

Before we start

- 1. HPB will upload a copy of this presentation deck on our CFC website within the next working day after this session on https://hpb.gov.sg/partners/cfc2022
- 2. We understand that there might be questions regarding the presented materials. We will run through the deck first, before hosting a Q&A session towards the end.
 - For the Q&A session, please kindly use the "raise hand" button in the sidebar chat box, before we call on you to un-mute your mic for your question.
 - You may also email your queries to HPB_CFC@hpb.gov.sg, and the team will target to respond in a timely manner.

Thank you for your kind understanding.

Today's Agenda

- 1. Introduction to HPB's CFC 2022
- 2. Background on Singapore's health ecosystem
- 3. CFC 2022's scope
- 4. Potential benefits to interested respondents / partners
- 5. Selection process & timeline
- 6. Key things to note
- 7. Q&A session

Introduction

1. HPB is issuing this **Call for Collaboration (CFC)** to invite proposals from companies and organisations to collaborate with public health organisations to harness technology, behavioural insights and analytics to help Singapore residents take better ownership of, and sustain improvements to, their health.

Some things to note:



This CFC is **not** a Government procurement exercise.

HPB does not intend to procure or purchase goods and/or services through this CFC.



This CFC is **not** a hackathon or innovation challenge.

There will not be any 'prize monies' or grants involved in this CFC.

 Instead, HPB is looking for interested entities to establish mutually-beneficial strategic partnerships.

What we hope to achieve

"Longer-term, Expanding and leveraging new opportunities by supporting industry mutually-beneficial **SG Government** partners to promote and deliver strategic partnerships." healthier lifestyle programmes at scale Seizing new opportunities to co-innovate, perform R&D and Access to a range of new service delivery with public and personalised programmes or private healthcare partners pilots to drive achievement of better health outcomes **Interested Entities SG** Residents

Proposals should aspire to be global-leading innovations beyond current solutions, and bring about positive impact to Singapore's population health in a cost-effective manner.

What we have achieved from the previous CFC

An end-to-end illustration of the CFC process (using 2018 as an example):

Our 1st CFC in 2018 sought out innovative ideas to promote healthier living by different sub-groups:

"The Healthy"

"The At-risk"

"The Unwell"



Proposals were submitted around different healthcare challenges and solutions:

E.g.

"Smart wearables"

"Analytics Tools"

"Tech platforms"



Proposals were assessed by an inter-agency Evaluation Committee











SMART NATION

Examples of partnerships we had established from 2018's CFC:

LiveHealthy SG

LumiHealth

The new CFC will have a revised scope & new focus areas, which we will share in later slides.

Brief overview of SG's healthcare players



Parent ministry that sets national health directions, policies and regulations, and manages Singapore's healthcare financing system















Regional Health
Systems across 3
geographical
clusters that offer
acute, primary
and community
care

Formulate and implement health policies and programmes, equip citizens with knowledge and skills

Regulator for health products, secure national blood supply, provides expertise in forensic medicine

Supports
services in
integrating care
needs with
health and
social care
partners

Designs new care initiatives by leveraging on data analytics, technology and incentive redesign

Partnering with private GP clinics to offer affordable and quality primary healthcare services

HPB's mission to empower citizens to lead healthy lifestyles



HPB is committed to promoting healthy living in Singapore. We seek to empower the public with knowledge and skills to **take ownership of their health** and live a **healthy lifestyle**, by providing **evidence-based health information** and **programming support** in various areas such as to promote physical activity, healthier eating, mental wellbeing and regular screenings.

At HPB, our vision is to see a nation of healthy people – "to live well, live long & with peace of mind."

To achieve that vision, HPB has been working to:

- Uncover key health problems that affects the wider population (e.g. sodium/sugar intake, tobacco control);
- Leverage technology to get Singapore residents to take ownership & care for their own health; and
- Implement and promote programmes that include all ages as much as possible (see outreach examples below).

Schools

Partnerships with primary / secondary / tertiary institutions for education on healthy living and developmental screening





Collaborations with workplace clusters, landlords and developers, and companies to build healthier ecosystems at work



Community









Outreach efforts with various community partners, e.g. community clubs, shopping malls and parks to host workout sessions, offer healthy dining options, provide amenities to make healthy living more accessible

Examples of areas of interest (to MOH & HPB)



Maternal & Child Health



To enable **holistic family support programmes** that provide parental education on childhood nutrition, screen time, sleep etc. to foster good physical and emotional health for the family



Vaccination and childhood growth and developmental screening, assessment checks for young children, inculcating healthy lifestyle habits from young



Seniors



To empower seniors to take charge of their own physical, mental, and social health through active ageing programmes and care services, and foster active living while staying connected to loved ones and society via digital platforms and strong supportive community networks





Weight Management

To nudge public towards adoption of **healthier lifestyle habits** and reduce overweight/obesity prevalence, by:

- (1) Incorporating physical activity into their daily routine to reduce sedentary levels
- (2) Fostering greater awareness and nutritional quality of one's diet, reduce calorie intake



Mental Wellness

To normalize conversations about mental wellbeing, improve **public literacy** of mental health issues, strengthen health, social and employment services and family support

Emotional support and screening to facilitate earlier identification and earlier interventions



Healthier SG Strategy

OVERALL STRATEGY: To refocus efforts on keeping individuals healthy by tapping on the network of GPs around Singapore, with HPB leading upstream efforts for preventive health and early intervention.



Family Physicians as the primary care provider for the family



Personalized health plans for one's care needs and health goals



Key preventive care actions, early address of **key risk factors** for delay of disease onset



Continuity of care, from polyclinic or hospital to general practitioners/ family physicians and allied health professionals



Network of General Practitioners







Agencies and community partners to collaborate in building **integrated ecosystem** for health programmes and services

HPB to continue to focus on:

(1) preventive health and fostering health innovation in partnership with private sectors; (2) provide residents with timely feedback of their health behaviour and health status data, and (3) supply GPs and care providers with a holistic view of an individual's healthcare needs and lifestyles



SCOPE FOR CFC 2022

2 focus areas for new collaborations

At HPB, our vision is to see a nation of healthy people – "to live well, live long & with peace of mind."



"Health Promotion for All"

- We want to continue advancing programmes within the "wellness space", to empower Singaporeans with the knowledge and skills to take ownership of their health and live a healthy lifestyle.
- We are open to ideas on:
 - new programmes to cover more participants; and/or
 - enrich HPB's datasets towards designing relevant interventions for our userbase within HPB's reach.

"Advancing Healthier SG Efforts"

- HPB intends to empower Singaporeans with timely feedback of their individual health behaviour to allow them to monitor and take ownership of their own health.
- On the national-level, coordination is required to pull together a 360° view on an individual's healthcare needs, and coordinate suitable follow-up actions. This may include supplying GPs and care providers with a holistic view of their patients to enable early intervention of key risk factors.
- We are open to ideas on how the above can be done effectively and efficiently.

Desired objectives for new collaborations

HPB intends to establish new strategic partnerships with the following objectives:

#1 – Covering more "BREADTH" across more individuals

- A large part of the population have yet to participate in HPB programmes (e.g. seniors, children)
- HPB is open to trial out new proof-of-concepts around certain segments (e.g. pre-frailty)
- We are looking for partners who can create new programmes/ POCs that leverage technology to promote healthy habits across various domains to more Singapore residents.

#2 – Covering more "DEPTH" of data for each individual

- HPB has been giving more attention to other domains such as mental health, frailty (especially detection of pre-frailty), and health coaching
- There are new algorithms which can predict health outcomes based on measured proxies (e.g. mental health wellbeing through stress levels & heart rate)
- We are looking for partners who can collect lifestyle data through novel means, and/or analyse using algorithms to uncover unique insights to advance population-level interventions through HPB's programmes.

#3 – EMPOWERING individuals to manage their health

- As society ages, more people will go through the cycle of being healthy to needing medical care and attention, and timely feedback is required to help them take ownership of their health.
- We are looking for partners to pilot tech-enabled solutions that can educate and empower individuals in managing their own specific health conditions/chronic diseases over time.

HPB wishes to work with partners who can bring the following capabilities to the table:



Design and Gamification

- To work with HPB to co-design a healthy lifestyle programme using gamification concepts
- Incorporate engaging mechanics to inculcate healthier habits, modify user behaviors
- Develop strategies to nudge and motivate users towards completing health actions,
 e.g. step counts, food logs, mindfulness practices



Innovative Devices / New Capabilities

- Innovative proposals for **health data capturing** via wearable devices
- Software / Artificial Intelligence capabilities for faster and more accurate monitoring of one's health conditions



Contribution of Proprietary Lifestyle Data

 Combining data from various sources to provide a more holistic depiction of an individual's health, to allow for more precise and personalised approaches to healthcare

HPB & Partner to jointly develop, build and sustain new population-wide programme

- Co-design
 lifestyle programme
 to reach
 population-at-large
- Using tech to encourage active user participation
- 3 Sustain engaging programme by serving lifestyle interventions with constantly refreshed content to stay relevant



HPB & Partner to jointly derive insights and refine programme

- Feature R&D and experimentation to trial effectiveness on participants
- Mesh programme data with other datasets to uncover & act on new insights

E.g. crafting lifestyle programme to promote each user's holistic health (e.g. around nutrition, physical activity, mental wellbeing, tobacco control):

E.g. leveraging programme for testing new interventions & research



Programme data collected off each individual participant

1. Individual-level

Determining relevant interventions for each participant[For example, serving:

- customised activity coaching around individual fitness levels;
- 2. progressive advice to quit tobacco;
- 3. means to help user destress.]

Designing new features

(e.g. offering tailored advice on how affected users can cease tobacco usage, based on individual motivation)

2. Group-level

Refining these features based on feedback

(e.g. what works best for different personas)

Testing hypotheses

3. Population-level

Meshing with e.g. other surveys to uncover trends, correlations

(e.g. utilizing resting heart rate data to get more in-depth understanding on citizens' mental wellbeing)

New digital lifestyle programmes may potentially leverage HPB's existing "building blocks" across various domains

Mental Wellness

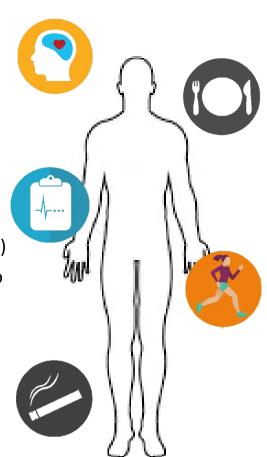
- HPB has **consolidated resources** (e.g. MindSG Portal) and **support helplines** to promote mental wellbeing
- HPB is attempting to collect sleep data through our programme & wearables (e.g. "Sleep Challenge")

Health Screenings & Vaccinations

- HPB has set up a nation-wide subsidised programme ("Screen for Life") to help users manage chronic conditions (e.g. diabetes, hypertension, hyperlipidaemia)
- Through **HealthHub**, Singapore residents are also able to perform various health services (e.g. book medical appointments, check lab results, make payments etc.)

Tobacco Cessation

 HPB has customised programmes and support tools (e.g. iQuit helpline) to offer personalized assistance in helping individuals quit smoking



Nutrition

- HPB maintains a database of local F&B items, which can facilitate food logging / tracking
- HPB has extensive partnerships with F&B partners, supermarket chains & food manufacturers to:
 - Curate list of **healthier dining options**
 - Curate F&B items with **Healthier Choice Symbol**
 - Collect data on healthy consumption patterns through our Eat, Drink, Shop Healthy Challenge

Physical Activity (PA)

- HPB has issued wearables to Singapore residents, which collects PA-related data (e.g. steps count, exercise minutes)
- Our H365 app is able to ingest PA-related data
 across different trackers from other apps/brands
- HPB drives **national campaigns / events** to promote PA, e.g. National Steps Challenge, "Move It" programmes.

HPB & Partner to jointly deploy and administer small-scale pilot(s) with a view to scale



Identify focus area(s) & target group(s)

Continuous data collection/ monitoring

Serve interventions & assess impact

Refine interventions to better help users

HPB & Partner to scale-up pilot(s)

Expand reach to aid more participants

Pilot scale-up via

outreach channels

New means of lifestyle interventions

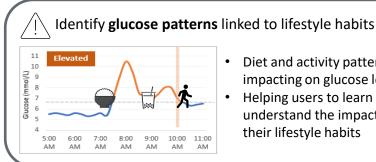
leveraging biofeedback and smart

recommendations to prevent the

onset of metabolic diseases

Devices that can measure biofeedback e.g. continuous glucose monitoring Data collected off health apps e.g. food logging wearables

Generally well but may be at risk of deteriorating metabolic health e.g. overweight, family history of metabolic diseases



Diet and activity patterns impacting on glucose levels

Helping users to learn and understand the impact of their lifestyle habits

Family physicians



Workplace Settings



Community

Users are guided by the coaching recommendation engine to implement behaviour change and conduct self-tracking of

Provide personalized food and activity recommendations to users based on their biofeedback, profile and goals

Digital health coaching solutions that leverage

biofeedback to drive behaviour change

Illustration of a possible pilot to improve metabolic health for citizens

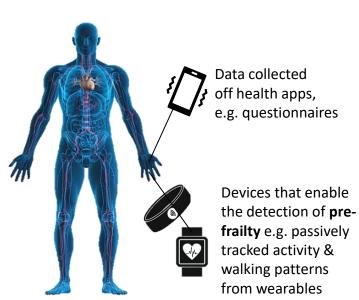
progress

HPB & Partner to jointly deploy and administer small-scale pilot(s) with a view to scale

HPB & Partner to scale-up pilot(s)

Expand reach to aid more participants

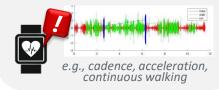
- 1 Identify focus area(s) & target group(s)
- Continuous data collection/ monitoring
- 3 Serve interventions & assess impact
- 4 Refine interventions to better help users



Middle aged adults who are generally well but may be at risk of deteriorating functional health e.g. those who are

inactive and easily tired

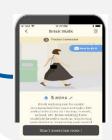
Identify activity & walking patterns that act as digital biomarkers for functional health



<u>Digital biomarkers</u> act as feedback to quantify functional improvements, to encourage 'stickiness' to behaviour change

Digital biomarkers used to identify those at risk of deteriorating <u>functional health</u> & basis for delivery of interventions

Provide targeted activity recommendations to improve specific aspects of functional health



For e.g., try out 2 strength exercises such as chair squats 2x this week, so that you can go about your day safely!

Scale up at national level

New means of physical activity interventions, that leverages digital biomarkers and smart recommendations to potentially reverse deterioration in functional health e.g., pre-frailty





POTENTIAL BENEFITS TO PARTNERS

Who are we looking for?

We seek partner organisations who have capabilities in, and are keen to collaborate with HPB, including, but not limited to, the following areas below:

- Co-creating new health programmes to rope in more Singapore residents to participate, while
 equipping them with the knowledge and skills to lead a healthier lifestyle;
- Enriching HPB's lifestyle datasets (e.g. around nutrition, physical activity, mental wellbeing, sleep etc), so as to design relevant interventions for Singapore residents; and/or
- Empowering Singapore residents to take better ownership of their health conditions (e.g. chronic diseases), as they transit between being well to requiring care.

Potential benefit #1: HPB's expertise & outreach support

- HPB is a credible and authoritative source of evidence-based health information to empower Singapore residents to fully embrace life through our wide range of health promotion and disease prevention programmes.
- Respondents can tap on HPB's subject matter expertise and support in promoting new programmes and service offerings
 to the public.

HPB's subject matter expertise, e.g.: **Physical Activity Nutrition** Mental **Active Aging** Wellbeing **Substance Abuse** Health Screening

Examples of HPB's outreach efforts for our programmes to different groups













Potential benefit #2: Gathering insights from data

At HPB, we believe that the collected lifestyle data belongs to each individual, and data privacy and individual consent is paramount.

With participants' consent, partners may be able to tap on HPB's lifestyle data repository to: (i) refine programmes to better serve Singapore residents, and (ii) enable research to optimize health outcomes with other partners such as MOH, NUS-SPH, A*STAR etc.



National Steps Challenge

iOS (51%) & Android (49%) users

>920,000 participants (Season 5) 285k active users

43% male; 57% female

Appeals to 25 – 59 age group Median age of 47 years old

Examples of data:

- Daily step counts
- MVPA minutes
- Heart rate
- Sleep duration



Eat, Drink, Shop Healthy

iOS (51%) & Android (49%) users

>940,000 participants 289k active users

39% male; 61% female

Appeals to 30-59 age group Median age of 44 years old

Examples of data:

- Consumption of healthier products at various F&B settings
- Purchase habits of healthier products at grocery partners
- Orders off food delivery platforms
 & e-grocers



Health Insights Singapore

Available to iOS & Android users

~6,000 participants & active users

49.5% male; 50.5% female

Participation from 17-74 age group Median age of 37 years old

Examples of data:

- Daily step counts
- Heart rate (incl. variability)
- Sleep data
- VO₂ max
- Food logging for each meal
- Survey data on attitude & perception towards health topics



WOG Data (e.g. SportSG)

Available to iOS & Android users

App is widely used by Singapore residents to book SportSG facilities, activities and events.

Appeals to moderately active users who prefer higher intensity sports

Examples of data:

- Location of sports participation
- Frequency / type / intensity of preferred sports activities

Potential benefit #3: Opportunity for economic support

• Where there is significant capital and capability investments in Singapore, or substantive innovation, HPB can also facilitate discussions with economic agencies such as EDB, A*STAR and/or Enterprise Singapore etc. on potential support under existing economic incentive schemes.



- Connections to business partners, both locally and regionally
- Able to provide access to fastgrowing markets in SEA
- Selective assistance to increase production capacity and build capabilities



- Enabler of research-driven initiatives to facilitate industry engagement and innovation
- Supports SME innovation and growth by offering programmes to enhance competencies, upgrade R&D capabilities



- Works with companies to build capabilities and internationalize, with focus on quality and standards in the firm's products/services
- Extensive network of local and overseas partners to support enterprise competitiveness



SELECTION PROCESS & TIMELINE

Evaluation considerations for this CFC

The Evaluation Committee will consider the following when evaluating received proposals:



Proposed impact of the proposal



2

Probability of success for this proposal



(3)

Other considerations

Nature of impact:

- Is the proposal solving a tricky issue?
- What are the benefits to users?
- Can we quantify these benefits?
- Can these benefits be sustained?

Addressable market & scalability:

- How many users as an initial target?
- What is the full population size that can benefit from this?
- Can the proposal be scaled up easily?

Time-to-market:

 How much time is needed before it can be rolled out/ scaled up?

Implementation plan:

- Is there a detailed approach on how to roll it out, and is it feasible?
- Is it cost-effective to deploy the idea?

Partner's capabilities:

- What capabilities can the partner bring to maximise success?
- What is expected from HPB for a successful partnership?

Partner's track record:

- Is the partner financially stable & reputable?
- Has the partner delivered similar initiatives in the past?

Data privacy & security:

- How will data be managed and safeguarded?
- What is the partner's attitude towards data management?

Compatibility with HPB's initiatives:

 Is the proposal complementary to other HPB initiatives/programmes?

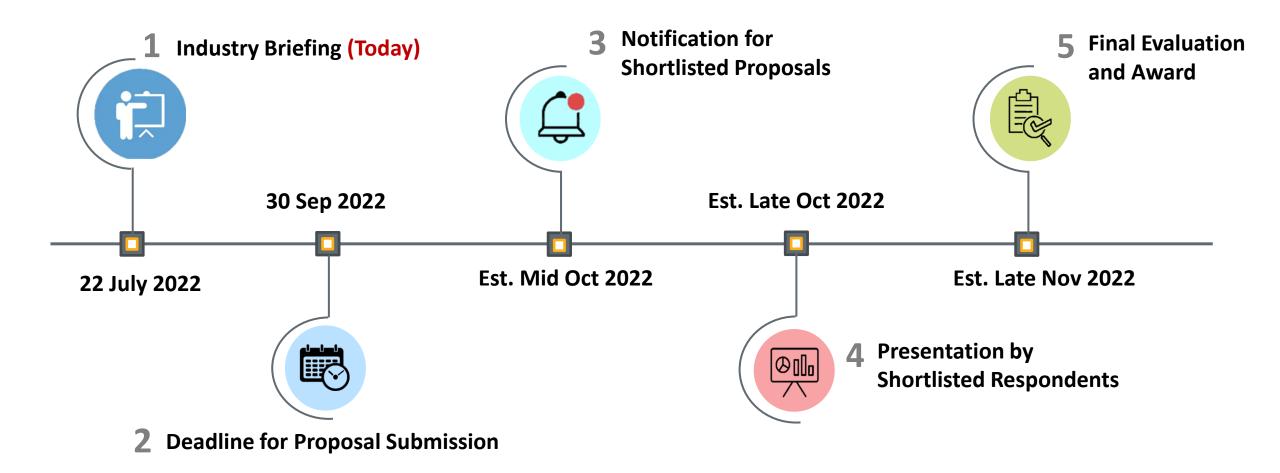
Scale of local presence:

Is the partner able to offer local support?

Economic value-add & innovativeness:

- How does it contribute to Singapore economy?
- Does it advance our Smart Nation transformation efforts?

Overall timeline

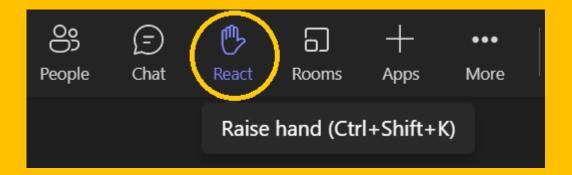


Key things to note

- 1) For more information on the CFC, please refer to https://hpb.gov.sg/partners/cfc2022
- 2) For additional queries and clarifications, you may email your query to HPB CFC@hpb.gov.sg using the following subject header: "[Company Name] HPB CFC 2022 Enquiry"
- 3) CFC proposal to be submitted to HPB_CFC@hpb.gov.sg by 30 September 2022, 2359 hrs

Q & A

- Please kindly use the "raise hand" button in the sidebar chat box, before we call on you to ask your question.
- You may turn on your video when asking questions.



Thank You.

You may also email your questions to HPB CFC@hpb.gov.sg, and the team will target to respond in a timely manner.