

Pandemic Paradigm Shifts Population Health



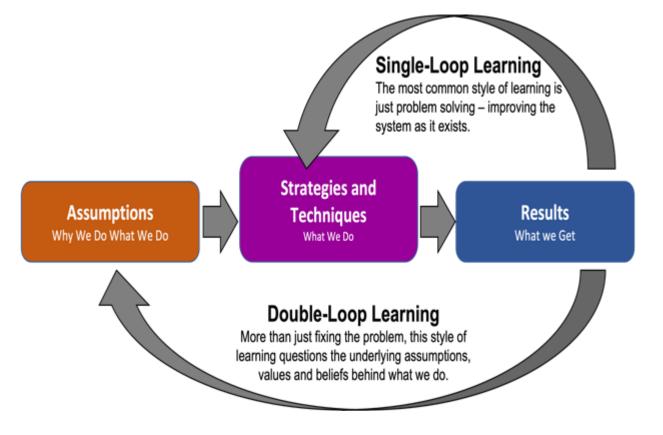


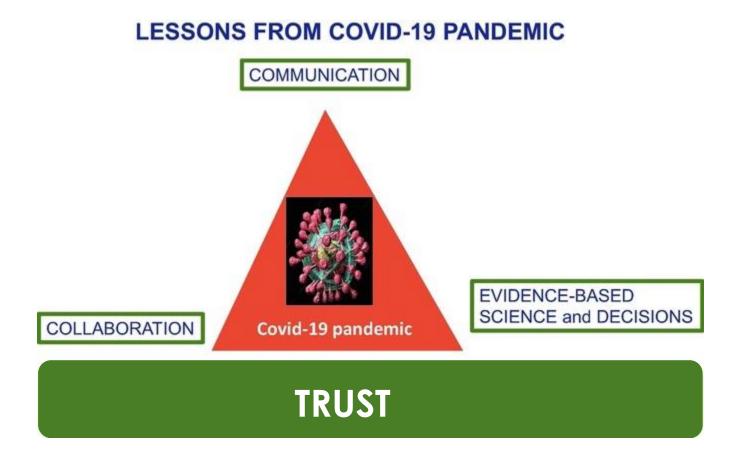
Agenda

Pandemic - lessons for Population Health

Paradigm Shifts – reframing for Population Health

Population Health – SingHealth's approach

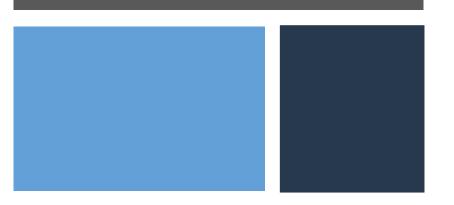




Lessons from COVID-19: How human behaviour may influence the science Antonio Ceriello

Diabetes Research and Clinical Practice 2020 169DOI: (10.1016/j.diabres.2020.108491)

Pandemic -Lessons for Population Health

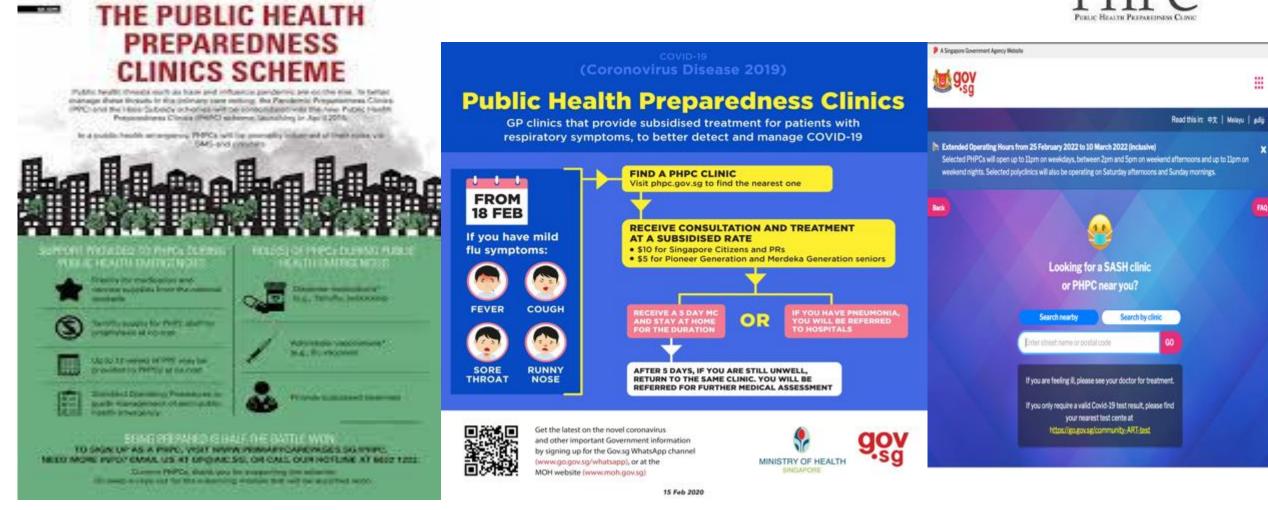


First Line of Defense



Anchoring Care in the Community





Restricted, Sensitive (Normal)

Unsung Heroes, Unseen Costs



Operations Centre





For me, pressure is good. Pressure makes diamonds. In these challenging times, it brings out the best in people as we have evidently seen from the resilience of our CGH colleagues.

Looking at the current situation, it enhances my conviction that CGH is the place for me to be. The Emergency Planning team members support one another's well-being, provide goodies and encouraging post-it notes for the team taking over the next shift in the Operations Centre. The level of professionalism, perserverance and the drive of our colleagues has left a positive impact on me and I am assured that I will always be safe.

ohamed Sidiqie Bin Mohd Aiks anager, Emergency Planning angi General Hospital

CNA Insider

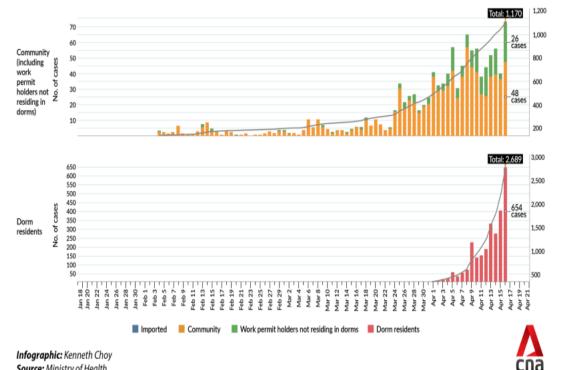
Why some healthcare workers in Singapore's hospitals have quit — and others soldier on

28 Apr 2022 06:15AM (Updated: 28 Apr 2022 08:13PM)



Living Environment

Two weeks and a 70-fold increase: A look into the COVID-19 outbreak in Singapore's foreign worker dormitories 17 Apr 2020

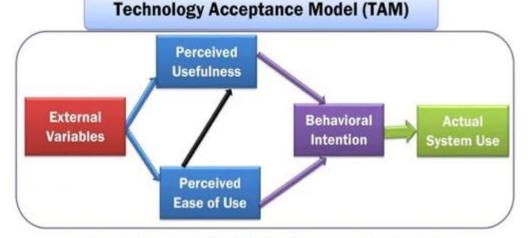




Opportunity out of Adversity



"I'm 'Necessity' and this is my son, 'Invention'."



Final Version of Technology Acceptance Model By Venkatesh and Davis (1996)



Brief

Covid-19 Accelerates the Adoption of Telemedicine in Asia-Pacific Countries

The pandemic has removed barriers to digital health tools and changed patient behavior.

By Vikram Kapur and Alex Boulton

April 27, 2020 • 7 min read



Workforce Augmentation

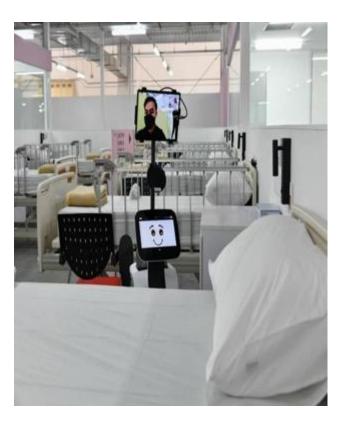
...



Changi General Hospital (CGH) 16 Apr at 20:00 • ⊘

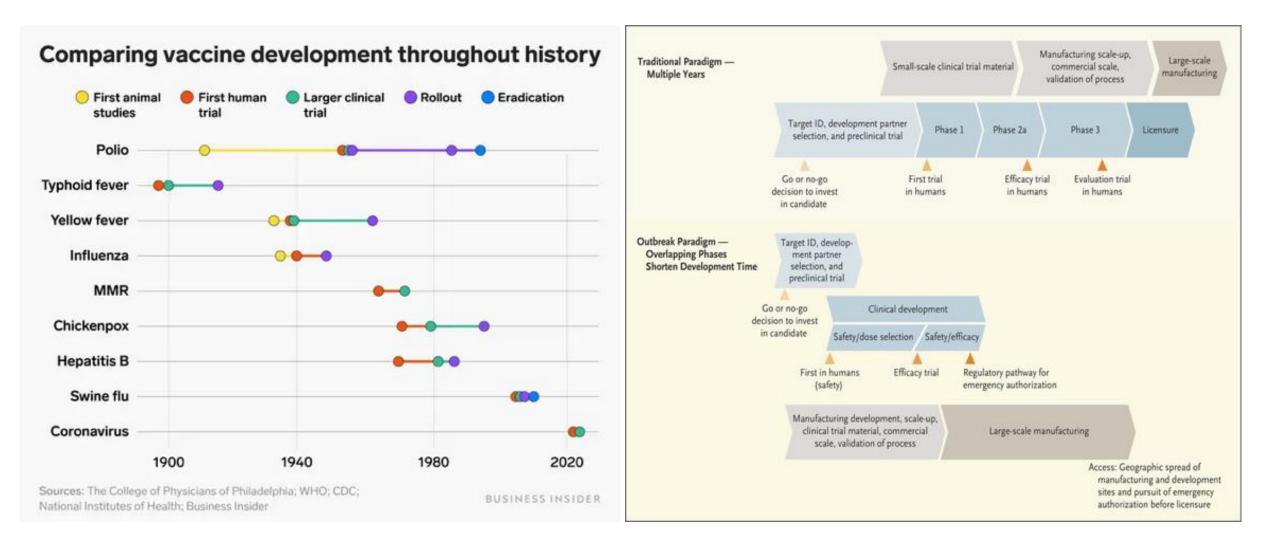
CGH welcomed 70 cabin crew members from Singapore Airlines, SilkAir and FlyScoot who joined us as Patient Care Ambassadors in support of our fight aga... See more



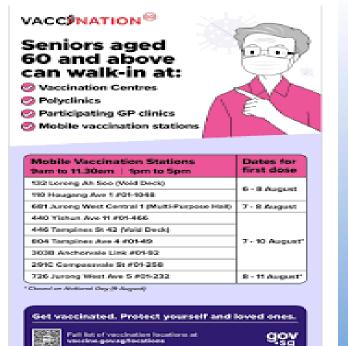




Government, Academia and Industry Collaboration



Last mile delivery





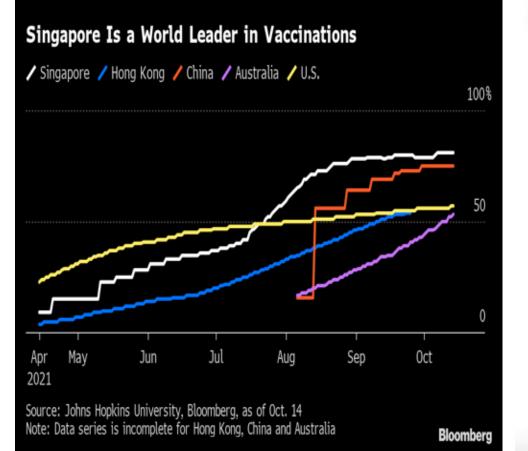


Let's Get Our Seniors Vaccinated Against COVID-19 Support our seniors on their COVID-19 vaccination journey and get \$30 HPB eVouchers. Together, let's help seniors protect themselves and their loved ones



Singapore needs more teams to vaccinate those homebound; existing medical teams stepping up STRAITS TIMES 10 AUG 2021

Game Changer



Proportion (%) of cases who died, by age and vaccination status

12%								Age	Non-Fully Vaccinated	Fully Vaccinated (Without Booster)	Fully Vaccinated (With Booster)
ê 8%								0-12	0.0008	0	0
PERCENTAGE (%)								13-19	0	0	0
								20-29	0.011	0	0
4%								30-39	0.023	0	0.00051
2%						L		40-49	0.098	0.011	0.0029
						ι.		50-59	0.55	0.071	0.003
0%	15-19 2	10-29 30-30	40-40	50-50	60-03	70-79	85+	60-69	1.9	0.21	0.033
			AGE					70-79	4.6	0.77	0.094
	 Non fu Fully v 	fly vaccinat accinated v	ed Ful vith boos	ly vacci ter	nated w	ithout be	poster	80+	12	2.9	0.47
					10	INCE: DATA	00186	Total	0.42	0.11	0.025
May 21 to 3	1 Jul 22										

Paradigm Shifts -Reframing for Population Health

What are Mental Models made of?

Meaning Values Ideas Beliefs Concepts Premises Images Common sense Smells Representations Previous Experiences Symbols Language Assumptions "Mental models are deeply held internal images of how the world works, images that limit us to familiar ways of thinking and acting. Very often, we are not consciously aware of our mental models or the effects they have on our behavior."

- Peter Senge

Reframing Healthcare

Applying A 3.0 Transformation Framework To Guide Large-Scale Health System Reform

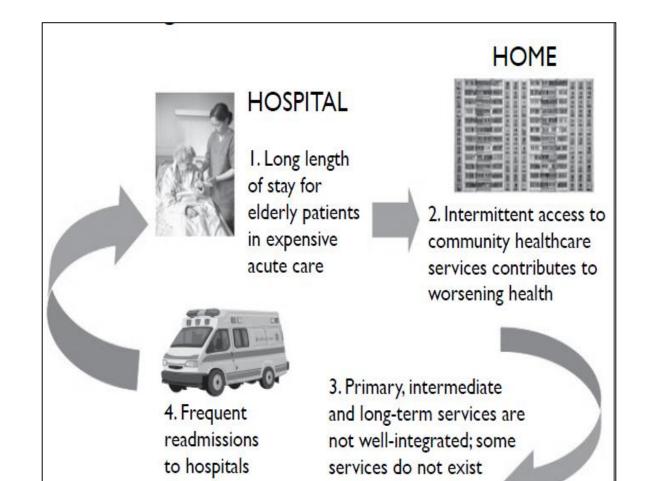
By Neal Halfon, Peter Long, Debbie I. Chang, James Hester, Moira Inkelas, and Anthony Rodgers

Three Eras Of Health And Health Care—Three Operating Systems

First era—1.0: medical care and public health services Second era—2.0: health care Third era—3.0: health system (1850s to 1960s) system (1950s to present day) (2000 going forward) Reduction of chronic disease Definition of *health* Absence of acute disease Creating capacities to achieve goals, satisfy needs, fortify reserves Reduce disability Optimize health Goal of health system Improve life expectancy Model of health and disease Biomedical **Biopsychosocial** Life-course health development causation Primary focus of services Diagnose and treat acute Prevent and manage chronic disease Promote and optimize health of conditions individuals and populations Accountable care organizations and Organizational operational model Clinics and offices linked to Community-accountable health hospitals medical homes development systems Dominant payment mechanisms Indemnity insurance; fee-for-Prepaid health benefits, capitation Health trusts and management of balanced portfolio of financing service vehicles Role of health and health care To protect from harm, cure To prevent and control risk, manage To optimize health and well-being the sick, and heal the ill chronic disease, and improve provider/organization quality of care Role of individual and community Co-designers of health Inexperienced patient Activated partner in care

DOI: 10.1377/hlthaff.2014.0485 HEALTH AFFAIRS 33, NO. 11 (2014): 2003-2011

Mental Model 1 - Hospitals : Heroes or Villains



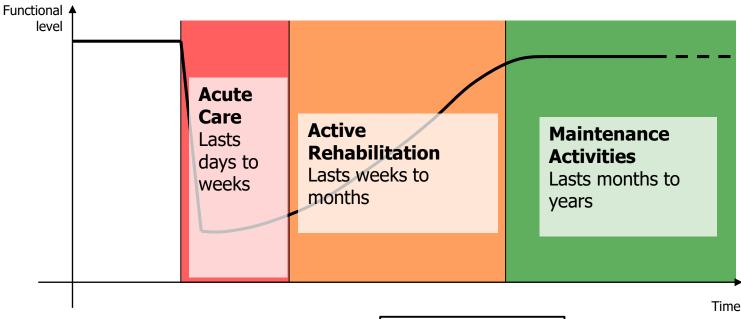
Hospital-centric Model is not sustainable

BUT

Community-centric Model without integrating the hospital is not viable

Measuring Success

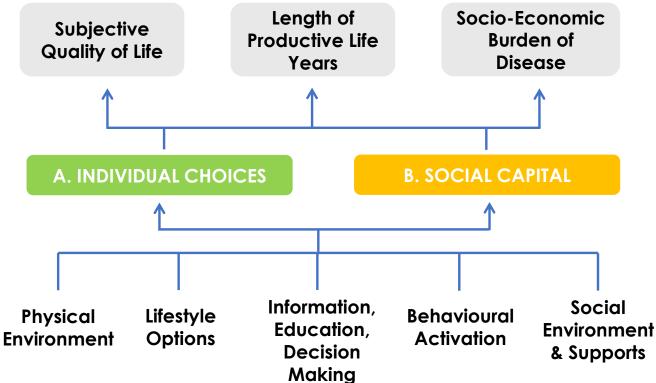
- Success is not measured as what hospital does; but how much it contributes to long-term outcomes for its patients
- Outcomes measured along multiple dimensions i.e. beyond survival to include ability to function, quality of interaction, timeliness, empowerment,
 - Care needs to be accessible, affordable, of good quality AND <u>acceptable</u>
 - Different patients weigh different outcomes differently at different times



Mental Model 2

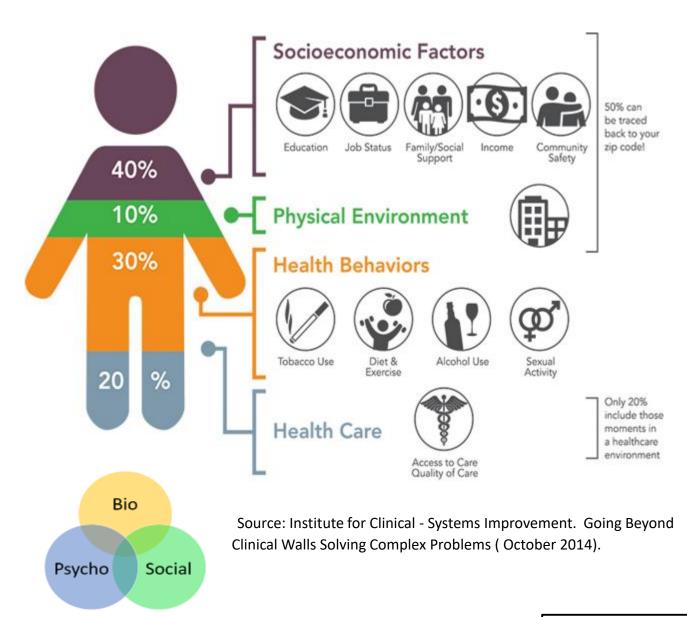
Situating Health in the Real World





DISEASE IS MEDICAL, HEALTH IS SOCIAL

Social determinants of health



THE LANCET Global Health



Obesity, Cancer and Heart Attacks:

How Your Odds Are Set in the Womb

Mental Model 3 Community : Assets or Needs

NEED-BASED COMMUNITY DEVELOPMENT	ASSET-BASED COMMUNITY DEVELOPMENT		Everyone has gifts and something to contribute Build on what a community has not what it lacks
Restores What a Community Lacks	Builds on What a Community Has	Asset Based	Relationships build community
Proceeds Fundamentally Outside-In	Proceeds Fundamentally Inside-Out	Community Development	Connecting people into communities of possibility
Problems-Oriented	Possibilities-Oriented	philosophy	Persons viewed as actors instead of passive recipients
Communities of Privation Victims	Communities of Promise Survivors	and principle 🔪	Co-producer instead of just consumers
Clients	Providers	-	Listen and Ask
Consumers	Producers		Generative conversations

Changing relationships

Changes in the service delivery system towards

Networks with other health and social providers

Shared accountability instead of shifting blame

Animating people beyond driving programmes



Mental Model 4 Academic Medicine – Distraction or Asset

Revisiting academic health sciences systems a decade later: discovery to health to population to society

Victor J Dzau, Celynne A Balatbat, William F Ellaissi

Lancet

Published Online October 27, 2021 https://doi.org/10.1016/ S0140-6736(21)01752-9

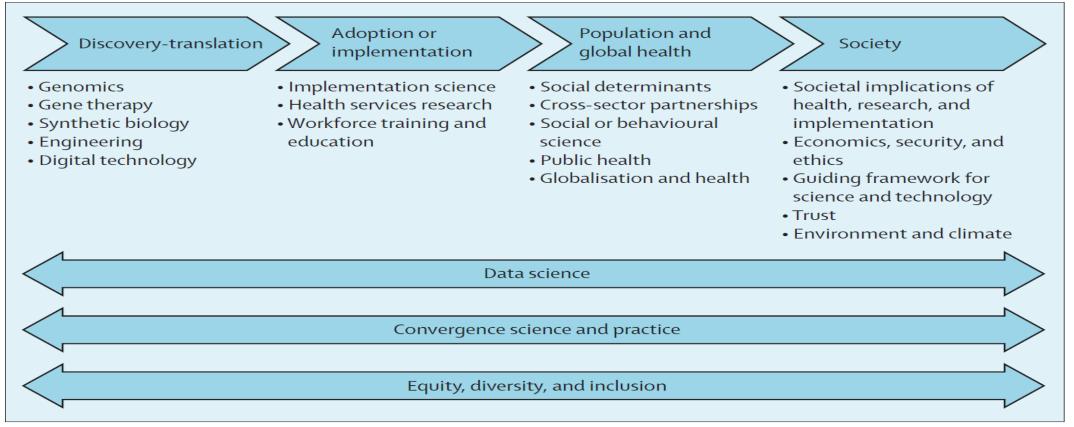
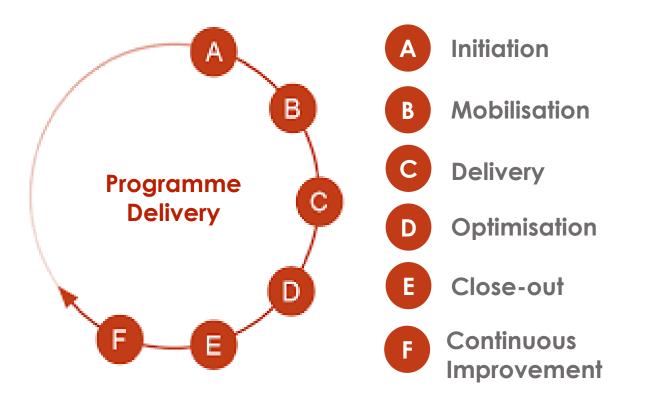


Figure: Discovery to health to population to society framework

Mental Model 5 **Beyond Programme Delivery**



Individual, Family, Community

Everyone knows good health comprises mental, physical and spiritual wellness

Making small lifestyle changes can improve your health in a BIG way



What matters most to you?

Join us to explore solutions to improve your health & wellbeing together.

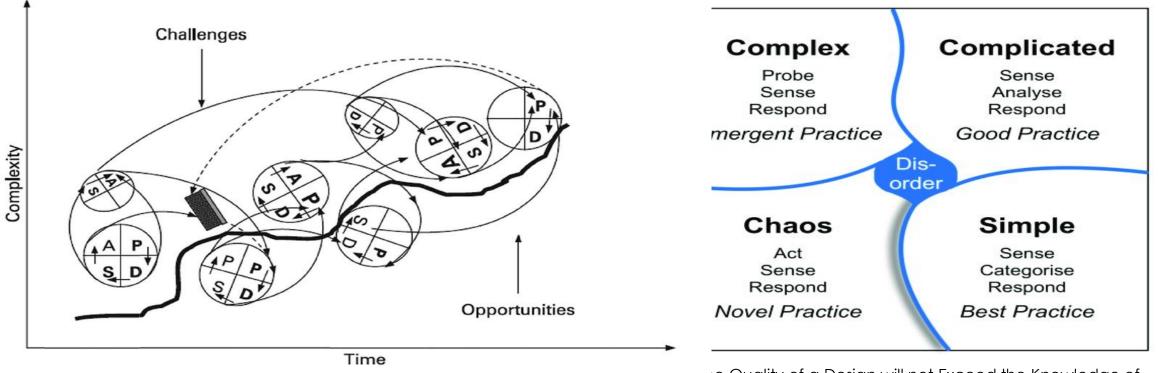


F1 Healthcare



Mental Model 6 Beyond Pass/Fail

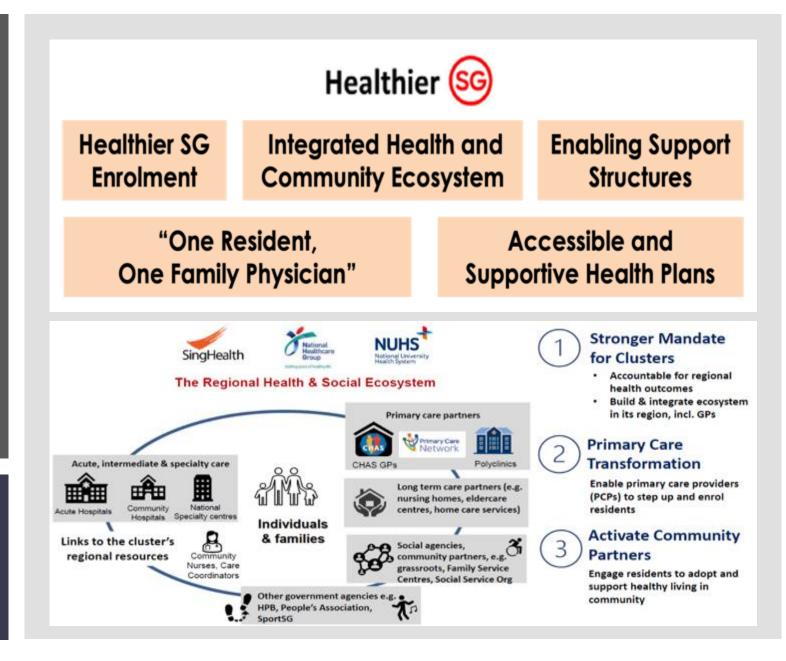




Building knowledge, asking questions Greg Ogrinc, Kaveh G Shojania http://dx.doi.org/10.1136/bmjqs-2013-002703 ne Quality of a Design will not Exceed the Knowledge of its Designer; an Analysis Based on Axiomatic Information and the Cynefin Framework; Erik Puik

Population Health

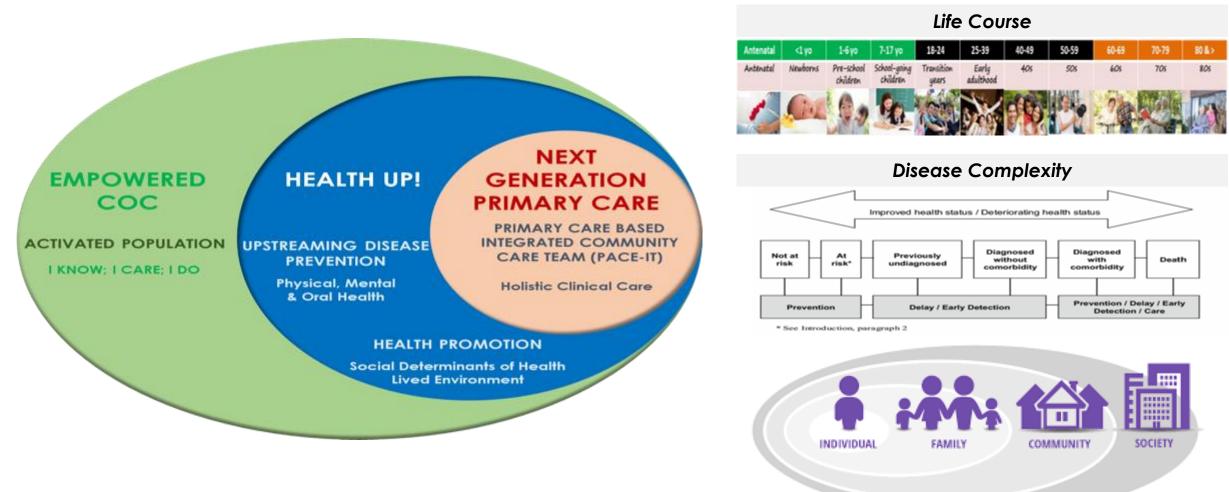
Integrating Insights



SingHealth's Population Health Approach

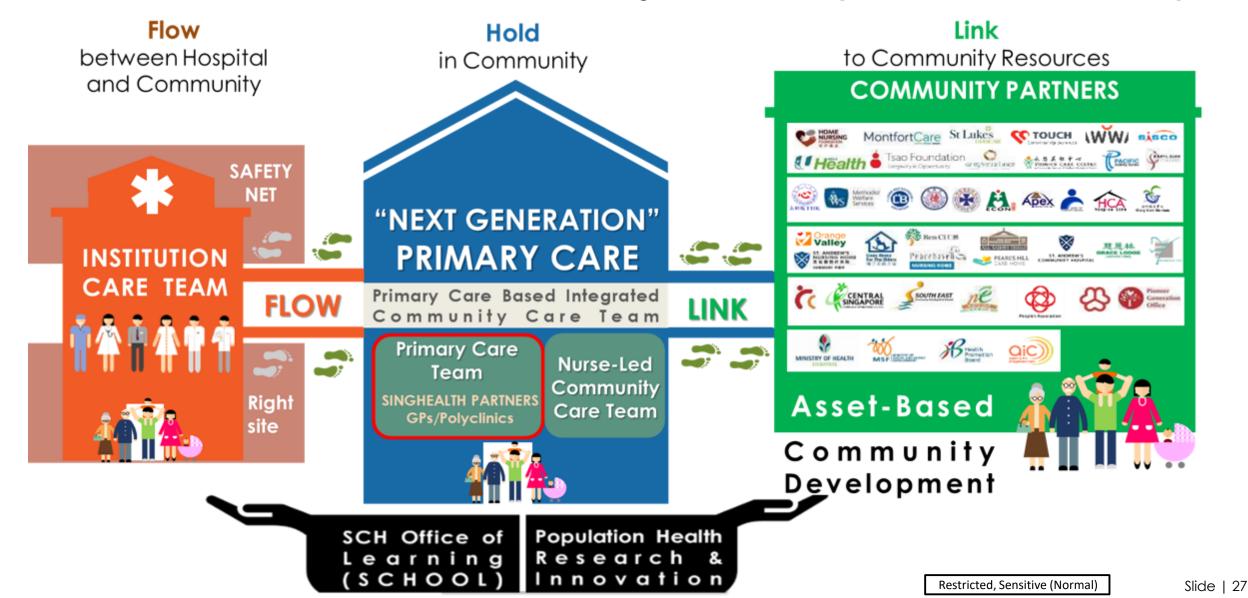
"Stackable"

Inclusive

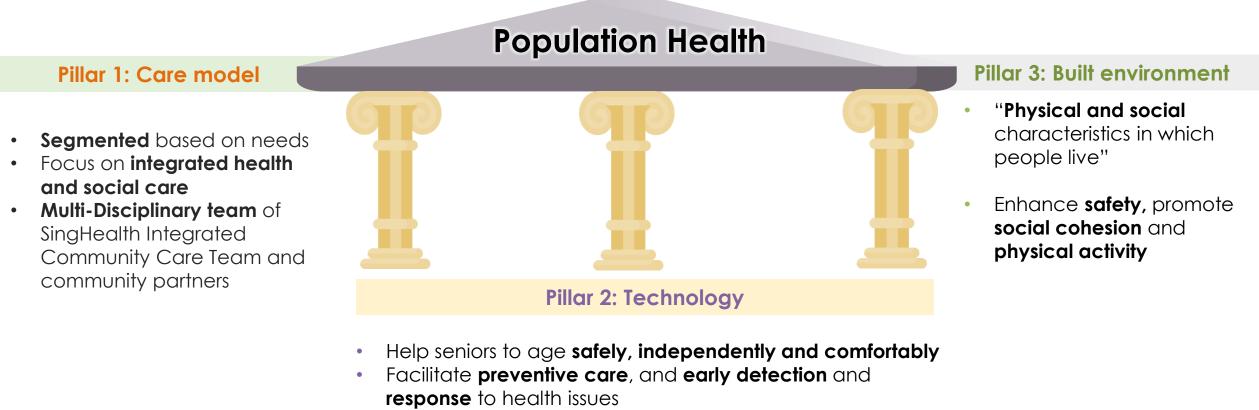


Integrated Health and Community Ecosystem

Anchoring care in Primary Care and the Community



Enabling Population Health



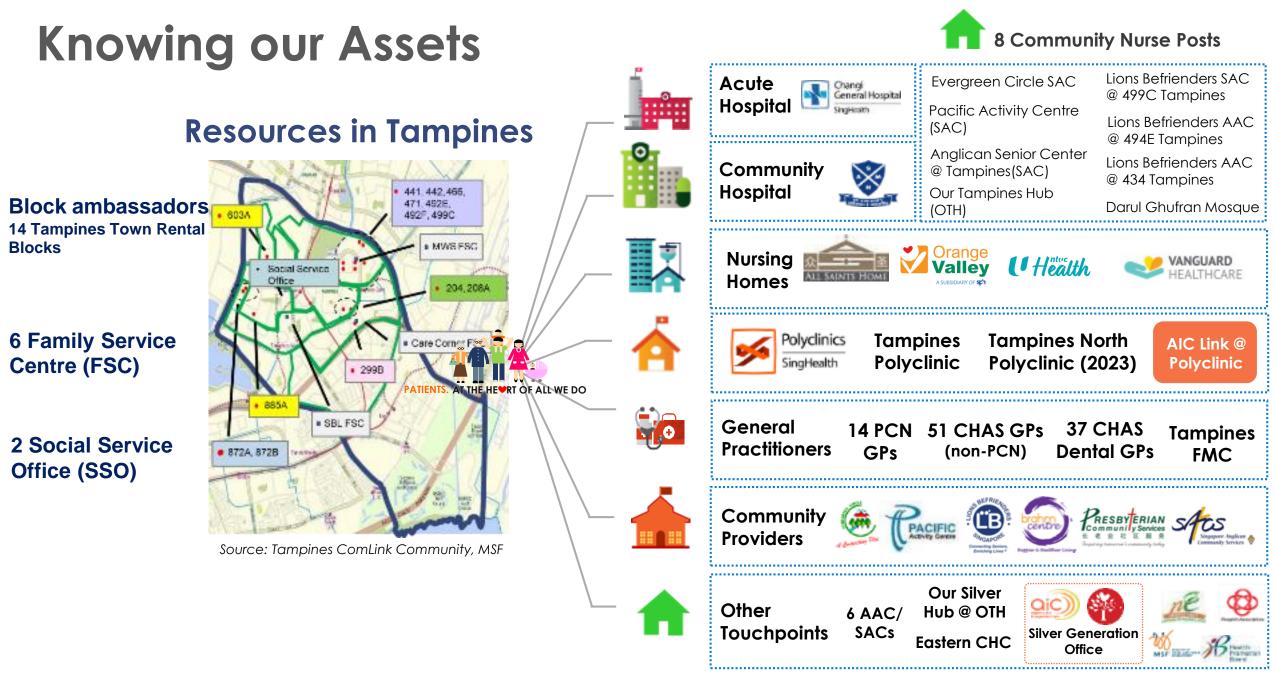
• Empower seniors to **maintain autonomy**

Understanding Needs

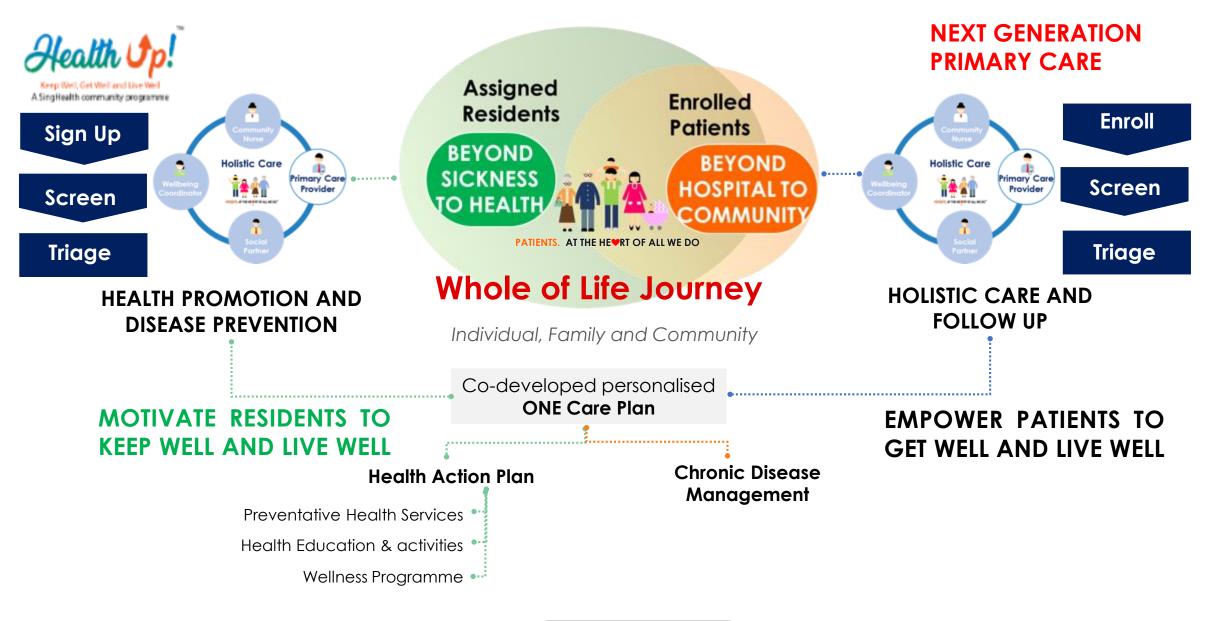
	Healthy with No Outpatient utilization	Healthy with Outpatient utilization	Healthy with Inpatient Adm	Low Complex	Medium Complex	Frail in the Community	High Complex	Frail in the Community with High Complex	Cancer	Frail in Residential Care	End of Life
otal Tampines resident population	132,451 (51.7%)	27,950 (10.9%)	7,701 (3.0%)	43,629 (17.0%)	22,182 (8.7%)	945 (0.4%)	7,096 (2.8%)	1,278 (0.5%)	11,803 (4.6%)	590 (0.2%)	420 (0.2%)
Mean age											
Male											
Race											
Chinese		do	pt a	I se	am	ento	oitc	n ai	opro	oac	:h
Chinese	A							n aj	- C		h
	A							n a _l ctio	- C		h
Indian	A				dive	e int	o a		- C		h
Indian Malay Others	Ą				dive		o a		- C		:h
Indian Malay Others	A				dive	e int	o a		- C		:h
Indian Malay Others Residential status	4				dive	e int	o a		- C		:h

1,467 Frail Seniors (13%) in Tampines West SZ HDB Blks, 514 (5%) visited CGH SOC in 2019





Enabling our residents to keep well, get well and live well





Assess effectiveness, Iterate and improve user experience

Launch of Pilot Integrated Screening and **Healthy Living** Intervention

> Keep Well, Get Well and Live Well A SingHealth community programme

> > at Tampines

27 Nov 2021 (Saturday)

11.30am to 12.30pm

Festive Plaza, Level 1

Our Tampines Hub (OTH)

1 Tampines Walk, Singapore 538523

But and a construction of the

Launch of

Date

Time

Sport

Location

Singlitealth

You're invited!



SMS Koh Poh Koon in the Health Up! Launch video

Health Up!" is a SingHealth initiative that aims to encourage individuals to adopt healthy lifestyle habits and complete age-appropriate health screenings.

> START HERE: E-REGISTER FOR HEALTH UP!

回希望

Register now!

Only open to: Singaporean Citizens & PRs Aged 40 and above

Tampines Residents



Proudly brought to you by

SingHealth

Im

DO THE

ONBOARDING

SURVEY

Help us understand

your health status

LAUNCH OF

Keep Well, Get Well and Live Well

A SingHealth community programme

RECEIVE A

HEALTH ACTION

PLAN

Personalised Health

Action Plan based

In Partnership with

YOUR JOURNEY TOWARDS BETTER HEALTH

GO FOR

HEALTH

SCREENING

Get screened for the

ollowing conditions

at subsidised rates:

· Obesity

Diabetes

such as:

- Colon

- Cervical - firecut

Hypertension

High Cholesterol

Selected Concers

Targeting Tampines residents, Singapore Citizens and PRs aged 40-65 years old

AT TAMPINES

JOIN OUR

SIX-WEEK

WELLNESS

PROGRAMME

Pick up health and

wellness fips and

design your own

workouts

Hill I'm your

Wellbeing

Coordinator

health

CONTINUE

YOUR ACTIVE

LIFESTYLEI

Coordinator will share

healthy lifestyle lips

and connect you to

activities you can

participate with

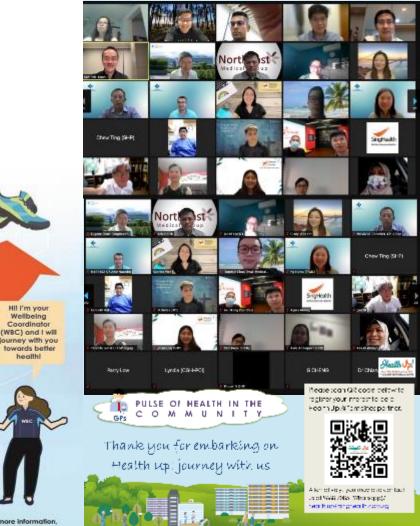
right in your

friends and family

neighbourhood!

Your Wellbeing

GP Engagement Session with Dr Koh Poh Koon

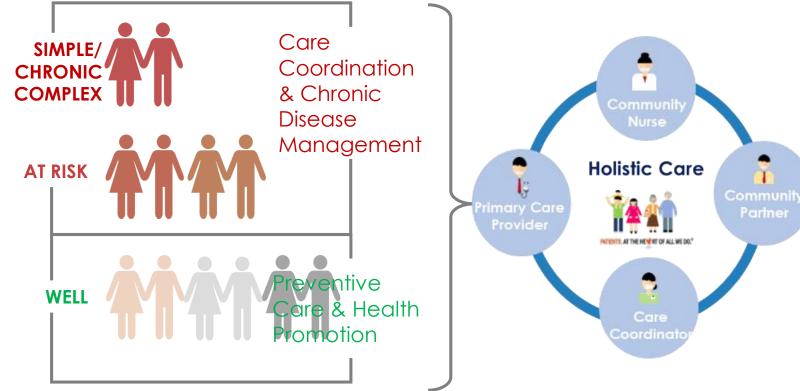


Slide

Restricted, Sensitive (Normal)

PATIENTS, AT THE HEY RT OF ALL WE DO.

SingHealth Healthier Sg Team



Place based approach

- **Deep understanding** of needs and aspirations of residents and partners
- PCPs and Community Partners within an HST service area are engaged to be part of the HST

Coordinating care for health-social care integration

- Harmonised framework and enablers
- Flexibility for local customisation

Ensuring holistic person-centered care

• From delivering programmes to meeting needs.

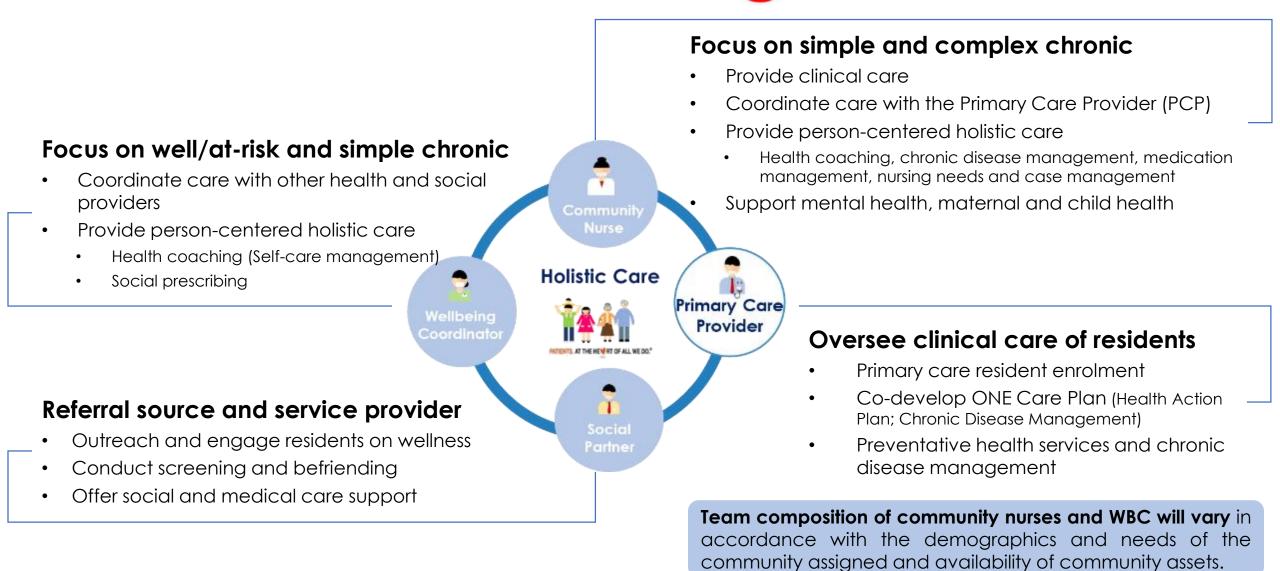
1.48M assigned residents

GP clinics

clinics.

partners

Key Roles and Expectations of Healthier 66 TEAM



Health-Social Interaction

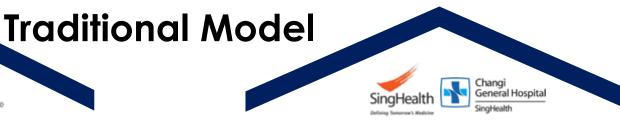
Social Assistance

Service management of MSF-funded regional services

Family Services @ Bedok

Coordination of Services





Community Nurse Post

Health & Geriatric Assessment

Health Coaching

Medication Self Management Support & Education

Chronic Disease Monitoring & Self-Management Education

Care Referral & Coordination

 Perceived difficulty in accessing healthcare services

-

Lack of case/care coordination

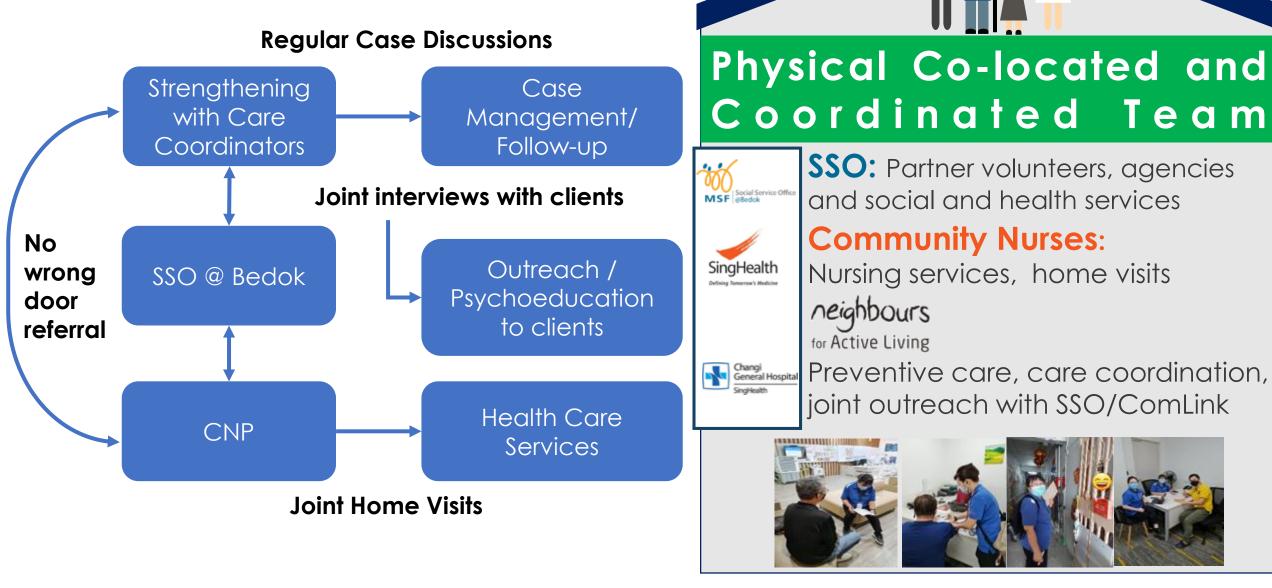
+

Lack of education on equal importance of addressing financial and health concerns

Psychological barriers of clients in seeking help (e.g. fear of hearing bad news)

> SSO Clients' Challenges:

Health-Social Integration



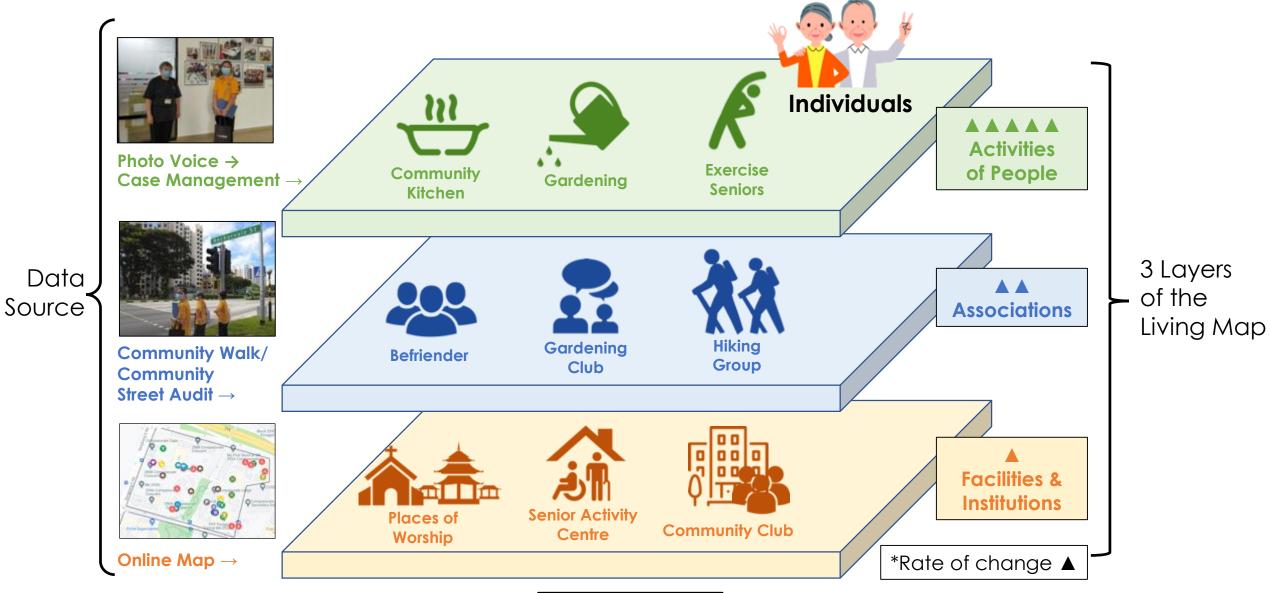
Strengthening Health-Social Integration

Social Prescribing – Key Elements



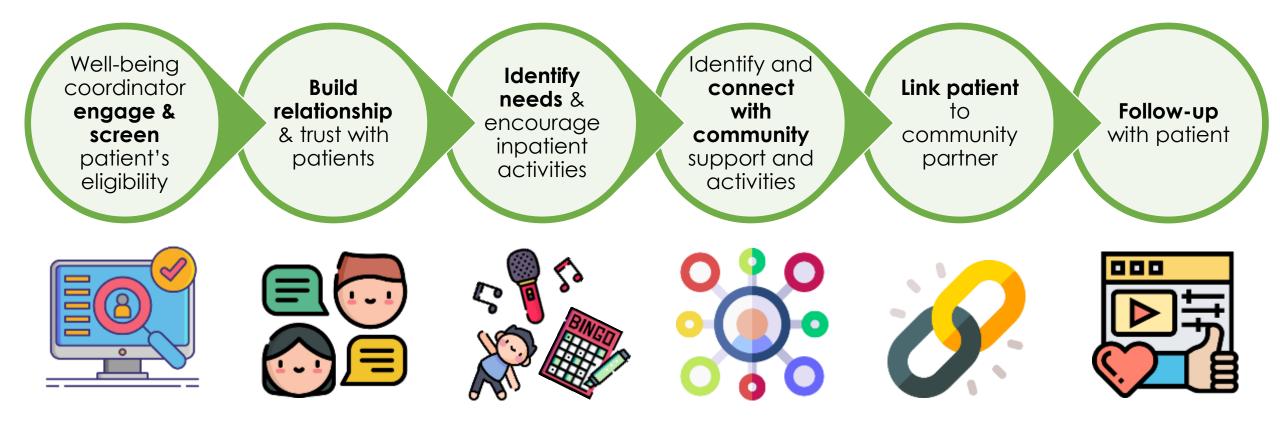
Adapted from : https://www.england.nhs.uk/personalisedcare/social-prescribing/

Developing a Living Asset Map



Restricted, Sensitive (Normal)

Social Prescribing in SingHealth RHS (SCH and SHP)



Spread & Scale: Collaboration with WHO



A TOOLKIT ON HOW TO IMPLEMENT SOCIAL PRESCRIBING







Support social prescribing implementation in developing countries through WHO platforms

SINGHEALTH - DUKE-NUS

Engaging Our Stakeholders

Population and Community Health Seminar







Local and international panelist

Collaboration with WHO – OpenWHO training

Free 5-hour WHO MOOC training

Available online (from April 2022)

Train link workers across Western Pacific Region

Theory + case studies + role plays + videos + quizzes + resources



© WHO / Royal University of Phnom Penh

Available at: https://www.who.int/publications/i/item/9789290619765

Enhancing Living Environment

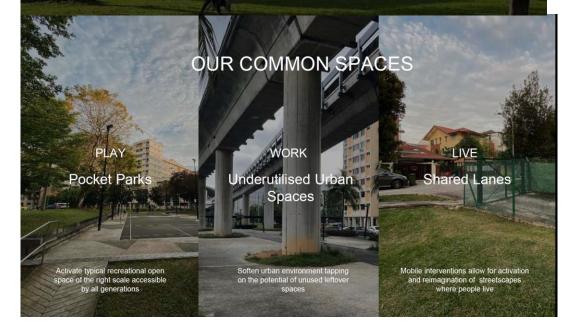




Building Community Mental Resilience through Social Prescribing and Creative Placemaking

 What role can our environment play in contributing towards physical and mental wellbeing?

As most population live in existing towns, how should we conduct **brownfield** development and reimagine our existing **common spaces** to meet emerging needs?



0

CareLine Care is a call away provides health and social support to seniors in the community



Funder:



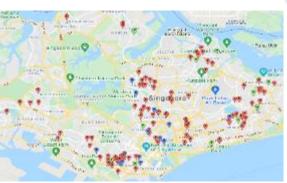


Health-social integration requires strong and consistent engagement with partners



Tight working partnership with AIC/SGO in planning outreach and providing support for seniors

Nationwide scaling through partnership with over 130 community partners

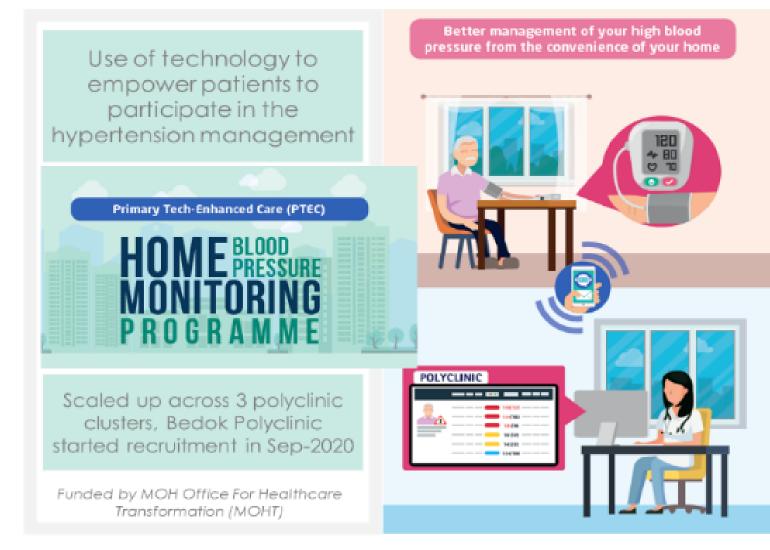


Changi General Hospital

SingHealth

Primary Care based Telehealth

Primary Tech-Enhanced Care (PTEC)



Tele-monitoring

- Weekly BP monitoring
- Reading automatically sent to care team
- Irregular readings are flagged to care team

Tele-support

- · Reminder if patient miss their weekly readings
- Chatbot will advises or gathers information from patients when BP readings are abnormal
- Nurse from care team gives guidance and advice via tele-consultation

Tele-treatment

- Follow the medication and lifestyle advice given by care team during the clinic/ phone consultation
- Receive encouragement and tips to improve BP

Brought to you by:



Supported by:





Community Based Telehealth

Remote Vital Signs Monitoring (VSM)@ **Community Nurse Posts**

Empower residents through technology assistance in managing hypertension at CNP

Shared Care with Community Partners

Coaching Self-Monitoring 2 Use of Bluetooth-Self-measures BP using BP monitoring kiosk enabled BP monitoring kiosk BP reading recorded into SCM Clinical Health education on Documentation hypertension and identification of Supported by abnormal symptoms Changi General Hospital **MontfortCare** 20 BP Monitoring Goodlife! Singapore General Hospital Kiosks @ CNP ienokaing Health eriesol Density fyclinics AsianMedicalFoundation

Equipping Seniors with Telehealth Kits for Virtual Care Delivery @ Home





Senior's teleconsultation with East Community Nurse @ Tampines SAC

Restricted, Sensitive (Normal)





Southeast/East Community Nurse conducted tele-consultation with senior



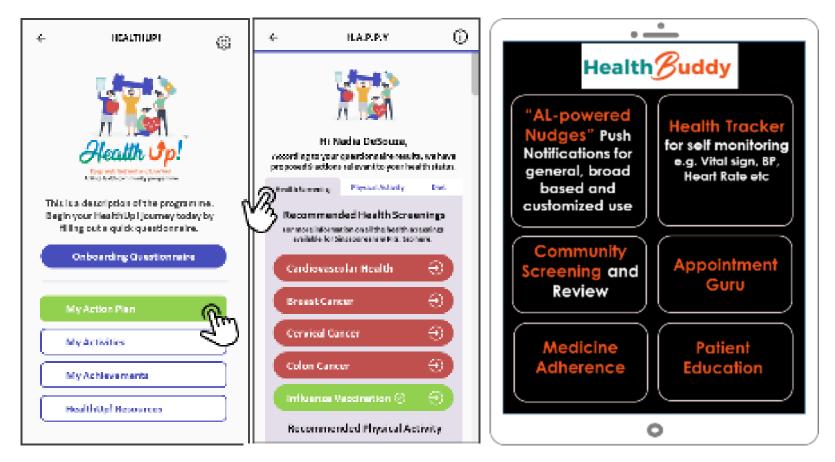


1,700,000 Downloads-to-date

5,520,000 Page views monthly

380,000 Unique users monthly

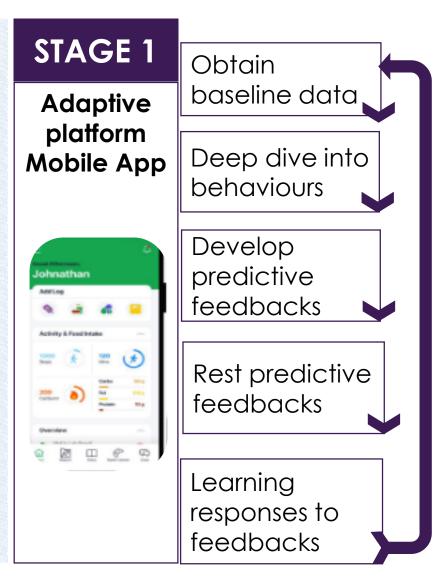
Access to health information and services, anytime, anywhere



EMPOWER Mobile App

Empowering patients with diabetes using profiling and targeted feedbacks delivered through wearable device

Leveraging on technology & automation to achieve sustainable & cost effective behavioural change in chronic disease patients



STAGE 2

To include hypertension and hyperlipidaemia

Implementation trials in tertiary health institutions

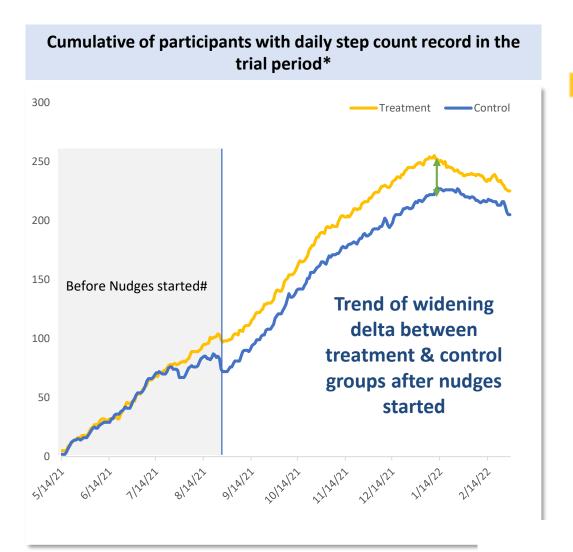
Integration with **Bluetooth-enabled health devices** (CGM, blood pressure machines etc.)

Development of shared-decision making tool and app-based motivational interviewing modules to leverage on Empower app for behavioral interventions

Collaborators:



Preliminary results from Stage 1 RCT: Daily Activity Summary (Step count & MVPA)





Overall, intervention group have more moderatevigorous physical activities than the control group. Male users are more active and Bike is the most favourite exercise for both treatment and control Group

Nudges started at 26 Aug 2021; *Trial period: 14/05/21 to 28/02/22

Centre for Population Health Research & Implementation (CPHRI)

A Nexus for strategic and seamless collaboration with international partners Through SingHealth Duke-NUS



Supported by four Pillars:			
Research	Innovation & Implementation	Programme & Health System Evaluation	Admin & Capability Building
Identify gaps and synergise population health research efforts	Accelerate knowledge translation into the population and community	Streamline indicators and measures population health outcomes	Organise and host cluster level training and events
Establish shared core facilities, drive and conduct strategic research	Develop innovation expertise and translate innovation to services	Identify complex mechanism for success through realist evaluation	Support the capability building in population health expertise

Restricted, Sensitive (Normal)



SingHealth Community Hospital Office of Learning (SCHOOL)



Training Resources for Population Health

Training arm of SingHealth RHS sited at SCH

SCH as the largest provider of CH services and has the largest pool of clinical faculty in the ILTC Sectors

SCHOOL's strategy is to provide Continuing Education and Training (CET) using adult learning principles and workplace learning, , tapping on faculty in SCH and across SingHealth

Key training programmes are competency-based and aligned with WSQ framework

Key Milestones and Moving Forward

WSQ Higher Certificate in Integrating Health and Social Care

Creating new job roles for midcareer Singapore citizens and SPR

Aligned with national SkillsFuture competency framework & industry skills

Stackable modular system, articulation within SingHealth RHS and outside SingHealth SGUnited Skills Certificate for Health and Social Care Coordinator

Jointly developed with IHL (Ngee Ann Polytechnic)

> Accredited by SSG

Collaborating SingHealth institutions to tap on SingHealth Institution's strengths and expertise

Partnering SGH to develop an enhanced caregiver training programme

Leverage CGH wellestablished Health Peers training programme for volunteer training/ health coaching

Stronger – Together



THANK YOU