hospital
Singapore Health



**Khoo Teck Puat
Hospital**

**Alexandra
Hospital**

“Hassle-Free Hospital”

“I posed the challenge to the AH rebuilding team: build a hospital... designed with patients unambiguously at the centre of the focus, with technology fully exploited for the benefit and convenience of patients.... It will be a hospital which is well linked... and to which the patients can be transferred seamlessly... It will be a hassle-free hospital.”

*- Mr Khaw Boon Wan
Minister for Health
Parliamentary Debate
17 March 2004*



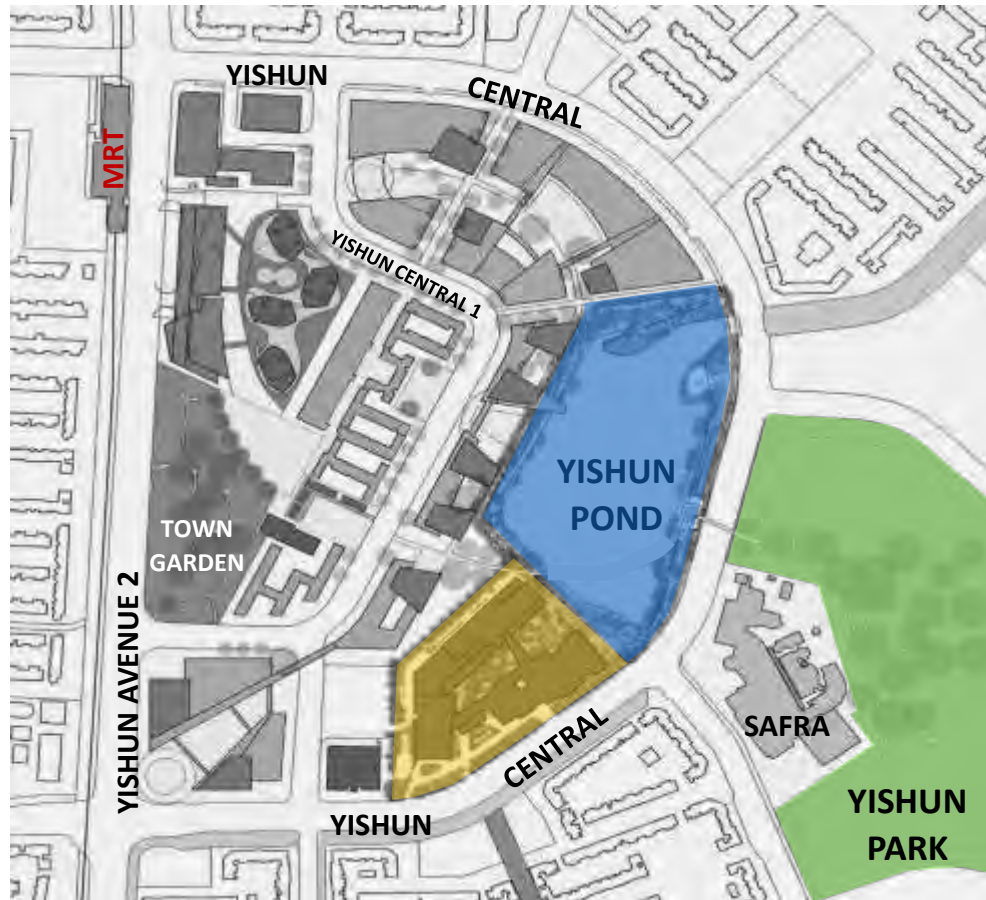
November 2006



Challenges To Architects (2004)

- Award winning reference site
- WOW for patients, visitors and staff
- Criticized by small-minded critics
- Reasonable cost

Design Considerations



- Fully integrated with neighbourhood
- Ease of way finding
- Logical clustering of services
- Economy of scale /Diseconomy of scale
- Tropical design
- Healing environment
- Energy efficiency

Visualization

- What will patients see, feel, smell ... when they enter the hospital 5 years from now ?
- What services, facilities will we offer?
- Who are the 5 key leaders?

Finding The New Breakthrough

Learn from everyone

Follow no one

Look for pattern

Work like hell

Kameda Medical Center



Sportsplex Japan



Oume Keiyu Hospital

El Camino Hospital



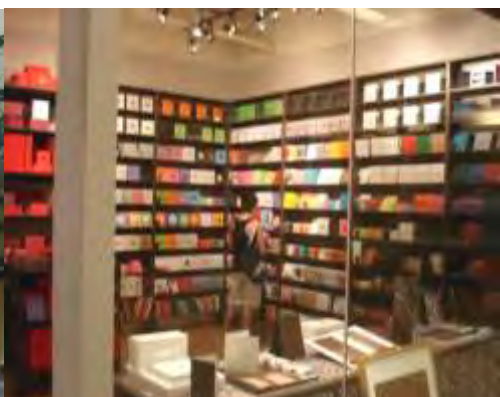
Sutter Health
Sacramento

Latter-Day Saints (LDS) Hospital

CIAS
MEMBER OF THE DNATA GROUP



Star Cruise



Shopping Centres



Directory	
10	Bed 1001 - 1020
9	Bed 901 - 933
8	Bed 801 - 833
7	Bed 701 - 732
6	Bed 601 - 633
5	Bed 501 - 533
4	Bed 401 - 433

Office:
 Medical Social Work Dept
 Clinical Support Services
 Health Promotion Unit



Nursing Homes

Temple





Shangri-La Hotel



Cheonggyecheon Restoration Project, Korea



Singapore Botanic Gardens

Focal Group Discussion



Patients' Definition of A Good Hospital

- Respect patient's dignity
- Provide Information
- Facilitate access to integrated care and services
- Deliver consistent, good quality care and services
- Provide cost effective care





Bringing Quality Healthcare to the North
Construction of Alexandra Hospital @Yishun
Dialogue and Feedback Session
with Members of Parliament and Grassroots Leaders
16 November 2006

“Touching Lives, Pioneering Care, Making A Difference.”

- Dr James Low, Senior Consultant, Geriatric Medicine









Wards



Intensive Care Unit

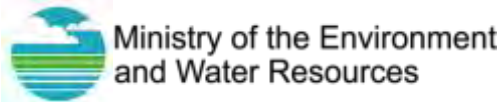


Specialist Outpatient Clinics

Yishun Pond (Before)



Yishun Pond Rejuvenated

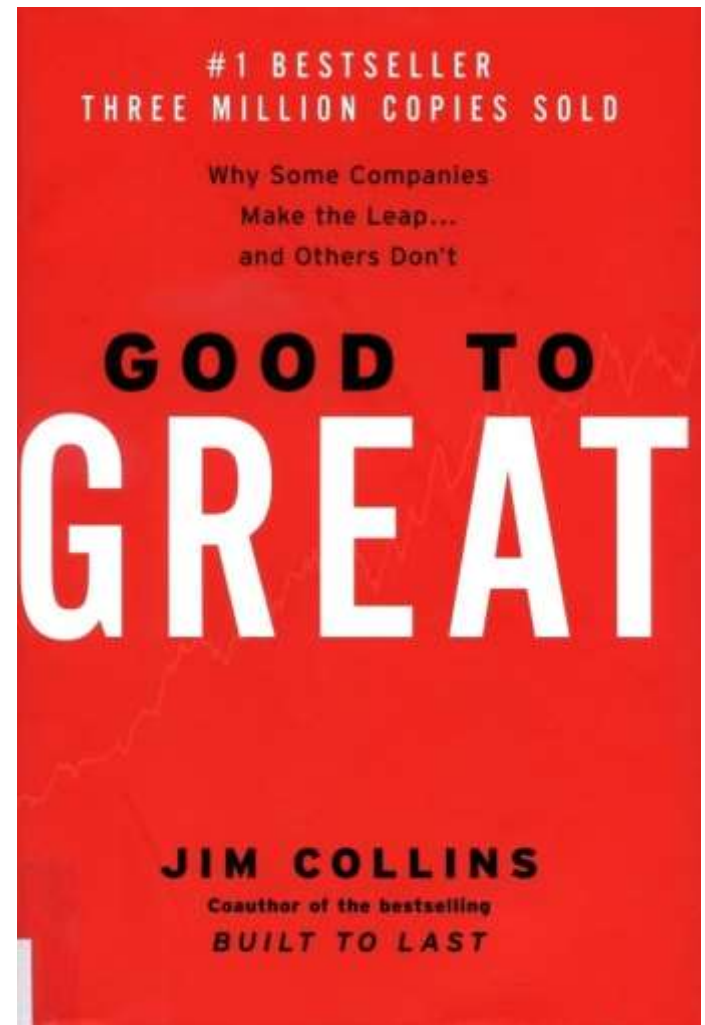


Delivering Quality Care & Services

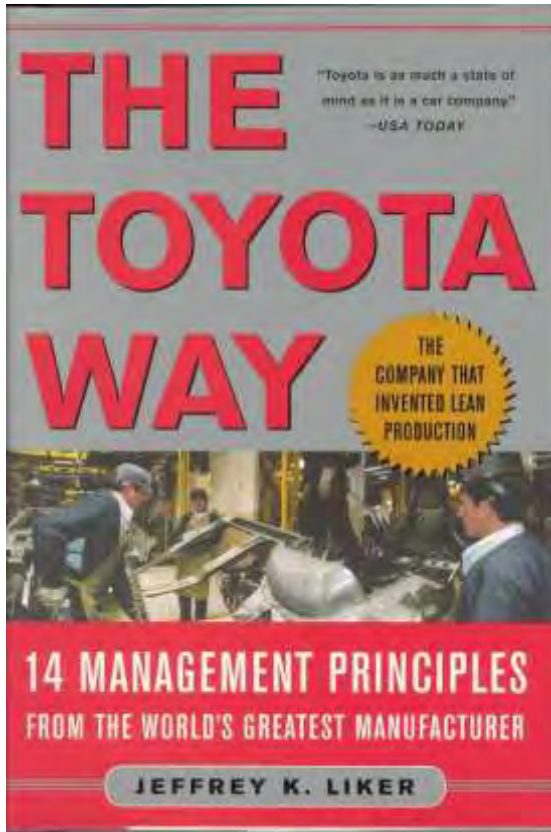
- People
- Flow
- Touch point



First get the right people on the bus (and the wrong people off the bus) and then figure out where to go.



Toyota Production System



- Define value precisely
- Go and see for yourself (Genchi Genbutsu)
- Remove muda (waste)
- Continuous flow process
- Kaizen (continuous incremental improvement) and Kaikaku (radical improvement)
- Pull (rather than push) production
- Aim for perfection

Diagnose, Advise, Treat

Better, Faster, Cheaper & Safer



TREATMENT: In express lane

HE BEST part about being X-rayed and X-rayed only at Alexandra Hospital, 10, Bras Basah Road, is that it's a lot faster. Standing in the express lane, he was able to get the X-ray done and back to his car in about 10 minutes.

But he has a few other things to say about his experience. "While he was being treated, he felt like he was in a VIP lounge."

Putting a senior doctor out of the front of the line is not a new idea, says the Singapore...



How to cut waiting time? See the A&E doctor first

Alexandra Hospital hits on a bright idea by sending emergency patients direct to a senior doctor who can check right away

By SALEMA KHANLIK
THE STRAITS TIMES

THE best person to consult in an emergency is the person in the senior doctor's office, not the receptionist.

That's the idea behind the new express lane at Alexandra Hospital, which allows emergency patients to see a senior doctor first.

At least for a patient to register. If he were there to first, it could be 15 minutes before he sees the doctor.

That number was before the solution. Instead of the patient, who has to wait in a long queue, he can see the senior doctor first.

Another problem was patients' lack of experience. They had to go to the reception desk and wait for a long time to see a senior doctor.

The department has four senior doctors, two experienced medical officers (MOs) and eight resident MOs, so half the doctors lack experience.

The solution? Put the senior doctor out at the front. He would be able to see patients coming in, give a quick diagnosis and refer them to a specialist or the junior doctor to treat them.

When there is a queue for the senior doctor, the junior doctor can see patients who need to be seen first, or the senior doctor can see patients who need to be seen first.

This system is already in use at other hospitals in Singapore and another in Perth, Australia, to great effect.

While the senior doctor can see patients, a lot of other patients in the waiting line of patients are still being treated, and the junior doctor, like the receptionist and waiting, they get to work even faster.

He said a third of the patients do not really need A&E treatment, just a prescription...

that will save them on their hospitalisation.

Putting those patients out of the queue makes it faster for the rest, he added.

It's not just for Lee and Dr Tan, which started at Alexandra, which had 10,000 patients in its A&E last year, but for other hospitals.

Agnes the Professor V. Anantharaman of Singapore General Hospital, which has 10,000 A&E cases last year, is looking forward to seeing the new system.

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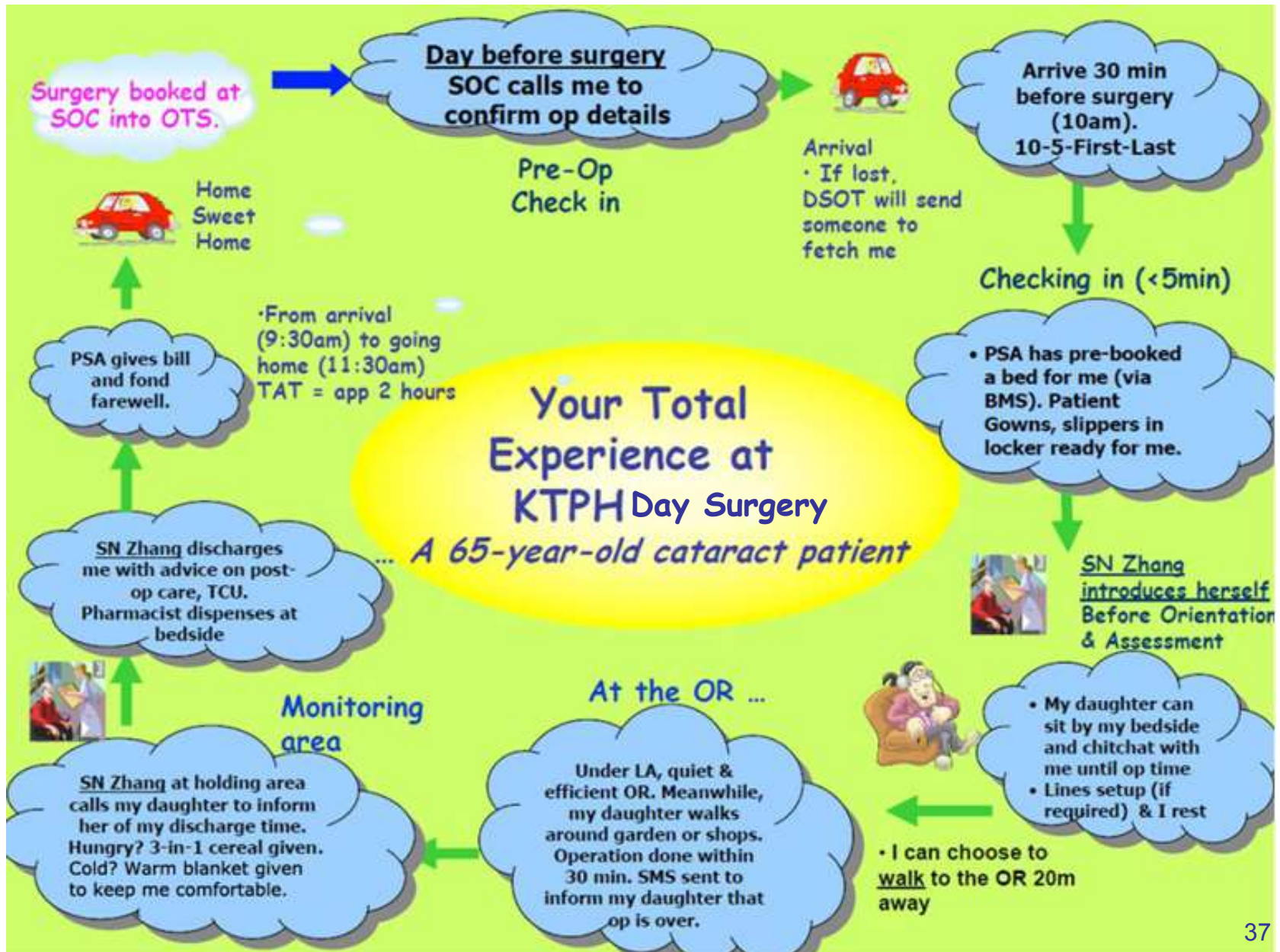
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Toyota Car Bodycare Centre

Managing Touch Points



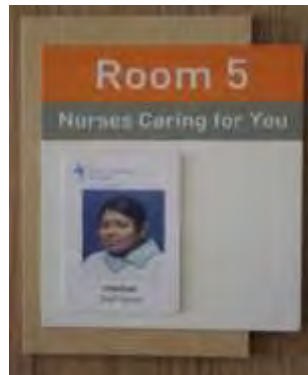
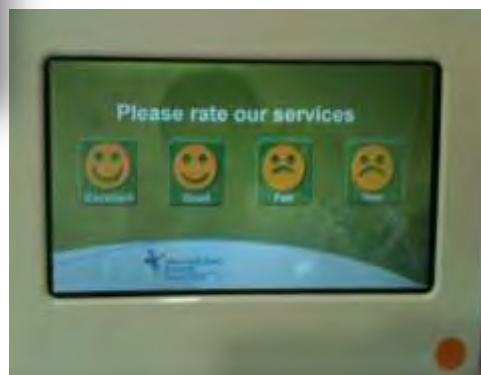
Design Thinking



- Human-centred approach
- Deep dive
- Extreme user
- Divergent → convergent
- Visual thinking
- Rapid prototyping
- Fail early, fail often
- Enough is enough (dateline)

Quality Improvement Is Everyone's Effort

- Individual's initiative (I see, I do)
- Group Initiative (We see, we do)
- Staff Suggestion Scheme (I see, I recommend)
- Quality Circles (Plan, do, check, act)
- Six Sigma (Define, measure, analyse, improve, control)
- Task Forces (Conceptualise new ways of adding values)



Ideas From Staff & Patients

Silent clock



Anti-slam device



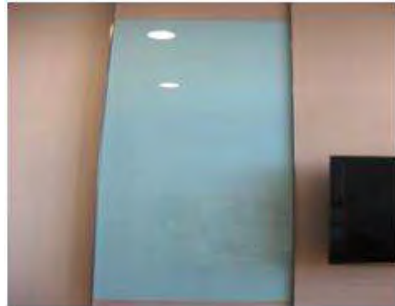
Electronic Patient Locator



Floral Headboard



Message Board



Ergonomic Food Tray



Night Light



A Bias For Action

“Take small steps in rapid succession.”

- *Mr Khaw Boon Wan*

Former Minister for Health

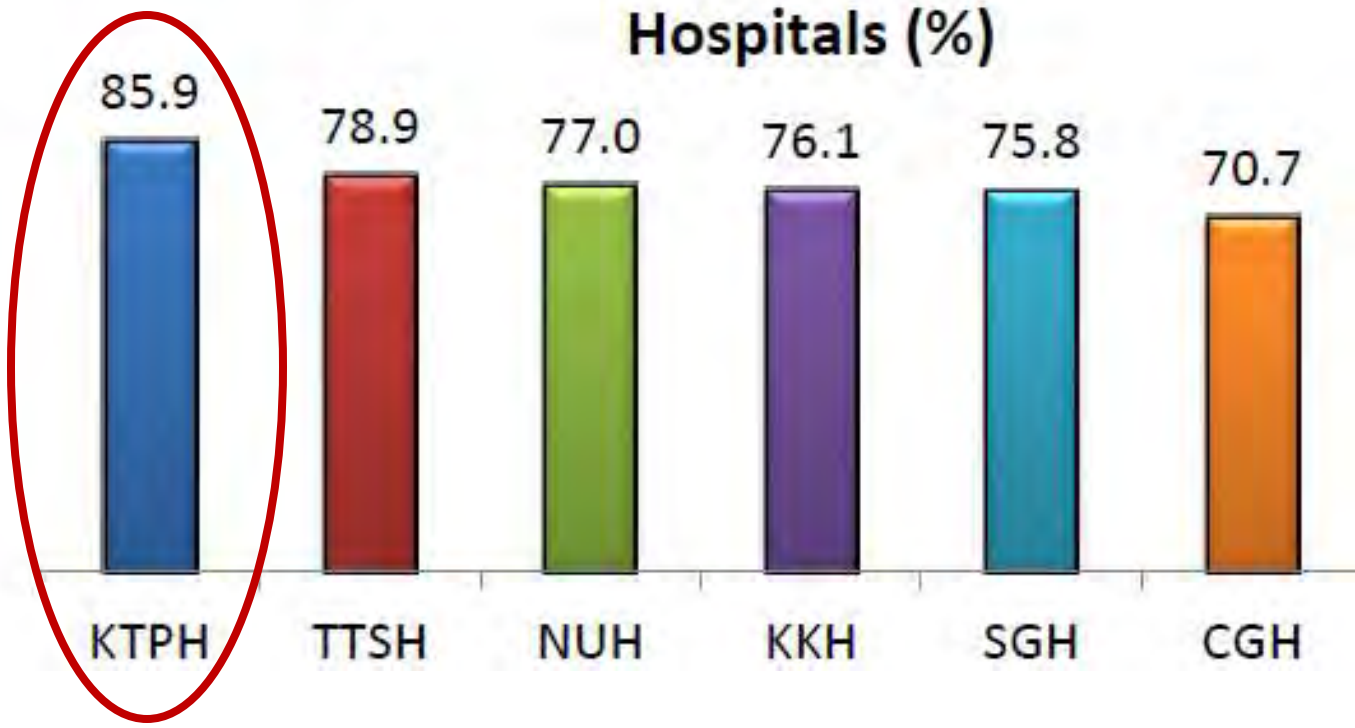
Think, think, do, think, do, think, do
(not paralysis through analysis)

Fast, temperamental horses, not slow docile mule



Ministry of Health – Patient Satisfaction Survey 2014

Overall Satisfaction



Economics 101

- Subsidy (and insurance) lead to over demand
- More subsidy lead to more over demand



Bed crunch @ public hospitals



Economic collapse of nations

KTPH - The Constipated Lobster

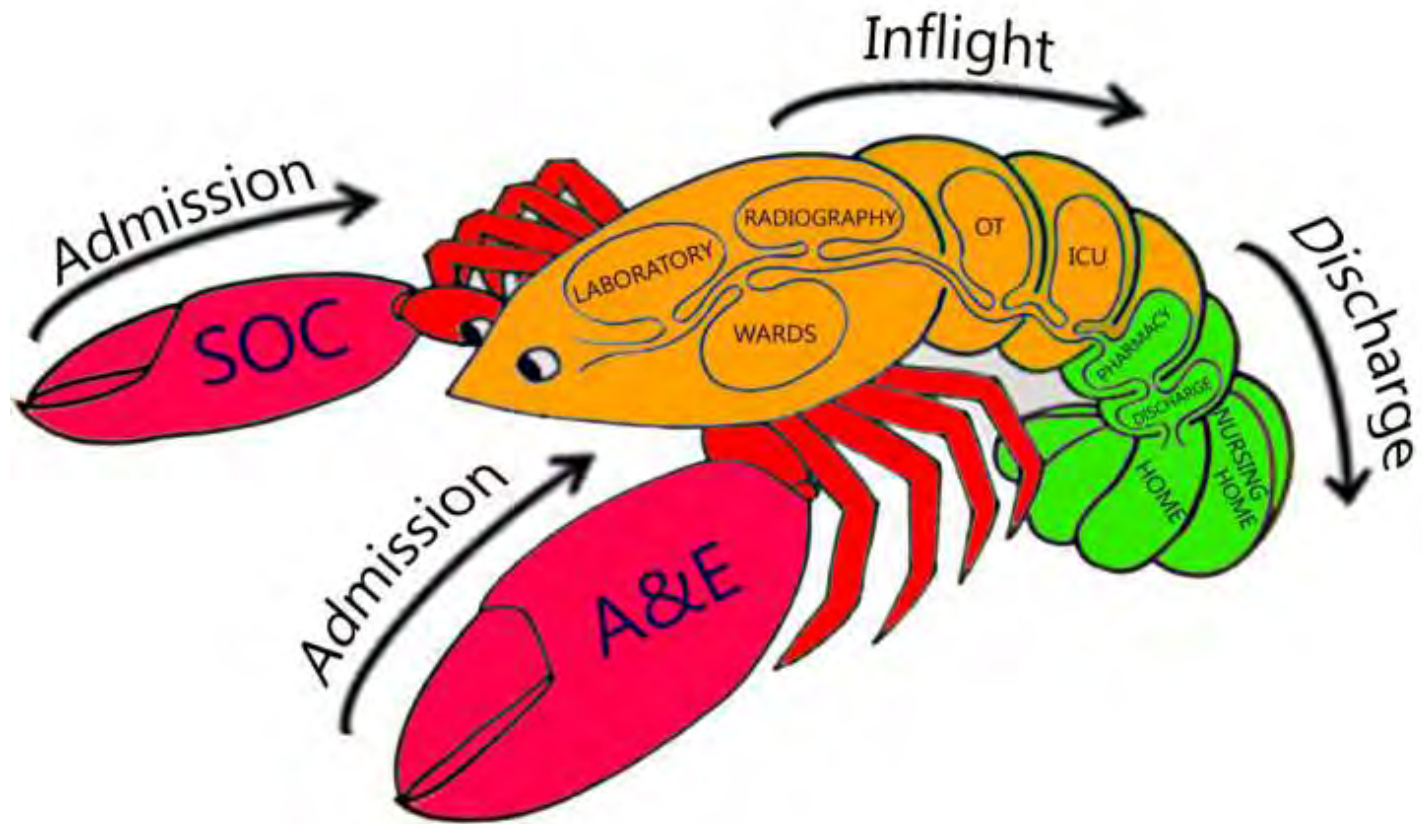
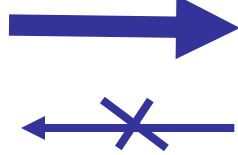
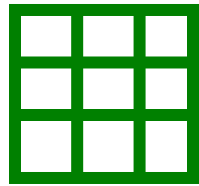




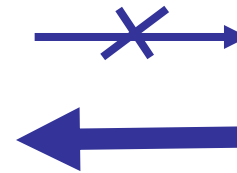
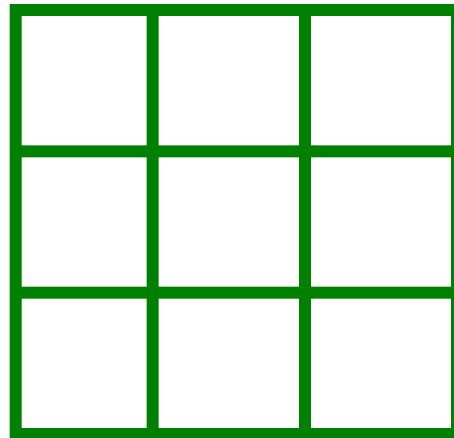
Photo: GH.

Episodic Compartmentalised “Illness” Care of Body Parts

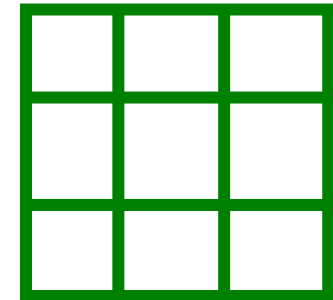
Pre-illness



Illness



Post-illness



- Vaccination
- Public Health Education
- School Health
- Workplace Health Promotion

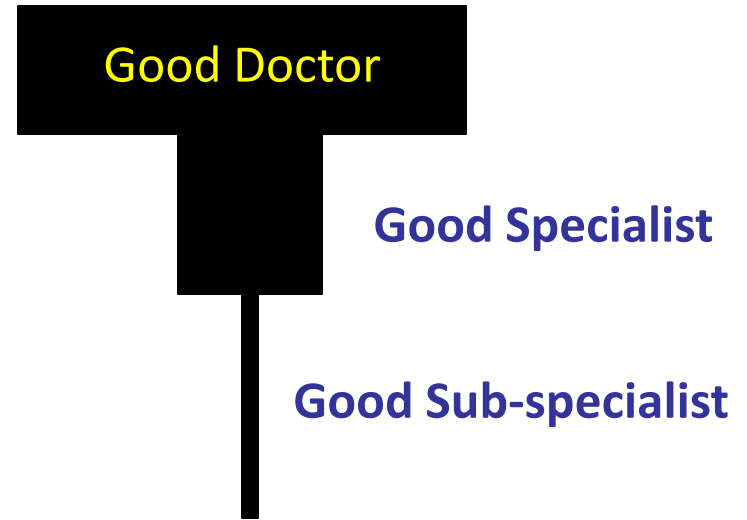
- Clinics, hospitals

- Home Care Services
- Nursing Homes

I-shaped super sub-specialist



T-shaped “real” doctor

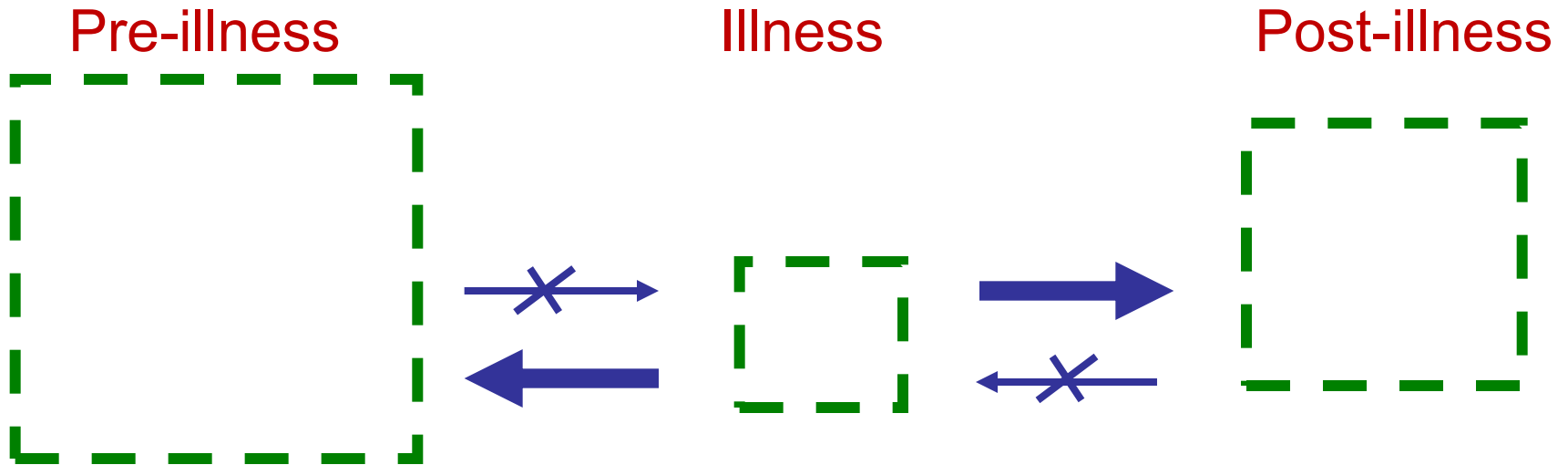


“First be a good doctor, then a good specialist.
Only after that, a good sub-specialist.”

Prof C Rajasoorya
Senior Consultant
Dept of Medicine



Head-to-Toe Lifelong Anticipatory Healthcare of Whole Person



Health Maintenance

- Vaccination
- Public Health Education
- Health Screening
- Workplace Health promotion

Illness Care

- Cost effective, efficient care
 - *systems processes*
 - *clinical pathways*

Health Recovery

- Skills-for-life
- Homecare support
- Follow-up support



Well
Healthy
(≈ 30%)



Well
Unhealthy
(≈ 40%)



Unwell
Unhealthy
(Salvageable)
(25%)



Unwell
Unhealthy
(Hopeless)
(5%)



Frail
and Dying
(1 -2%)

Population Health

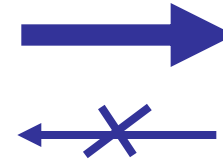
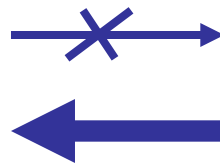
Acute Care and Chronic
Disease Management

Ageing in Place

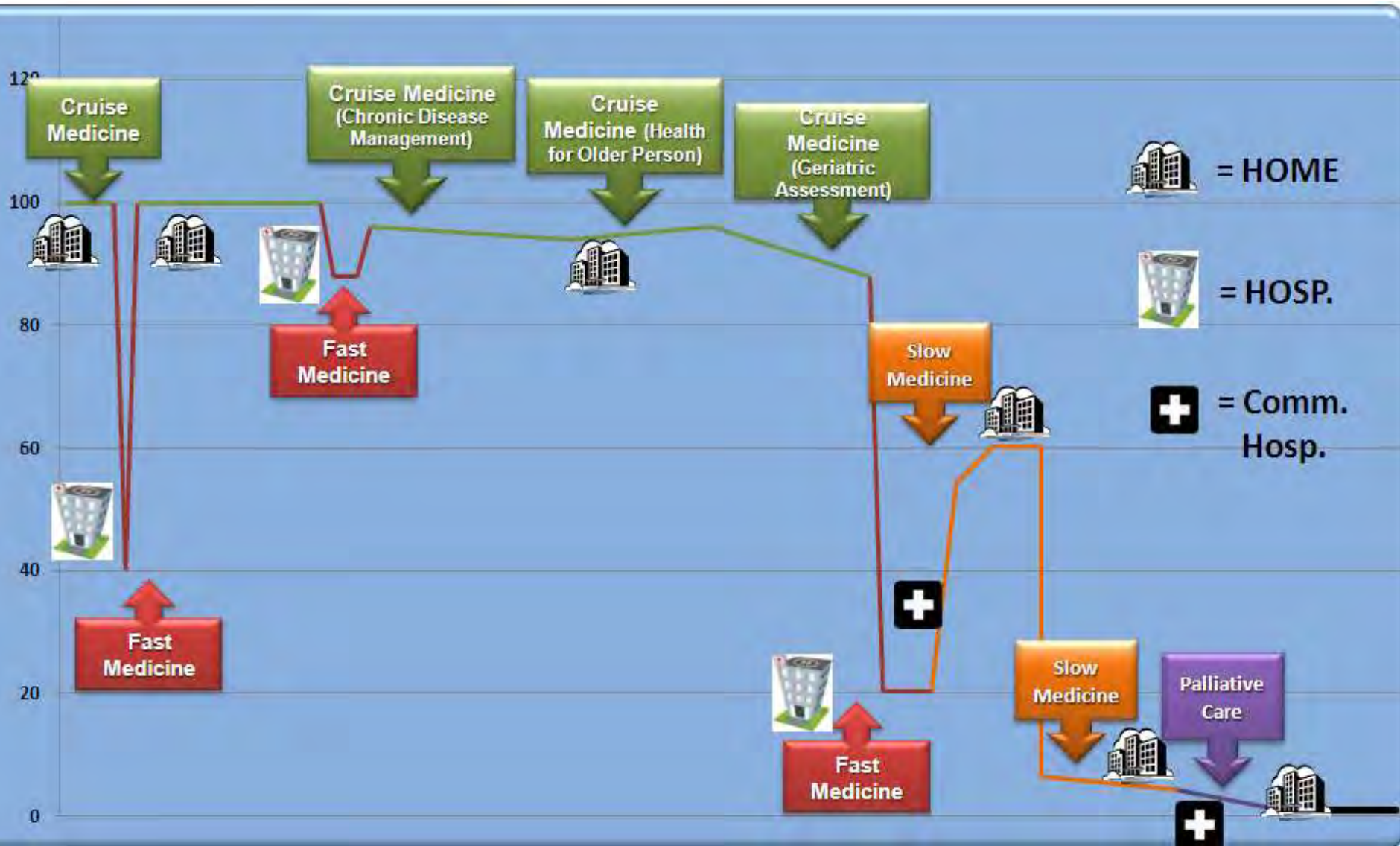
Wellness Centre/Community

Clinic/Hospital

Nursing
Home/Home



Healthcare Needs of Patients



Fast Medicine (Solution Shop)



Cruise Medicine (Value-added Process)



Slow Medicine (Humanistic Medicine)



Khoo Teck Puat Hospital



Admiralty Medical Centre



Yishun Community Hospital



Woodlands General Hospital



Woodlands Community Hospital

Yishun Community Hospital (2015)



Admiralty Medical Centre (2017)

ALL-IN-ONE VILLAGE

This integrated development next to Admiralty MRT combines housing, health-care and care facilities, and shops amid lush greenery in a bid to be a 'modern kampung'.

Studio apartments

- Two blocks with about 100 units, up for sale in the July Build-To-Order exercise
- New features: induction stoves, "resilient flooring" with a parquet design and retractable racks for easier drying of laundry

GREEN FEATURES

Pneumatic waste conveyance system

- Household trash will zoom through vacuum pipes underground into a sealed container which will be collected by trucks

Bioswales

- Rainwater will be filtered through these sloping stretches of plants and soil on the ground floor

Solar panels

- The apartment blocks will be topped with solar panels to power common lighting, for instance

Community park

- Features fruit trees such as rambutan and kaffir lime
- Includes a three-generational playground for both young and old

Community farm

Residents can grow vegetables, herbs and ornamental plants

Eldercare and childcare centre

- Located side by side to promote bonding between generations
- The eldercare centre has space for about 100 seniors, and the childcare centre will offer 200 places

Admiralty Medical Centre



- Spans two levels with an area of 8,500 sq m
- Offers outpatient consultation, day surgery, rehabilitation and diagnosis

Hawker centre

- Will have 50 cooked food stalls and about 900 seats



Community plaza and shops

- An airy space for community activities, from National Day dinners to cultural performances
- Grassroots organisations will provide feedback on what the 20 shops and two or three food and beverage outlets should offer

Supermarket

- After feedback from residents that supermarkets in the area were too small, the new one will cover 1,000 sq m

Basement carpark and bicycle parking

- Two basement floors will house the carpark and a mechanical bicycle parking system which can store 500 bicycles

Source: HDB

Woodlands Integrated Health Campus (2022)



- Acute care general hospital
- Community hospital
- Nursing home

Health

Green



Blue



Brown



Grey



Pink



Black &
White



Population Health



Wellness Centre, Neighbourhood Hub



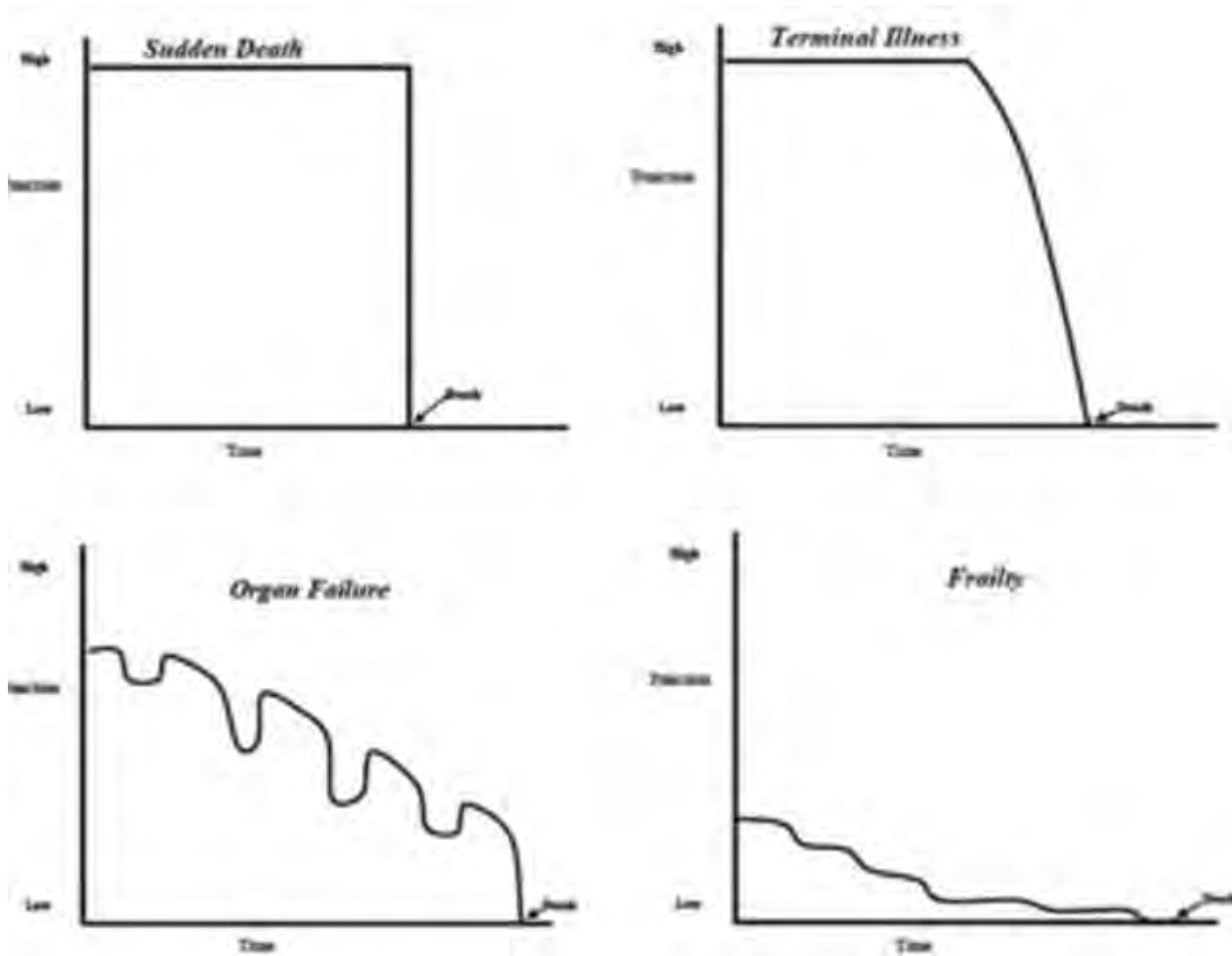
Sembawang Primary Care Centre (2020)

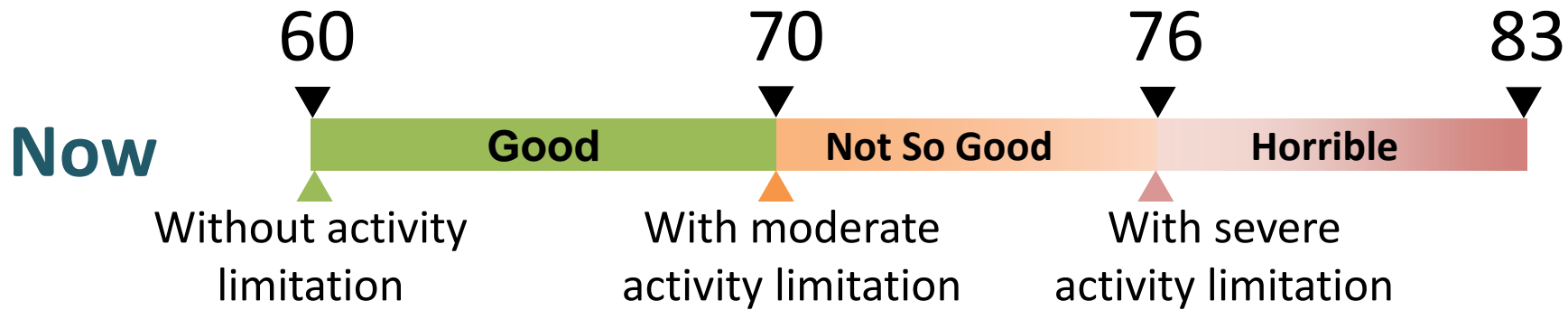


The Looming Silver Tsunami 2030

- 1 in 5 above 65
- 1 in 10 above 80
- 1 in 20 with moderate to severe disabilities
- > 30% of households with single individual

The Four Ways We Die





“Perfect” Hospital vs “Imperfect” Home



Can he cope well with the care of his wife?



The Third Door



BY SALMA KHALIK, HEALTH CORRESPONDENT

PUBLIC hospitals have a new brief to follow Khoo Teck Puat Hospital in Yishun is leading the change of tack for public hospitals beyond their traditional role of treating patients to public education, health screenings and preventive medicine designed to help people manage chronic diseases.

They will also help the ready-stricken with diabetes, cholesterol and obesity, and their lifestyles so they can live up in hospital with the effects of these conditions.

The change, announced by Health Minister Khaw on his blog yesterday, is a "paradigm shift" in health care and a new model for the delivery of health care.

KTPH, Singapore's largest hospital, yesterday led the signing of an agreement with Sembawang Shipyard workers – in both shipbuilding and health. So besides providing medical services when injured on the job, it will also help those with long-term health problems through health screenings and help them manage their illness.

Mr Khaw, who made his first appearance at the hospital signing ceremony yesterday, explained that a hospital's primary role does not start when a patient enters the facility but when he is discharged.

Hospitals' new focus: KEEPING PATIENTS OUT

Khoo Teck Puat Hospital inks deal to screen shipyard workers and keep them healthy

Now, Mr Veerasamy, 84, can get help for his...

medicine confusion

Some hospitals have set up medication review services for patients that have questions on medication and dosage. JOAN CHEW reports

Mr Rajan Veerasamy, 84, suffers from several medical conditions, including diabetes and depression. He has to take six different types of medicines, but he does not know when or how he should be taking them.

He says with such a large number of medicines, it is also difficult keeping track of his medication.

There are three hospitals – Tan Tock Seng Hospital (TTS), and Singapore General Hospital – which he visits to manage his diabetes mellitus, kidney stone infection and high cholesterol.

He says he cannot read the English medication labels and even though there are medical doctors at these clinics, he does not want to disturb the regular patients. He sometimes forgets to take his pills.

Speaking through a video message from the Tan Tock Seng Medical Centre...



Mr Rajan Veerasamy, 84, suffers from several medical conditions, and has to take the different types of medicines. He says that with his daily doses, he often gets confused.



Teleconsultation

Enabling Ageing and Dying In Place (for Frail individuals in the community)

- Support caring of bedridden patients in their own homes
- Neighbourhood nurse service
- Lay carers service
- Home nursing service
- Virtual specialist clinic
- Other commercial / VWO partners



Care Setting For The Frail and Dying



General Hospital



Rehab Hospital



Hospice/Palliative Care



Nursing Homes



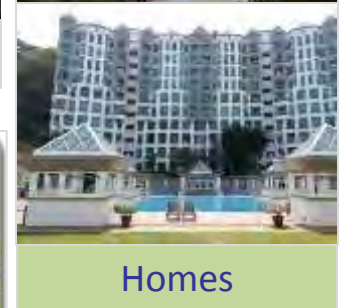
Assisted Living



Group Home



Destitute Home



Homes

FTE/Patient :

6

2.2

0.45

0.1

0.02

End of Life Discussion

How Doctors Die

It's Not Like the Rest of Us, But It Should Be

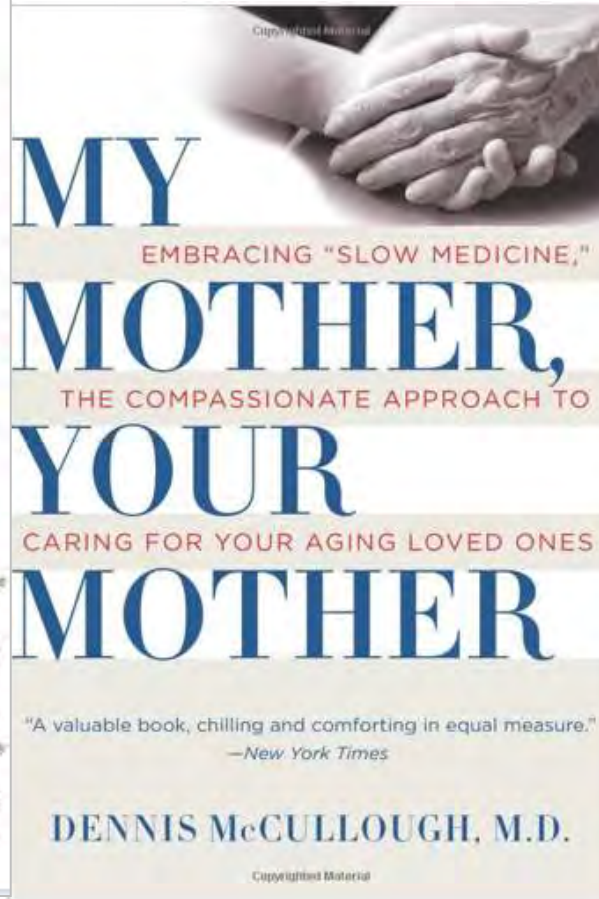


by Ken Murray, November 30, 2011

Years ago, Charlie, a highly respected orthopedist and a mentor of mine, found a lump in his stomach. He had a surgeon explore the area, and the diagnosis was pancreatic cancer. This surgeon was one of the best in the country. He had even invented a new procedure for this exact cancer that could triple a patient's five-year survival odds—from 5 percent to 15 percent—albeit with a poor quality of life. Charlie was uninvested. He went home the next day, closed his practice, and never set foot in a hospital again. He focused on spending time with family and feeling as good as possible. Several months later, he died at home. He got no chemotherapy, radiation, or surgical treatment. Medicare didn't spend much on him.

It's not a frequent topic of discussion, but doctors die, too. And they don't die like the rest of us. What's unusual about them is not how much treatment they get compared to most Americans, but how little. For all the time they spend tending to the deaths of others, they tend to be fairly serene when faced with death themselves. They know exactly what is going to happen, they know the choices, and they generally have access to any sort of medical care they could want. But they go gently.

Of course, doctors don't want to die; they want to live. But they know enough about modern medicine to know its limits. And they know enough about death to know what all people fear most: dying in pain, and dying alone. They've talked about this with their families. They want to be sure, when the time comes, that no heroic measures will happen—that they will never experience, during their last moments on earth, someone breaking their ribs in an attempt to resuscitate them with CPR (that's what happens if CPR is done right).



#1 NEW YORK TIMES BESTSELLER

Atul Gawande

Being Mortal

Medicine and What Matters in the End

"A valuable book, chilling and comforting in equal measure."

—*New York Times*

DENNIS McCULLOUGH, M.D.

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Think **BIG**




Think BIG



Khoo Teck Puan Hospital
Singapore Health



Dig Deep



Khoo Teck Puan Hospital
Singapore Health


Start Small



Start Small



Khoo Teck Puan Hospital
Singapore Health



Act **Fast**



Khoo Teck Puan Hospital
Singapore Health

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