

GO BEYOND TRADITION IN PRIMARY HEALTHCARE DEVELOPMENT

DATA CONNECTIVITY AND HEALTH SURVEILLANCE

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HEALTH BUREAU*

20TH APRIL 2023



TODAY



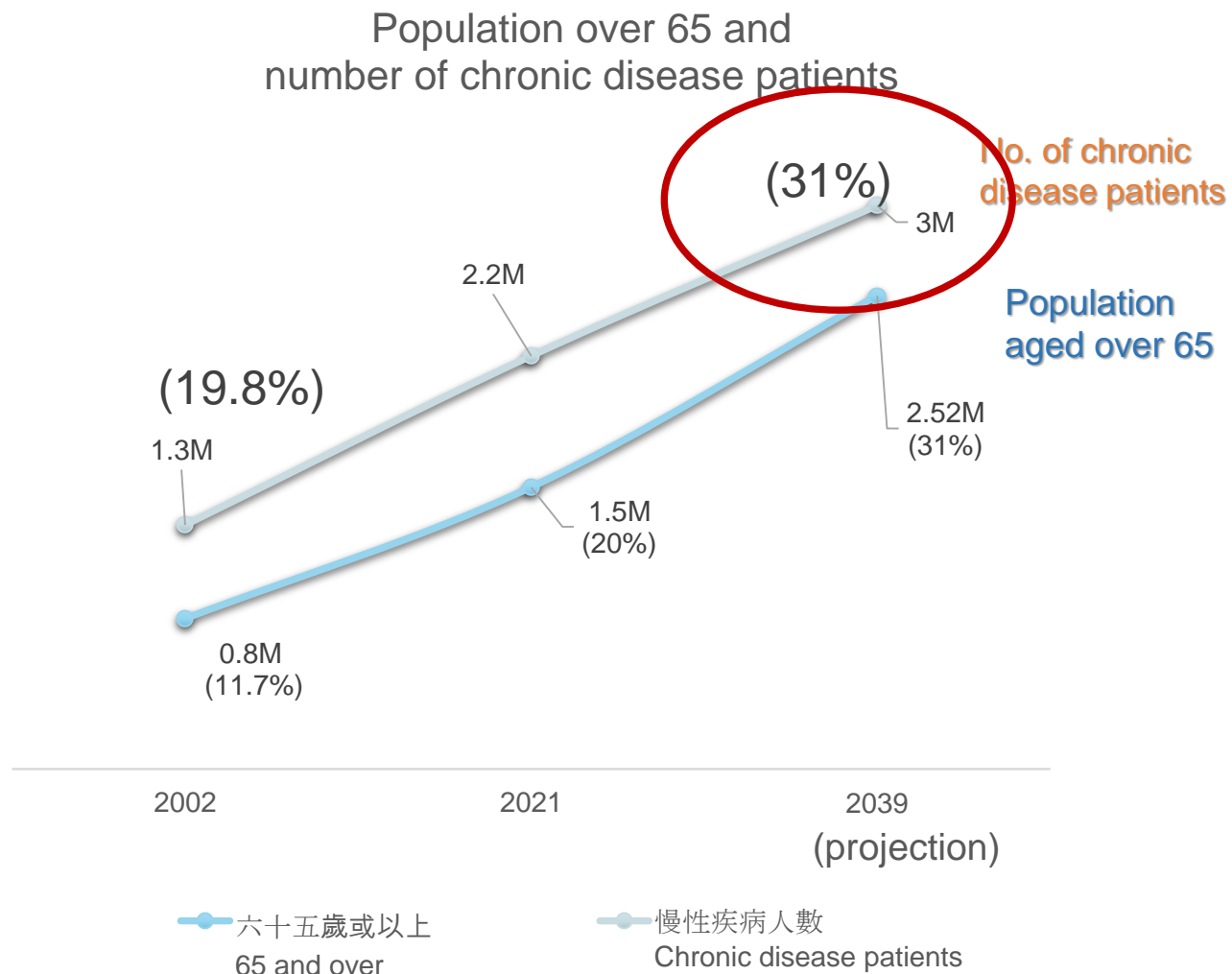
See doctor only when we
are sick

有病先睇醫生

AGEING POPULATION & INCREASING CHRONIC DISEASES PREVALENCE IN HONG KONG

3

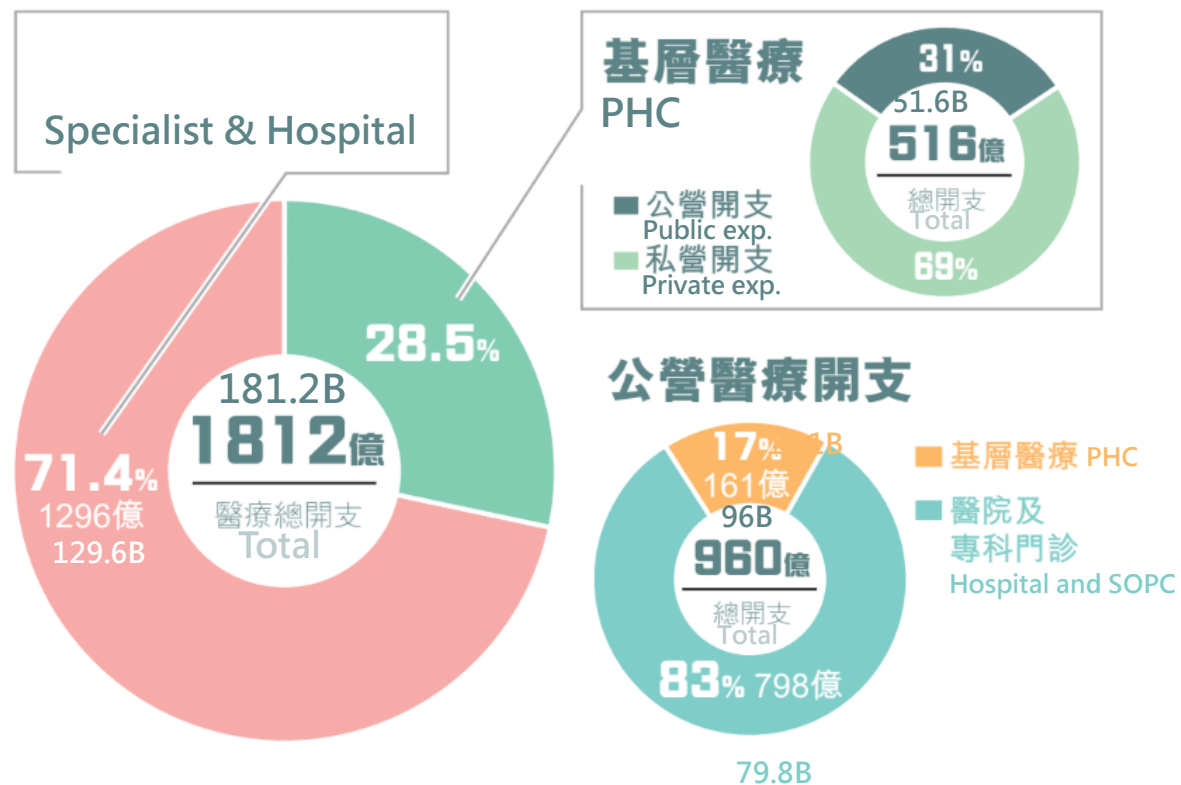
- ❖ Longest life expectancy (Male: 83.4 / female: 87.7) in the world
- ❖ Every 5 years of increase in age, percentage of chronic diseases increases by 10%



TREATMENT BASED HEALTHCARE SYSTEM

2019/2020 Health expenditure in Hong Kong

2019/2020香港醫療開支



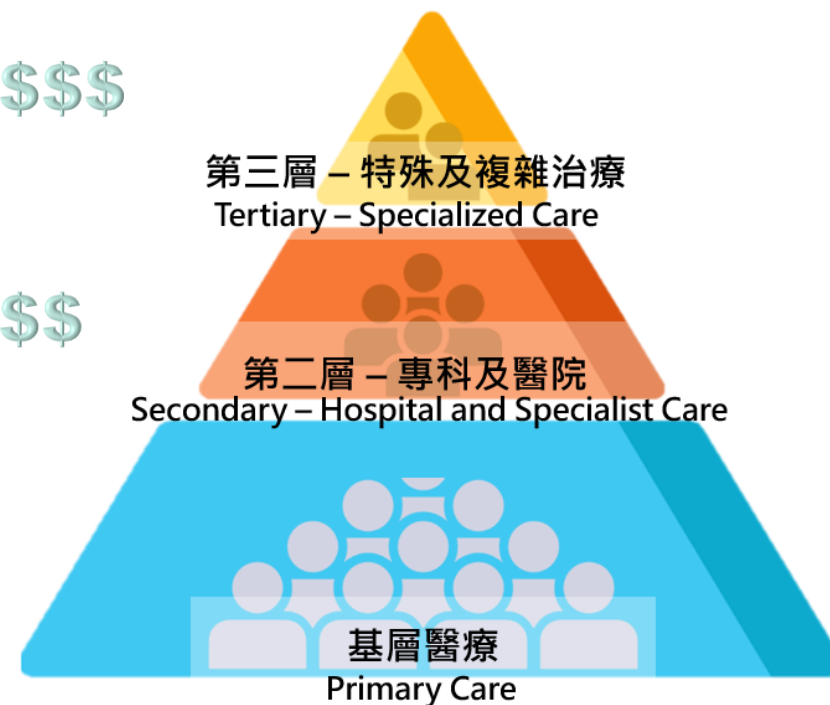
Public Expenses

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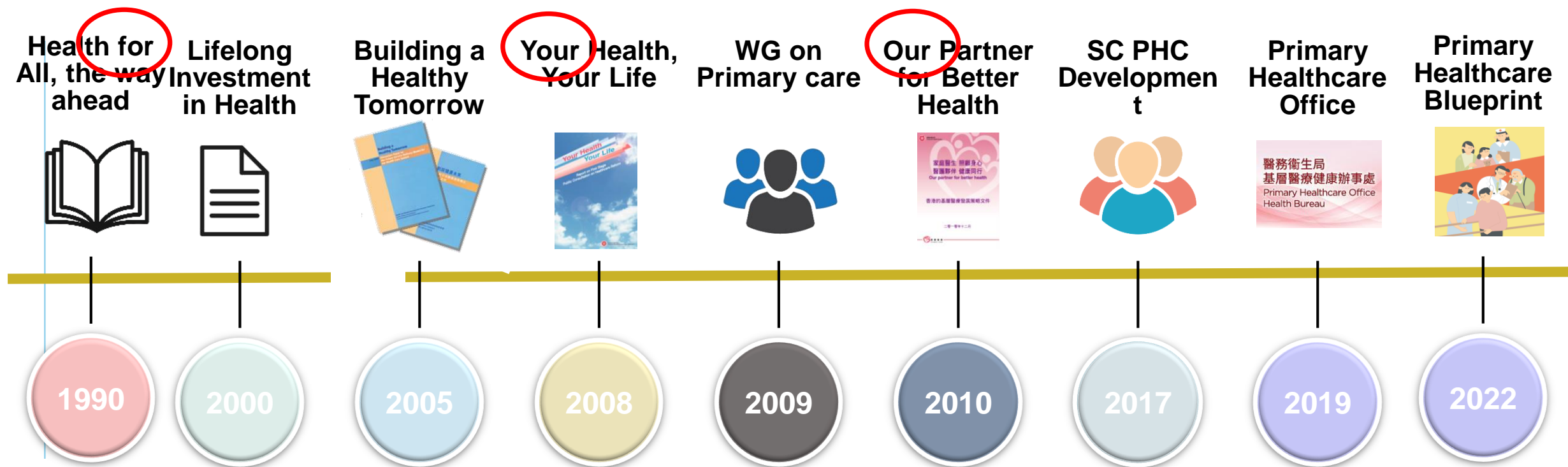
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Health Need



OUR JOURNEY TO DEVELOP PRIMARY HEALTHCARE



CURRENT PRIMARY HEALTHCARE SYSTEM



Community Health Centers



Elderly Health Voucher

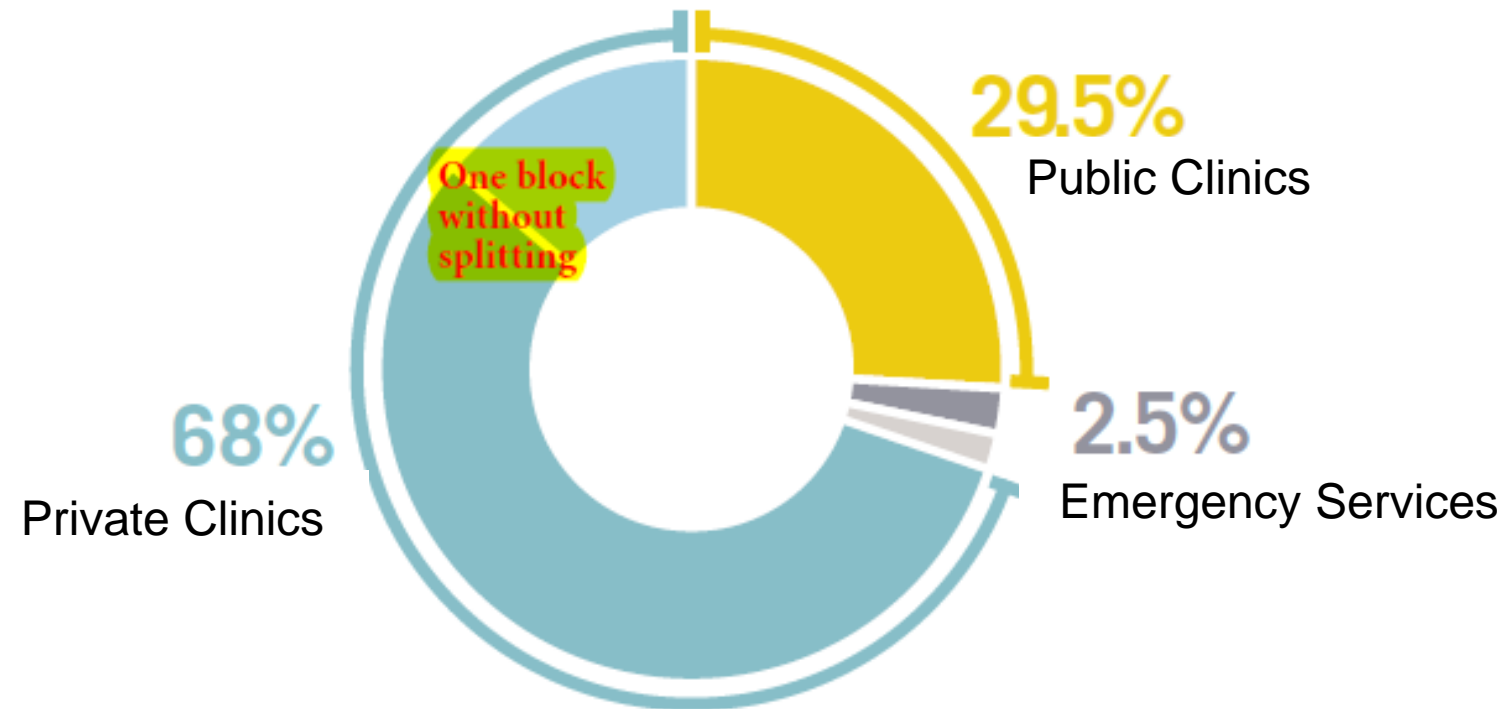


Patient Empowerment Program



GOPD Public Private Partnership

Primary Care Attendances in 2019



ASSESSMENT OF SCORE OF PRIMARY HEALTHCARE

Dimension/Score	Highest	Intermediate	Lowest
First contact	Decision of referral to specialist is made by PC doctor	Reduce direct access to specialists but no requirement for a referral	Self-refer to specialists
Longitudinally	Relationship is based on enrolment with a source of primary care	Relationship exists by default rather than intent	No implicit or explicit relationship with primary care
Comprehensiveness	Arrangement for universal provision of extensive and uniform benefits and for preventive care	Arrangement either extensive benefits or preventive care	No policy regarding a minimum uniform set of benefits
Coordination	Formal guidelines for the transfer of information between primary care physicians and specialists	Certain aspect of care	General absence of guidelines for the transfer of information about patients
Family centeredness	Explicit assumption of responsibility for family centred care	Some responsibility	No responsibilities
Community Orientation	Practitioners use community data in planning for services of problem identification	Clinical data derived from analysis of data from the practices are used to identify priorities for care	Little or no attempt to use data for plan or organize services

WHAT WE WANT TO ACHIEVE FOR PRIMARY HEALTHCARE?

Health Literacy

© Randy Glasbergen / glasbergen.com



"Which celebrities should I follow to get the best medical advice?"

Cultural shift



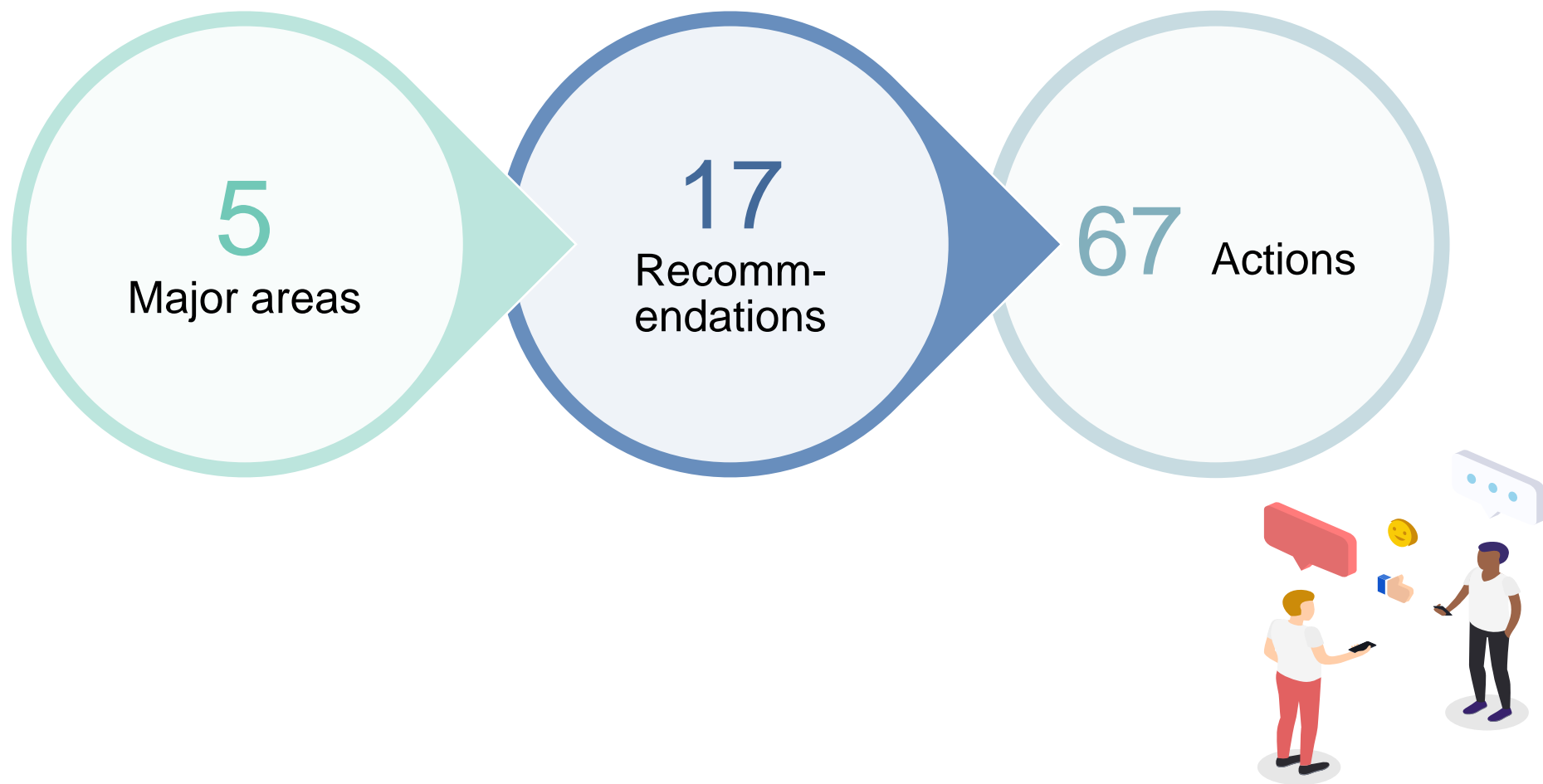
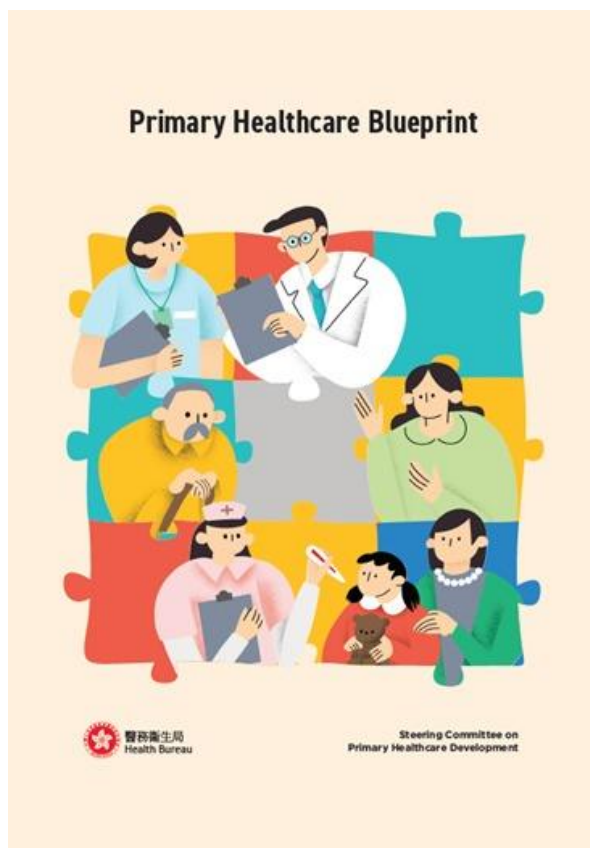
"I think diabetes is affecting my eyesight. I have trouble seeing the consequences of poor food choices."

Affordability

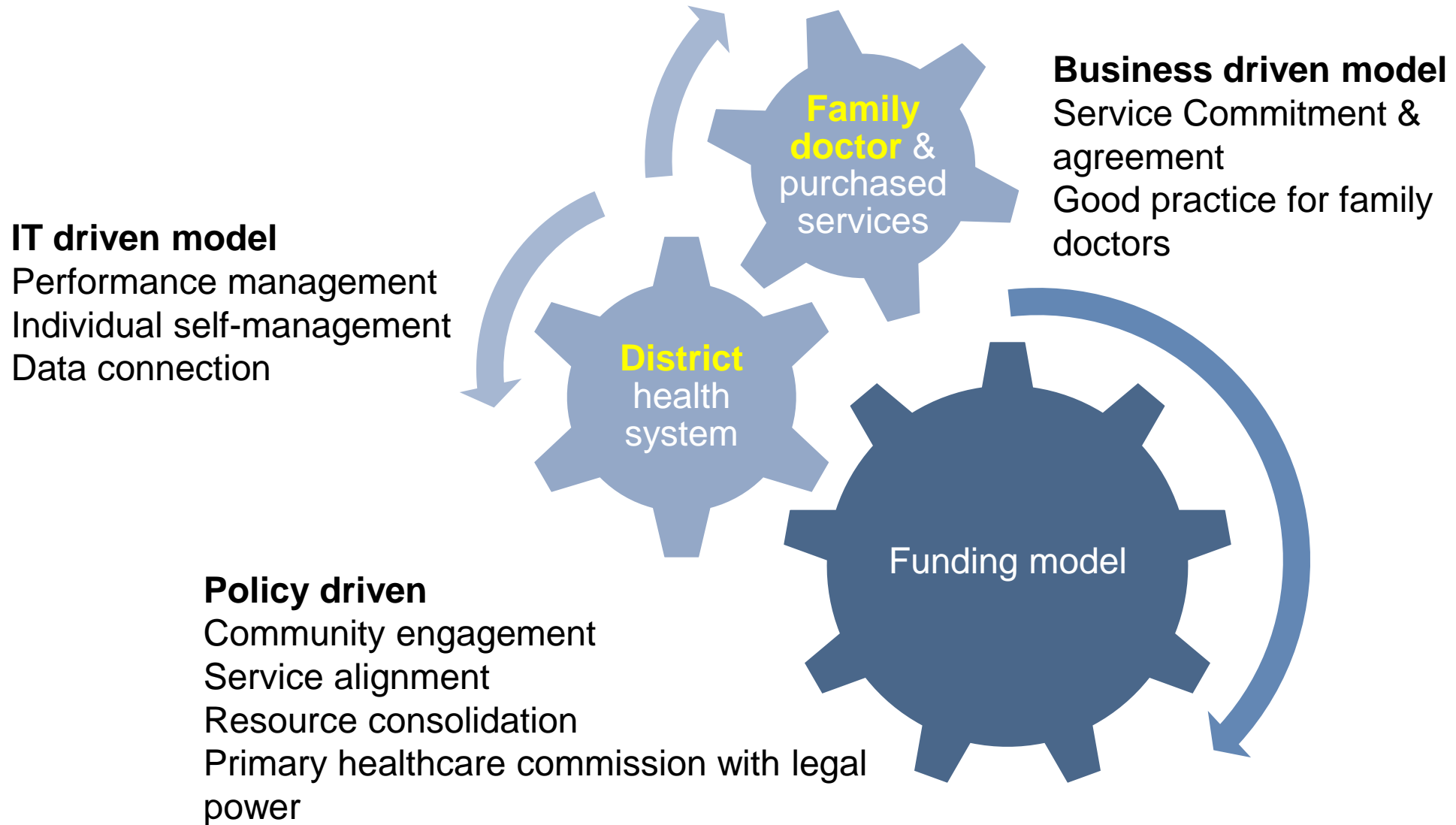


"I don't need to live a long, healthy life. My retirement money runs out at age 67."

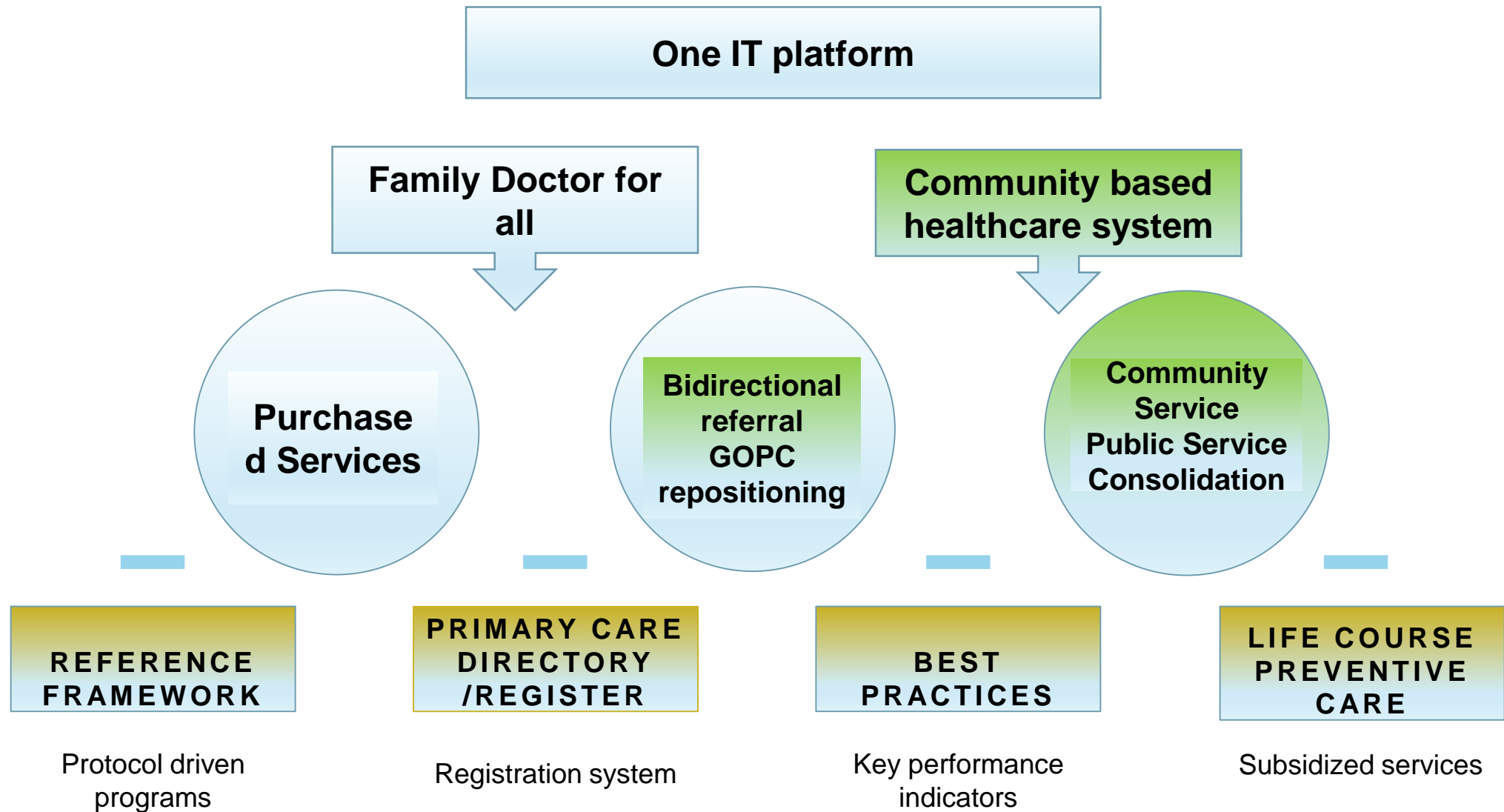
PRIMARY HEALTHCARE BLUEPRINT



DRIVING FORCES



DEVELOPMENT FRAMEWORK



WHAT ARE THE ENABLERS



IT

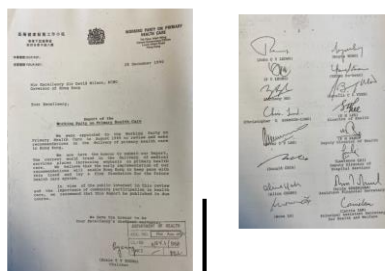


eHealth App

- Over 5.6 million people (over 70% of the population of Hong Kong) have registered to join eHealth.
- Over 2.6 million people have downloaded eHealth App.

EVOLVING INFORMATION TECHNOLOGY

Health for
All, the way
ahead



199
0

Health
Information Unit

Our Partner
for Better
Health



2010

Two Paragraphs
on Information
Technology
4.17 & 6.17

Primary
Healthcare
Blueprint



2022

One Chapter
and one of the
five strategic
focus

5

重點方向
Major areas

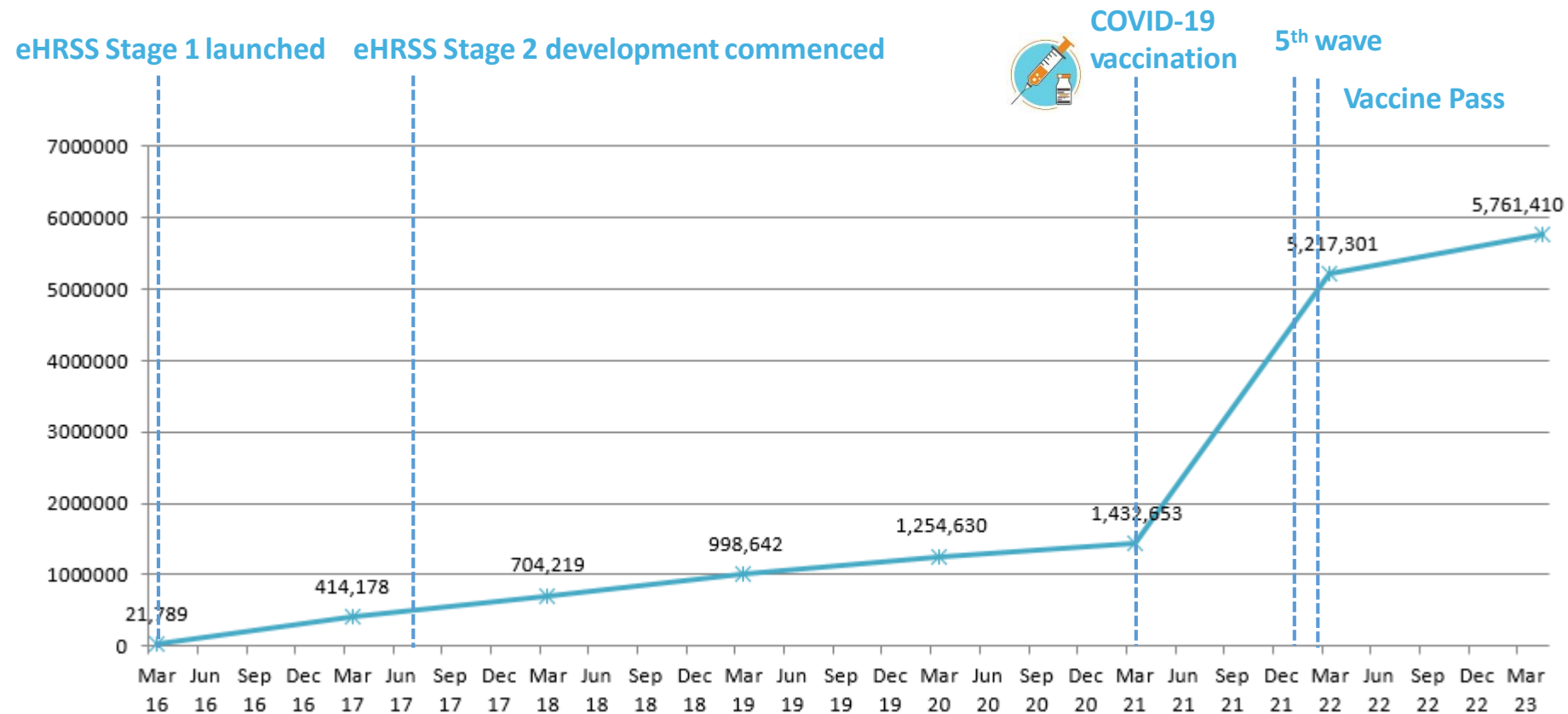
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改善數據互通
及健康監測
IMPROVE CONNECTIVITY



OPPORTUNITIES

- COVID-19 enhances coverage of eHRSS
- All COVID-19 vaccination information is stored in eHRSS
- Citizens have become more receptive to eHR





Primary Healthcare Blueprint

CHAPTER 6 - IMPROVE DATA CONNECTIVITY AND HEALTH SURVEILLANCE: ACTION PLAN					
	Action		Short	Medium	Long
6.1	eHealth	• To extend mandatory use of the eHealth to all subsidised Government health programmes			
		• To put in place incentive programmes that facilitate connectivity by private eHealth solution vendors			
		• To integrate various standalone public health IT systems/modules under the eHealth platform			
		• To require private medical labs and radiology centres to join and upload lab images to the eHealth			
		• To transform the eHealth into an integrated system – “One eHealth”			
		• To explore the wider use of eHealth as a platform for outside entities			
		• To consider mandating the use of eHealth through amending the Electronic Health Record Sharing System Ordinance (Cap. 625)			
		• To continue to develop and enhance the one-stop CM clinical record system EC Connect			
6.2	eHealth App	• To enable the connectivity of eHRSS/eHealthApp with other third-party electronic health apps or wearables			
		• To facilitate tele-medicine and connection to other health technology for patients and health professionals			
6.3	Research and Data Analytics	• To transform the existing Research Office into a dedicated Research and Data Analytics Office under HHB			
		• To develop a population-based health dataset			
		• To set up a mechanism including tools and indicators to measure outcomes as listed in the Blueprint			
		• To review the next PHS			
		• To monitor the progress and evaluate the impact of public health interventions including recommendations in this Blueprint			



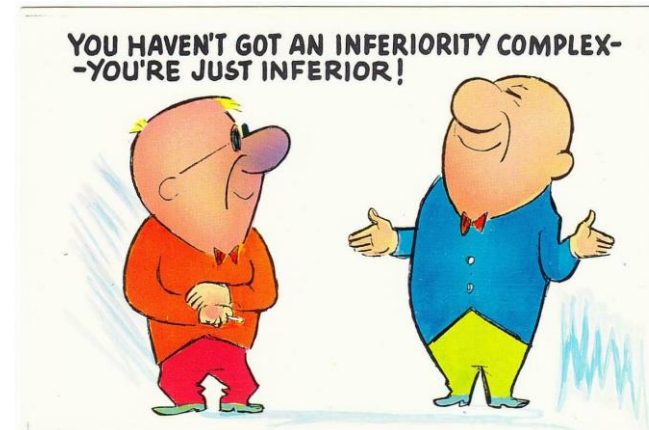
香港特別行政區政府
醫務衛生局

PROFESSIONAL DOMINANT IT CONCEPT

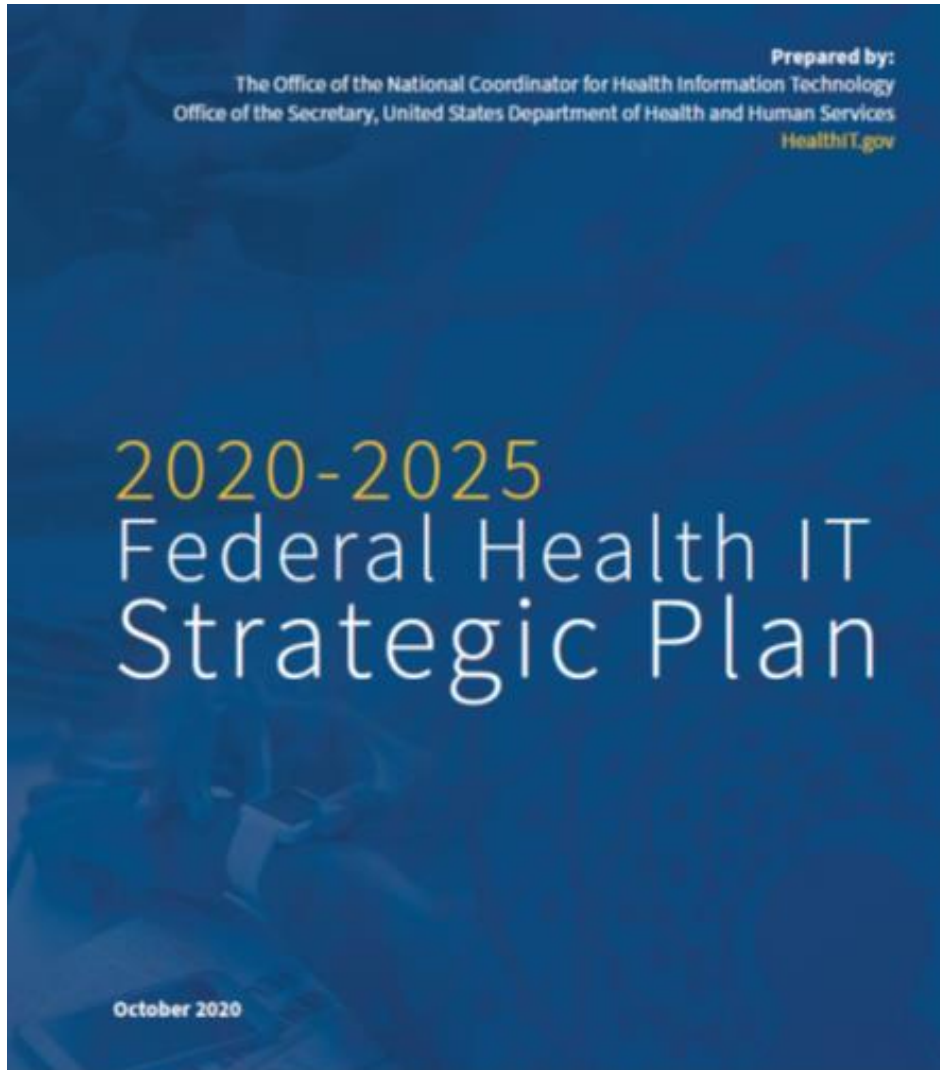


The strategies in developing Smart Hospitals are as follows:

- **Enable smart care provision** by providing AI support for data-driven care, developing smart ward, smart clinic and smart pharmacy, and rolling out "Mobile Patient" initiatives.
- **Enable smart hospital support and management** by automating services via IT tools / solutions and robotics, and establishing IT platforms to facilitate operational efficiency.



EVOLVING EMPOWERMENT CONCEPT



Opportunities in a Digital Health System 13

Empowering Patients 14

Moving to Value-Based Care 15

Advancing Interoperability 15

Promoting New Technologies 17

Reducing Regulatory and Administrative Burden 18

Protecting Privacy of Health Information 19

Securing Health Information 19

Goals, Objectives, and Strategies 20

Goal 1: Promote Health and Wellness 21

Goal 2: Enhance the Delivery and Experience of Care 24

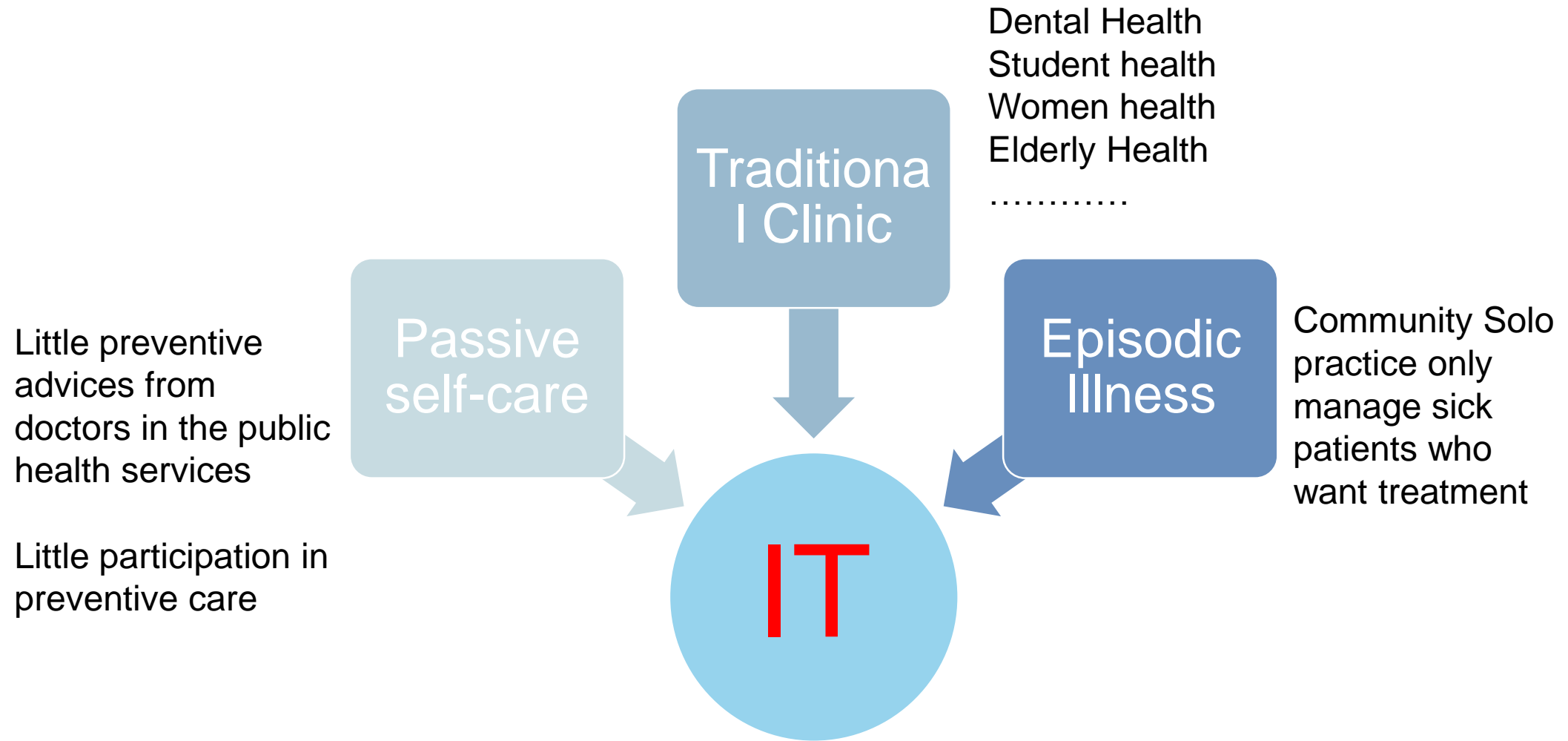
Goal 3: Build a Secure, Data-Driven Ecosystem
to Accelerate Research and Innovation 29

Goal 4: Connect Healthcare with Health Data 32

DIGITAL EMPOWERMENT

- Access to individual health information
- Greater portability of eHealth information
- Evidence based eHealth Information
- Improve consumer health literacy
- Promote healthy behavior and **self management**
- Leverage on population-based data
- Evidence based digital therapeutics
- Extend **beyond traditional clinic** setting
- **Digital technology engagement**

EMPOWERMENT CHALLENGES



3 Ps for IT

P

atient participation

Self Management

Self -health

Self-
Management

Preventive
Advice

Screening

Self-rated

Self-reported

Self-treat

Beyond
Traditional
Clinic



P

reventive care

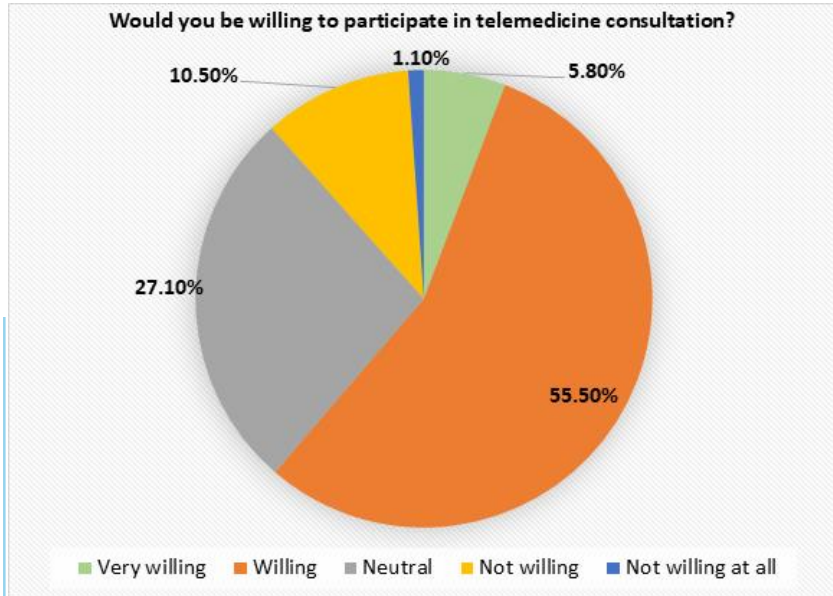
P

olicies for Continuous
Care

Digital
Technology
Engagement



PATIENT PARTICIPATION



<https://www.ln.edu.hk/research-and-impact/research-press-conferences/survey-findings-on-video-medical-consultation-for-elderly>

Pure self care
Individual responsibility

Pure medical care
Professional responsibility

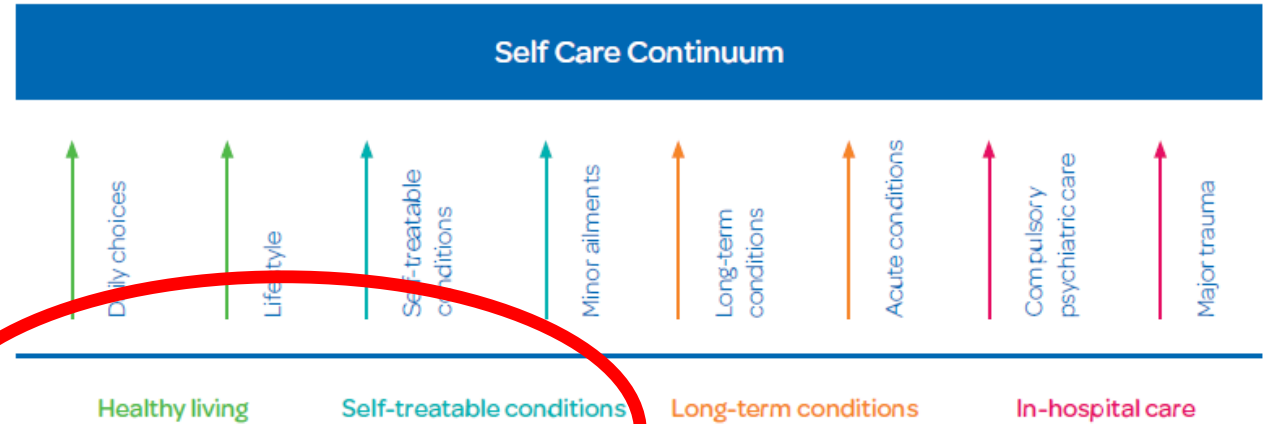


Figure 1: Self Care Forum, *The Self Care Continuum*

However, at 54%, the percentage of adults looking online for health-related information is still far lower than for other online activities. For example,



77%

of adults use the internet to look up information about goods and services



90%

of all households in Great Britain have access to the internet



69%

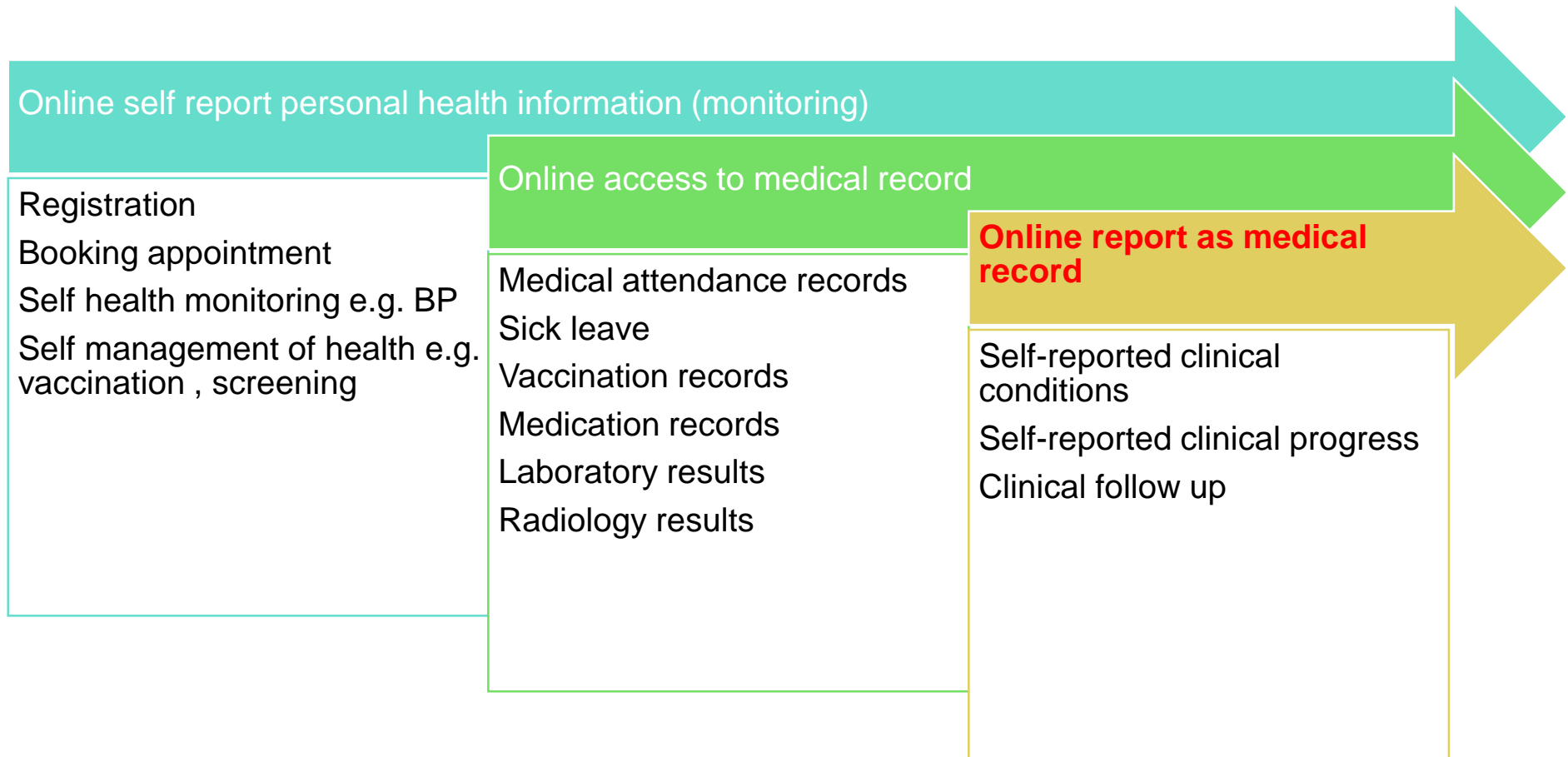
of adults use online banking*



86%

of adults use the internet daily

PATIENT PARTICIPATION IN HEALTHCARE





PROMIS[®] adult self-reported health

	<u>Physical health</u>	<u>Mental health</u>	<u>Social health</u>
PROMIS profile domains	<ul style="list-style-type: none">FatiguePain intensityPain interferencePhysical functionSleep disturbance	<ul style="list-style-type: none">AnxietyDepression	<ul style="list-style-type: none">Ability to participate in social roles & activities
PROMIS additional domains	<ul style="list-style-type: none">DyspneaGastrointestinal symptomsItchPain behaviorPain qualitySexual functionSleep-related impairment	<ul style="list-style-type: none">AlcoholAngerCognitive functionLife satisfactionMeaning & purposePositive affectPsychological illness impactSelf-efficacy for managing chronic conditionsSmokingSubstance use	<ul style="list-style-type: none">CompanionshipSatisfaction with social roles & activitiesSocial isolationSocial support

Global health

Social health

PROMIS profile domains

PROMIS additional domains

Fatigue

Pain intensity

Pain interference

Physical function

Sleep disturbance

Dyspnea

Gastrointestinal
symptoms

Itch

Pain behavior

Pain quality

Sexual function

Sleep-related
impairment

Anxiety

Depression

Alcohol

Anger

Cognitive function

Life satisfaction

Meaning & purpose

Positive affect

Psychological illness
impactSelf-efficacy for
managing chronic
conditions

Smoking

Substance use

Ability to
participate in social
roles & activitiesCompanionship
Satisfaction with
social roles &
activities

Social isolation

Social support

To support this, we are calling for:

- 2 NHSX to explore how existing apps and wearables could support greater self care, encourage the use of pharmacies and help manage demand on local GPs
- 3 NHSX to address barriers to the development of apps and wearables which safely promote self care



9

The 2019 NHS Long Term Plan made two important commitments to help realise the true potential of community pharmacy and support greater self care within the community^{xxvi}:

- NHS 111 will start referring to community pharmacies
- GPs will also be able to refer to pharmacies through the pharmacy connection schemes



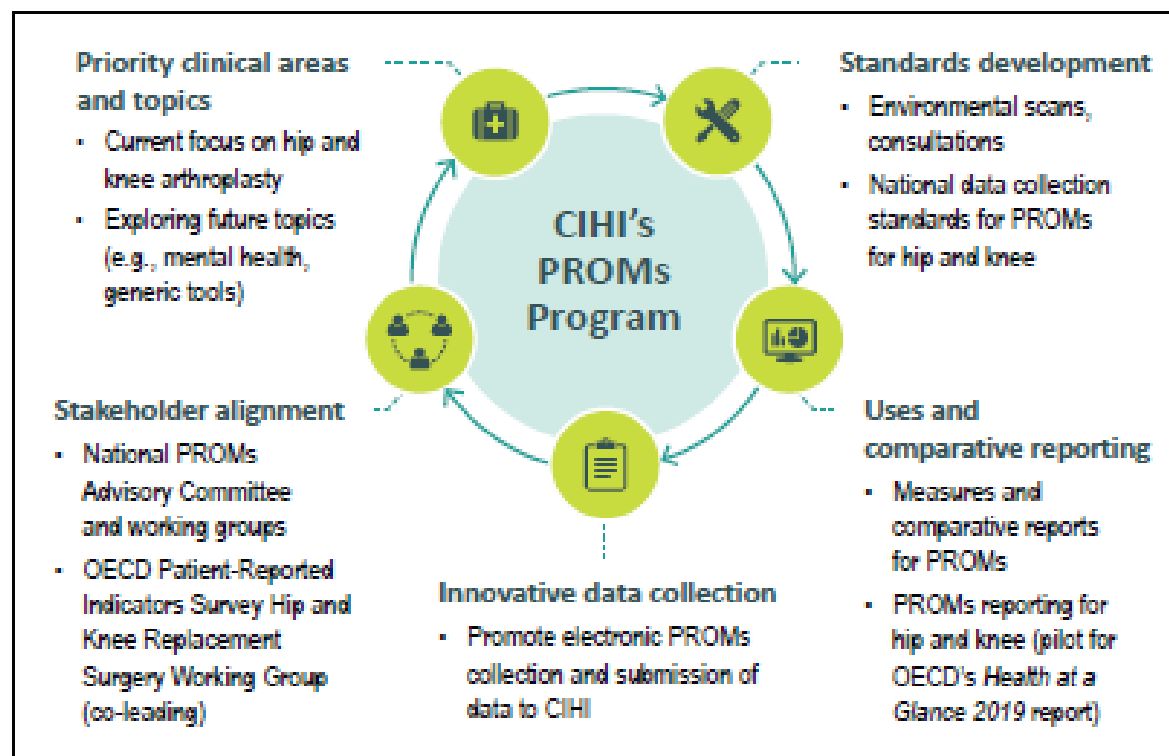
By using anonymised personalised data from millions of people to develop algorithms which take into account the user's own medical history, some companies are already leading the way in how this might be done (see case study 3).



Patient-Reported Outcome Measures

CIHI's PROMs Program

In 2015, the Canadian Institute for Health Information (CIHI) hosted the pan-Canadian PROMs Forum. (PROMs stands for patient-reported outcome measures.) It launched the PROMs Program to support the development of PROMs data collection standards and reporting in priority areas. CIHI continues to work with a broad range of stakeholders to advance a common approach to collecting and reporting on PROMs across Canada.



Notes

PROMs: Patient-reported outcome measures.

OECD: Organisation for Economic Co-operation and Development.

PREVENTIVE CARE BEYOND TRADITIONAL CLINIC



Digital technologies: a force for change

Information and communication technologies were newly emerging when the Declaration of Alma-Ata was agreed four decades ago. At the time, the adoption of these technologies in health services was complex, costly and limited. The commonplace technologies of today such as smart

The use of digital technologies to inform, support and build capacity is an important means to empower the health workforce at the same time as improving the quality of care in primary health care. The future health workforce already lives in a connected world and will have ever greater access to digital technologies in both the public and private sphere. Providing them with communication devices, knowledge resources, and patient management and decision-support tools gives them the means to be more effective and autonomous in their work. Facilitating their education and training through digital tools such as e/mLearning, knowledge sharing and networks improves and reinforces their professional skills. Enabling learners in communities to build knowledge and skills through training modules and online courses offered by distant institutions in order to join the workforce empowers whole communities.

DIGITAL RECORD & REMINDERS



IMMUNISATION REMINDERS

Receive reminders 2 weeks before and when a vaccine is due, so you always stay on track.



TRACK VACCINE REACTIONS

Track adverse vaccine reactions directly on the app so that same may be shared with health professionals.



OUTBREAK NOTIFICATIONS

Future Feature. The Vaccine App will notify you if there are specific outbreaks in your area.



HISTORY MIGRATION

Easily migrate your personal immunisation history from paper to the app in minutes.



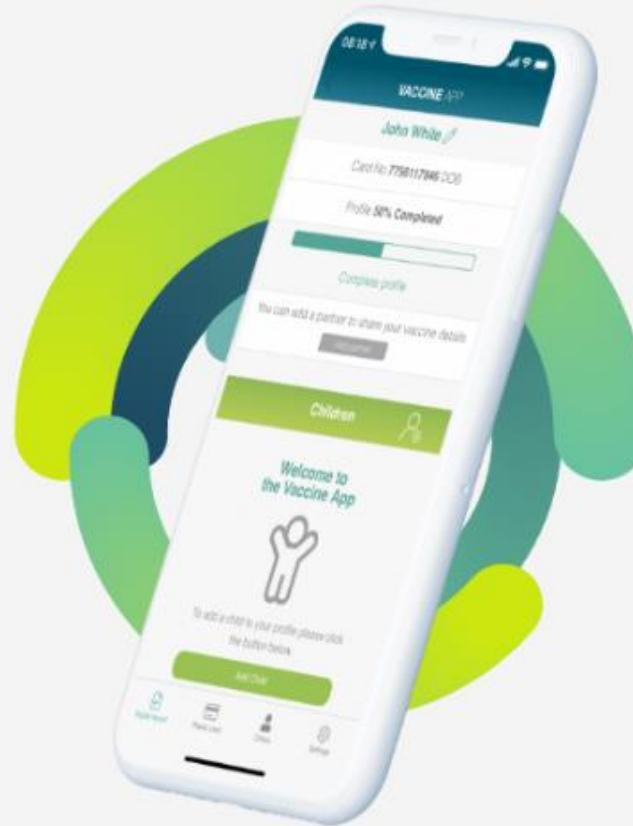
OFFICIALLY SIGNED RECORDS

Health professionals sign vaccines digitally, giving you access to a digital vaccine passport on your phone.



PDF PRINT OUTS

Registered users can easily print a PDF card right from within the app at anytime.



VACCINE SCHEDULE

A comprehensive vaccine schedule for children, adults, COVID19 and travel vaccines.



NO BORDERS

Digital records of your vaccine history that stays with you from country to country.



SHARED CHILD RECORDS

Child records can be shared between parents when both parents are registered on the app.



CLINIC FINDER

Easily find the most convenient and closest clinic to you directly in the app.



FREE FOR LIFE

A FREE digital vaccine record available on your phone for life.



BIRTH TO ADULTHOOD

A digitally vaccine solution that keeps your records safely stored from birth to adulthood.

DIGITAL FRONT-DOOR FOR ACCESS TO EMPOWERING TOOLS

Drivers

Primary Healthcare
Development

Smart Healthcare

Integrated Care

Digital Transformation

Vision

A key information technology infrastructure that ultimately support the provision of safe, efficient and quality healthcare with better health outcomes for Hong Kong people.

Mission

Enhancing care coordination, active health management, cross-sector collaboration and health surveillance, bringing about a seamless and personalised care experience for each individual.

Strategic
Goals

Goal 1: One Health Record

Strengthening eHR sharing across public and private sectors, creating one trusted source of lifelong records for enhanced personalised care



Goal 2: One Care Journey

Enabling a seamless person-centric care journey across settings and sectors within Hong Kong and beyond



Goal 3: One Front-Door to Empowering Tools

Empowering individuals in participating in active health management from general wellness, disease prevention to chronic disease management



Goal 4: One eHR Repository for Insights & Innovation

Enabling population-based health surveillance for supporting insight-driven policymaking and catalysing development of a healthcare ecosystem



Enablers



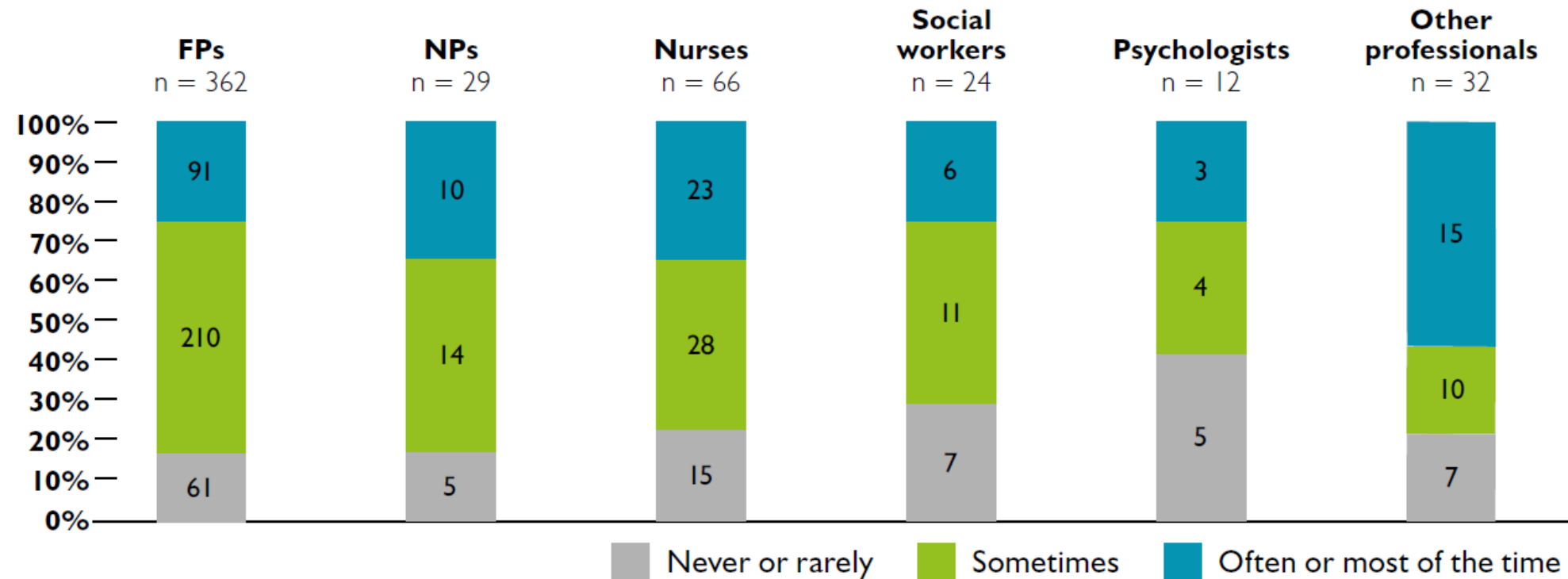
Governing and measuring the success of eHealth development



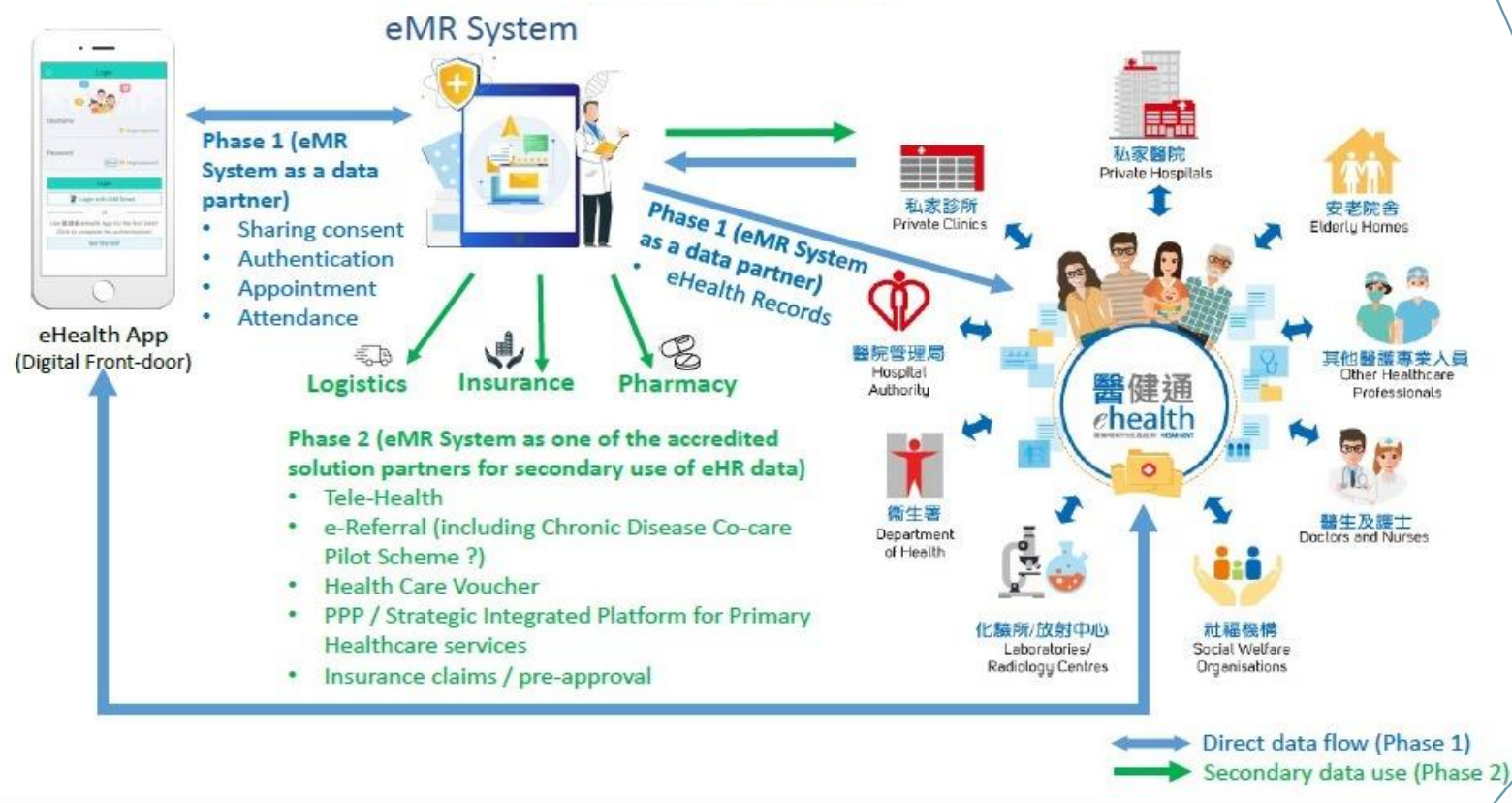
Building a future ready platform

HEALTH PROFESSIONALS

FIGURE 6. Intent to use telehealth in post-pandemic practice



NETWORK SERVICES



Chronic disease screening

Cancer screening

藥物相關資訊您要知道



如何分辨藥物和營養補充品？

所有在香港銷售的藥物，都有安全、療效及質素標準，並獲香港藥劑業及毒藥管理局批准註冊。藥物包裝上會印有「HK-XXXXX」的註冊號碼。營養補充品在包裝上會有營養標籤，並且不能取代藥物。

藥物有分級？

1. 處方藥物：由醫生處方，並於註冊藥房由藥劑師處取用。Prescription Drug

由藥劑師監督下售賣。Supervised

部毒藥或非毒藥。Listed Poisonous or Non-Poisonous Drugs



註冊藥房的標示

男士終身疾病預防策略一覽表



年齡 (歲)	19歲以上	45歲以上	50歲以上	65歲以上
疫苗接種	<ul style="list-style-type: none"> 季節性流感疫苗 (1) 年年要打針，預防流感及其併發症 2019冠狀病毒疫苗 (1) 讓已獲人，減低病毒變異機會 			
健康生活模式		<ul style="list-style-type: none"> 不吸煙 不飲酒 恆常運動 每星期150分鐘中等強度的體能活動 或 最少75分鐘劇烈的體能活動 和 每星期2天進行肌肉強化活動 (按自己身體狀況而調節，循序漸進) 體重管理 理想體重指標為18.5-22.9 		
慢性疾病預防		<ul style="list-style-type: none"> 糖尿病 (45歲以上人士) 每3年篩查一次* 	<ul style="list-style-type: none"> 高血壓 (50歲以上人士) 每3年篩查一次* 	<ul style="list-style-type: none"> 大腸癌 (50至75歲) 每1-2年大便隱血測試一次 或 每5年乙狀結腸鏡檢查一次 或 每10年結腸鏡檢查一次
癌症篩查		<ul style="list-style-type: none"> 前列腺癌 (45至70歲) 	<ul style="list-style-type: none"> 肺癌篩查 (50至75歲) 每1-2年大便隱血測試一次 或 每5年乙狀結腸鏡檢查一次 或 每10年結腸鏡檢查一次 	<ul style="list-style-type: none"> 疫苗接種 肺炎球菌疫苗 (1) (65歲以上人士)

*如有相關風險因素，請諮詢家庭醫生和按建議做篩查
① 政府資助或免費計劃

上述資訊屬一般健康建議，如有任何疑問，請與家庭醫生或地區康健中心/站的醫護團隊查詢。

Vaccinations

POLICIES ON CONTINUITY OF CARE

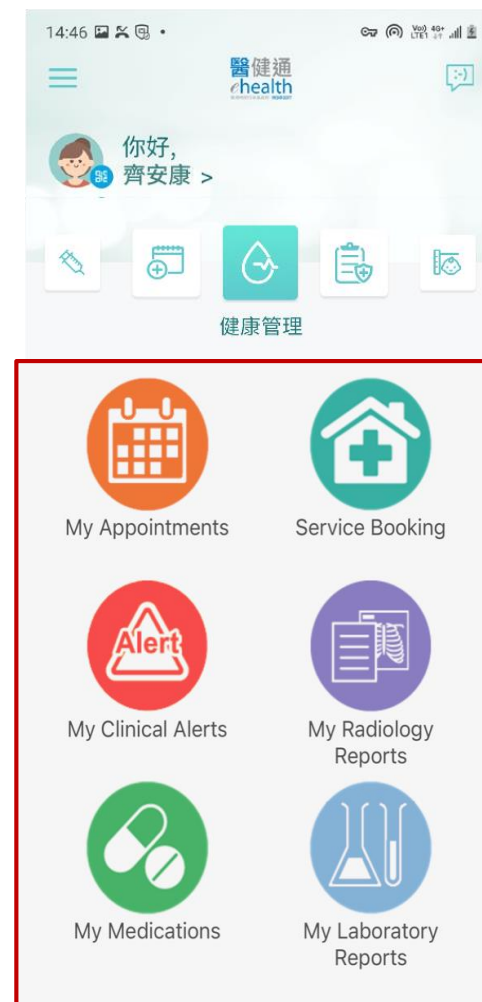
DHC



Healthcare Provider



Health Management



DEVELOP FAMILY DOCTOR REGISTRATION SYSTEM & REFERRALS

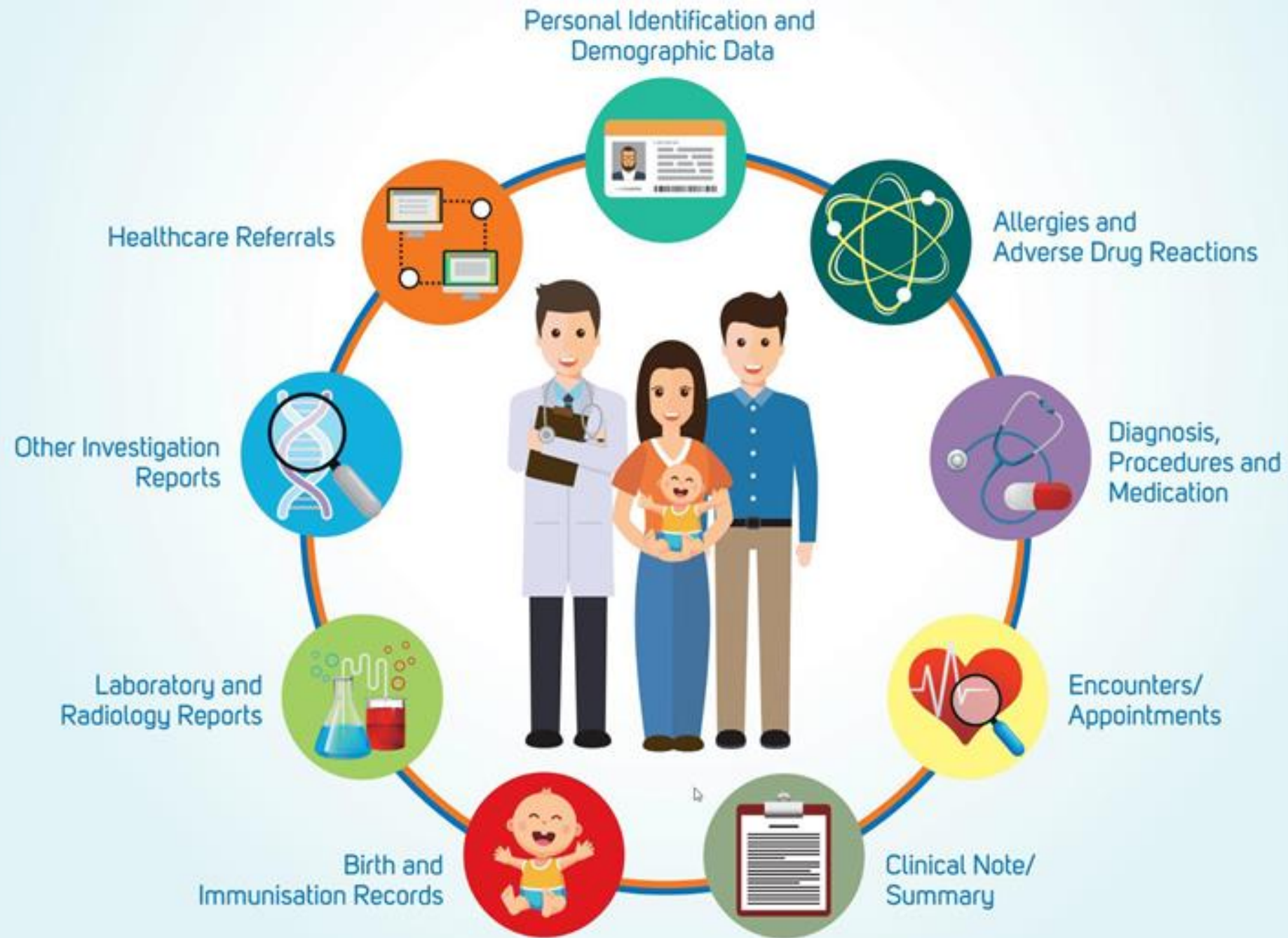


CONNECTED AMONG HEALTHCARE PROFESSIONALS IN COMMUNITY



Figure 9: Digital professionalism sub-domains

	2.1 Digital profile	Allied health professionals use digital technologies to develop and maintain online identity and reputation
	2.2 Professional and ethical responsibilities	Allied health professionals maintain their professional role and responsibilities when using digital health technologies
	2.3 Communication	Allied health professionals use digital health technologies to support communication with healthcare professionals and consumers
	2.4 Collaboration	Allied health professionals use digital health technologies to support collaborative health care
	2.5 Patient-centred care	Allied health professionals use digital health technologies to partner with patients/consumers
	2.6 Professional development	Allied health professionals use digital health technologies to enhance and monitor learning and development



INNOVATION TO TACKLE LIMITATIONS

Advantages

- > 400 respondents
- ✓ Less travelling for patients and professionals (159)
- ✓ Faster appointments, less waste of time (124)
- ✓ More efficient (78)
- ✓ Availability and flexibility (78)
- ✓ Facilitates access (78)
- ✓ Less risk of infection (69)
- ✓ Ideal for chronic illness follow-ups, prescription renewals or compliance follow-up (56)
- ✓ Easier to organize (54)

TOMORROW

See family
doctor when you
are still healthy



THANK YOU

