MINISTRY OF HEALTH
SINGAPORE

Healthy Ageing Innovation Grant
National Innovation Challenge on Active and Confident Ageing

Public Briefing
29 May 2017

Programme

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National Innovation Challenge on Active and Confident Ageing

- The National Innovation Challenge (NIC) on Active and Confident Ageing was announced by Minister for Health and Chairman of the Ministerial Committee on Ageing as part of the Action Plan for Successful Ageing on 26 August 2015

- This NIC seeks to **catalyse innovative ideas and research** in Singapore that can **transform the experience of ageing** in Singapore, tomorrow.
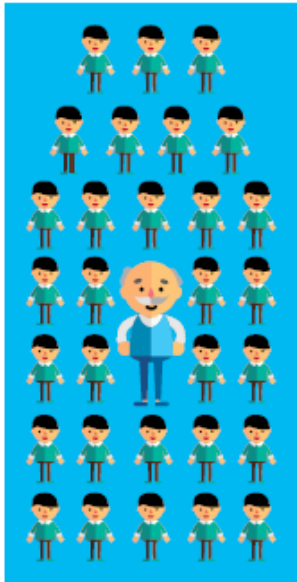
More research into ageing issues:

- Up to $200 million set aside for a **National Innovation Challenge** to catalyse research related to ageing.

Singapore is ageing rapidly

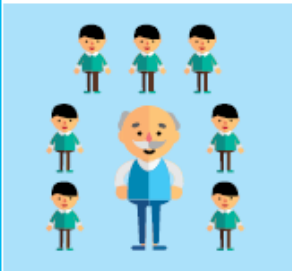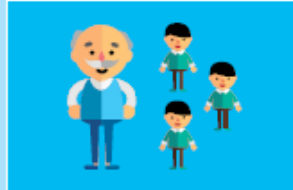**By 2030, there will be over 900,000 Singaporean seniors**

1 in 31

OUR POPULATION IS AGEING RAPIDLY.

In 1970, **1 in 31** Singaporeans was 65 or older. In 2015, it was **1 in 8**. By 2030, it will be **1 in 4**. We will have over 900,000 seniors, approximately double the current 440,000.

1 in 8

1 in 4

| 1970 | 2015 | 2030 |

YEAR

Seniors aged 65 and above

Singaporeans under the age of 65

Citizen Population Size

2030

Exiting Working-Age

258K

Entering Working-Age

171K

Entry < Exit

Age
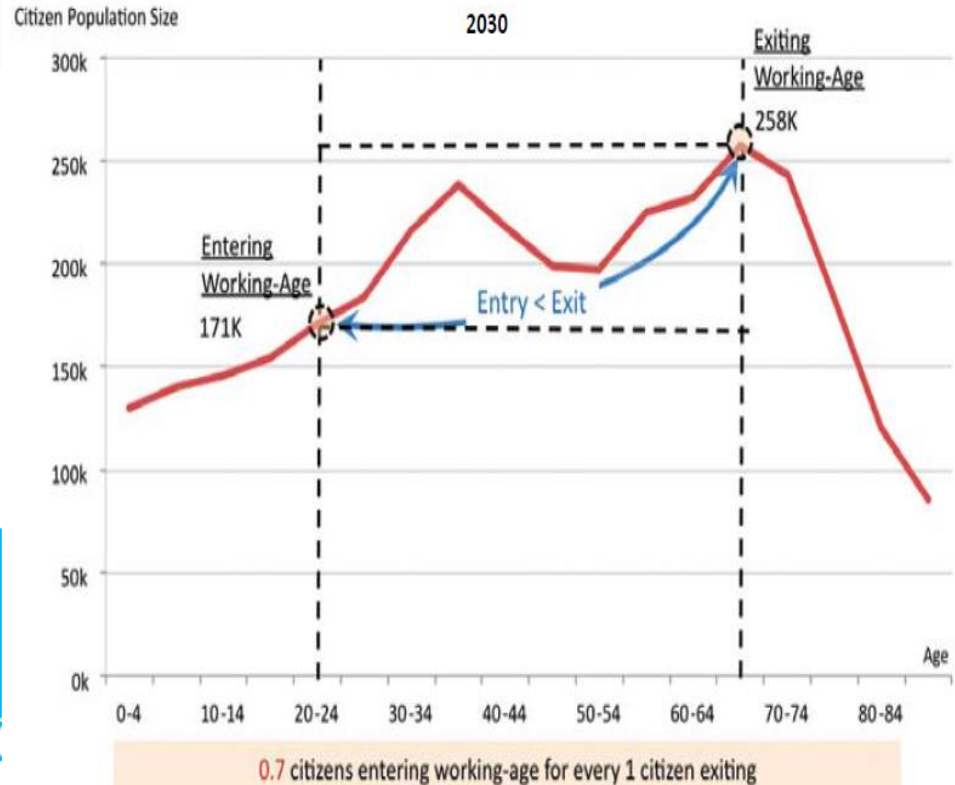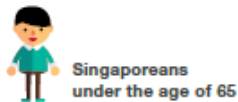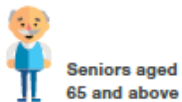
0.7 citizens entering working-age for every 1 citizen exiting

Source: Population White Paper, Jan 2013.

We have since launched four grant calls

Ageing in Place

Care at Home Innovation Grant (Aug 2015)

- Improve productivity of home care, while ensuring good quality care that is responsive to the needs of the clients
- We want to foster partnerships between health or social care providers and technological solutions providers

Enabling Innovation Grant (Nov 2016)

We are looking for game changing innovative assistive devices or new models of assessment to enable seniors to age autonomously despite their disability.

We have since launched four grant calls

'Lengthening Health Span'

Grant Call on Cognition (Nov 2015)

- Translational research and innovations that could functioning and delay the onset of dementia in older adults
- Invent new models of care that will provide quality and cost effective care for seniors with dementia in the community

Productive Longevity

Ageless Workplaces Innovation Grant

(May 2016)

- Improve the productivity of older workers
- Enable older workers to be employable at 65 years and beyond.
- Looking for game-changing solutions

Enabling Innovation Grant

- This is our fifth grant call, under the NIC thrust on "Ageing in Place"

- We seek **translational research and innovations** that could **(i) reduce the risk, (ii) delay the onset** and/or **(iii) decelerate the progress of frailty in older adults.**

- Research solely focused on telehealth, tele-monitoring or tele-rehabilitation would not be considered.

- Project Teams should focus on the physical aspects of frailty, although Research targeting cognitive and/or other aspects of frailty in addition to physical frailty may also be considered.

Challenge Statement

Develop an **appropriate and efficient method of identifying pre-frail or frail seniors**, including those at risk of accelerated decline and/or design **end-to-end innovative and scalable preventive intervention programmes or solutions** that would **reduce the risk, delay the onset and/or decelerate the progress of physical frailty**. Project teams must demonstrate the methodology to be used in measuring and achieving the desired outcome pre- and post-intervention.

Potential Research may include, but are not limited to,

Identification and assessment of Frailty

(a) A community screening tool that can be easily administered by lay persons in identifying pre-frail or frail seniors

(b) Technological solutions that could aid community screening and early identification of pre-frail seniors
    i. Apps to empower seniors in screening for frailty status via self-reported scoring or scoring by a caregiver
    ii. Insole sensors that could help discern gait speed as a marker for frailty

Examples of Research Projects (2)

Reducing the risk, delaying the onset or decelerating the progress of frailty

(c) Multi-domain preventive intervention programmes to keep pre-frail seniors active and healthy
- i.   A comprehensive care model including screening and detection of pre-frailty and nutrition and fitness interventions.
- ii.   Validating assessment tools for frailty and pre-frailty locally, including identifying appropriate intervention pathways

(d) Preventive interventions that tackle a condition that could lead to frailty, e.g.
- i.   Translational research on appropriate interventions based on earlier basic science research on the factors that lead to sarcopenia in seniors
- ii.   Translational research on appropriate interventions that targets the association between chronic diseases e.g. diabetes and frailty
- iii. Educational programmes to help seniors identify and build individualised resistance or strength training into daily activities

Reducing the risk, delaying the onset or decelerating the progress of frailty (cont'd)

(e) Technological solutions that could decelerate the progress of frailty or prevent falls and reduce the risk of immobility
- i.   Assistive devices that could reduce the risk of falls
- ii. Apps that provide timely feedback to allow corrections in posture during regular activities and exercise, and/or make real-time recommendations on diet and exercise
- iii. Apps and wearable technology that track health indicators, remind users to take their medicine at appropriate times and collect information on side-effects such as giddiness that occur after taking certain types of medication to allow the user's primary physician to make adjustments to dosage etc.

Eligibility

- Applicants forming Project Teams can submit **more than one Application** in response to the challenge statement but a Project Team will only be awarded Funding for **one Research project**.

- Open to all **public, private or non-profit organisations**, research institutes and institutes of higher learning, registered and/or incorporated in Singapore.

- There are no restrictions on nationality for individuals, but the entity they represent must be registered in Singapore either through the setting up of a local equivalent of the entity in Singapore or through a consortium with Singapore-registered entities in order for the entity represented to be eligible.

- Project teams are to identify a 'Host Institution' for the administration of the Research.

Project Team Composition

- Required to partner an implementation partner and form a Project Team comprising:

    - Members from **multi-disciplinary** (e.g. pairing medical and technology, engineering) backgrounds; and

    - An **implementation partner** (e.g. service providers, community organisation) to test-bed the proposed solutions.

- **No restriction** on the number of Institutions, Investigators and Collaborators in each Project Team

- Applicants are expected to **form their own** partnerships.

Project Funding

- Awardees may qualify for **up to 80% funding** of approved qualifying costs to develop and implement their Research for a **period of up to 3 years**, with the possibility of extension for another 1 year (with no additional funding).

- Qualifying costs include both **incremental developmental and operating** costs

- Project Teams are expected to **co-fund the remaining 20% of qualifying costs**

- Support for **indirect costs,** *on top of supportable qualifying costs*, **is capped at 20% of the supportable qualifying direct costs**. Only Singapore-registered Institutions that are IHLs or not-for-profit entities, including public healthcare providers, may qualify for support for indirect costs.

- Funding will be provided in phases and subjected to the successful attainment of milestones and Key Performance Indicators (KPIs) tied to each phase.

Explanation of Costs

- In general, qualifying costs are **incremental direct costs** that are required to **execute or implement the Research**, and are held **accountable to the performance** of the particular Research. These include,

  - o Expenditure on manpower (EOM);
  - o Expenditure on new equipment; and
  - o Other operating expenses (OOE)

- **Indirect costs** are are those that are **incurred for common or joint objectives** and therefore cannot be identified readily and specifically with a particular Research, but contribute to the ability of the Host Institution to support the Research. Examples include,

  - o General administration and general expenses (eg. provision of research space)
  - o Operation, maintenance and departmental administration expenses
  - o Library expenses, departmental administration expenses

Project Phases

Project teams will have the **flexibility to decide the time allocated** to the phases as follows,

Design phase (Proof-of-concept). Project teams are to articulate the concept of the programme / service / prototype and the process by which to achieve stated outcomes. Project teams should also provide studies and analyses that support the concept's viability for further development.

Development phase (Proof-of-value). Project teams are to develop and validate the programme / service / prototype so that it takes on a clearer form to achieve the intended outcomes.

Implementation phase (Test-bedding) - At least one year. In this phase, project teams are to test and validate the programme / service / prototype in the field (a relevant environment). This phase may also include initial production or roll out.

Application Process

*Proposals will be evaluated through a **two-stage process***

Project Abstract

- First, submit a short 5-page **Proposal Abstract** of the Research, including a comprehensive literature review that show the reasons for choosing a particular solution
- Project Teams are to use the "Project Abstract Submission Template" that can be downloaded from NMRC webpage
- Two hard copies of the Project Abstract and any supporting documents should reach MOH **no later than 14 July 2017 at 5:00pm.**
- Project Teams shall email soft copies to NIC_Ageing@moh.gov.sg by the deadline

Project Proposal

- Shortlisted proposals will then be invited to submit a **detailed Project Proposal**. This will be evaluated by an evaluation panel.

Project Abstract

- **Objective(s)** of the Project;

- Literature review and the **evidence/basis** for the Research;

- Key **components and innovations** of the Research;

- How the Research could **address the challenge statement**

- Summary of the **implementation plan, timelines and milestones** of the Research; and

- Summary of the **evaluation framework and KPIs** to track for the Research.

Additional Guidance (1)

Roles and Responsibilities

- The roles and responsibilities of every Institution, Investigator and Collaborator must be clearly specified.

Proposed Solution(s)

- To articulate in detail the proposed solution and how it can achieve the targeted outcomes/KPIs.
- Project Teams will be expected to test-bed the proposed solution at the implementation phase if awarded the Grant.

Implementation Plan

- Project Teams are required to describe all implementation activities, stages, Milestones and targets.

Additional Guidance (2)

Ethics Consideration

- Expected to ensure the safety and well-being of persons involved in any activity conducted in relation to the NIC is not compromised in any manner whatsoever.

- Ensure that all potential human subjects are assessed by a qualified assessor if necessary, e.g. allied health professional, registered nurse or doctor, to determine the need for and suitability of the prototype (if applicable) before the subjects would use the prototype.

- Take into consideration all applicable laws, including the Human Biomedical Research Act, the Health Products Act, Health Products (Medical Devices) Regulations , Allied Health Professionals Act and the Medical Registration Act to ensure that proposed designs are in line with regulatory requirements.

Mandatory KPIs (1)

KPI 1 Identification of frailty/pre-frailty OR KPI 2 Delay progress of physical frailty

- Project Teams should address either KPI 1 or KPI 2

KPI 1: Appropriate and efficient identification of pre-frail and frail seniors	KPI 2: Reduce the risk, Delay and/or Decelerate the Progress of Physical Frailty
Project teams should use an evidence-based assessment that could be used in the community and validated in the local context; <u>OR</u> develop an appropriate and efficient way to identify pre-frail or frail seniors.	Project teams are to demonstrate any of the following measures by tracking appropriate frailty measures(s) pre-and post-intervention; a) Reduction in the risk or a delay in the onset of physical frailty in pre-frail seniors; <u>OR</u> b) Decelerating the progress of physical frailty.

Mandatory KPIs (2)

KPI 3 Cost-effectiveness

- Project Teams are to demonstrate that the proposed intervention or solution is <u>cost-effective.</u>

KPI 4 Quality

- Project teams are to propose <u>at least two clinical/client KPIs</u> to track. Possible clinical / client KPIs can include:
  - Formal or informal caregiver burden (e.g. Reduction in caregiving hours required by care recipient as compared to baseline)
  - Customer compliance to programme
  - Improvement in chronic disease management (e.g. control of diabetes mellitus)
  - Improvement in functional, physiological, emotional, behavioural and/or cognitive wellbeing as measured by appropriate tools

Broad Evaluation Criteria

Component	Evaluation Criteria
Grant Requirements	- Proposal submission - Locally-based Research & Lead - Project Team composition - Address challenge statement
General	- Background of Lead - Track record
Impact and Outcomes	- Impact - Cost-effectiveness of the proposed solution; - Proposed outcomes/KPIs - Scalability and sustainability of the proposed solution
Innovativeness	Innovativeness of proposed solution
Implementation	- Project feasibility and adoption in the local context - Reasonableness of funding request

Timeline

Activity	Date
Call for Applications	22 May 2017 (Mon)
Public Briefing	29 May 2017 (Mon)
Deadline for Project Abstract Submission	14 July 2017 (Fri)
Deadline for Submission of Project Proposal	22 September 2017 (Fri), or as otherwise specified by the Grantor in the invitation email
Evaluation and Moderation Process	October 2017 – December 2017
Announcement of Results	By end FY2017

Questions?

For enquiries, please email
NIC_Ageing@moh.gov.sg