

2018



MINISTRY OF HEALTH
SINGAPORE

Grant Call on Chronic Diseases Management

National Innovation Challenge (NIC) on Active and Confident Ageing

PUBLIC DOCUMENT AND
APPLICATION GUIDE

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Organised by:

Ministry of Health Singapore (MOH)

Supported by:

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IMPORTANT NOTICES

1.1 For the avoidance of doubt, this Public Document and Application Guide for the Grant Call on Chronic Diseases Management shall be read with and shall be subject to the important notices as set out in Annex A.

INTRODUCTION

2.1 With Singapore's rapidly ageing population, where one in four Singaporeans will be aged 65 and above by 2030, the prevalence of chronic diseases¹ and their complications is expected to increase. Similar to other developed countries, chronic diseases are a significant cause of illness and death in Singapore. If not properly diagnosed and managed, these conditions often lead to more serious complications, which may result in the need for costly treatments and hospitalisations. As chronic diseases management spans across care settings, there is a need to develop more pathways beyond traditional care settings (e.g. acute hospitals and primary care), to include interventions in home and community care settings, especially in the area of post-discharge care of patients with chronic diseases.

2.2 With these in mind, we need to develop multi-disciplinary innovations that provide new models of care that are effective and efficient in managing and caring for seniors with chronic diseases. These could include interventions that improve care integration across settings, improve care for seniors with multiple conditions, improve medication adherence, and self-care by seniors with chronic diseases. The intervention programmes should demonstrate how they can improve the holistic management of seniors with chronic diseases.

OBJECTIVES

3.1 The Grant Call on Chronic Diseases Management aims to catalyse translational research and innovations that could identify seniors who currently have chronic diseases and develop new care models and intervention programmes that are effective, have lower costs and provide quality of care. This Grant is the seventh Grant call under the National Innovation Challenge on Active and Confident Ageing (NIC) and is organised by the Ministry of Health (MOH) and supported by the National Research Foundation (NRF).

¹ According to World Health Organisation (WHO), chronic diseases is defined as having one or more of the following characteristics: they are permanent, leave residual disability, are caused by non-reversible pathological alteration, require special training of the patient for rehabilitation, or may be expected to require a long period of supervision, observation, or care.

CHALLENGE STATEMENT

4.1 A Principle Investigator (PI) can submit **only one application** in response to the challenge statement. However, he/she may be part of the Project Team of other applications.

4.2 The challenge statement to Project Teams is:

The challenge is to **develop a scalable intervention programme for seniors with chronic diseases that achieves significantly better measurable outcomes as compared with current approaches, in terms of improving adherence to management and disease control, identification of higher risk groups for additional interventions, reducing hospitalisations, empowering patients and care-givers for enhanced quality of life.**

4.3 Project Teams must consider the scalability of the solution and its ability to be sustained in the longer term. Projects solely focused on telehealth, tele-monitoring or tele-rehabilitation would not be considered.

GUIDELINES AND CONSIDERATIONS

5.1 Project Teams must be willing to collaborate with the Grantor or Grantor's Affiliates to ensure that proposed solutions are flexible, extensible and based on open data standards used by organisations in Singapore. This is to facilitate future enhancements, information exchange and backend integration of services and functionality, to both existing and future systems.

ELIGIBILITY

General Eligibility

6.1 The Grant Call on Chronic Diseases Management is open to all public, private or non-profit institutions, including healthcare providers, research institutes and institutes of higher learning (IHLs). 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 Team Composition

6.2 Applicants for the Grant Call on Chronic Diseases Management are required to 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.

6.3 There is no restriction on the number of Institutions, Investigators and Collaborators in each Project Team.

6.4 Applicants are expected to form their own Project Teams to participate in the Grant Call on Chronic Diseases Management. The Grantor reserves the right to disqualify or reject any Project Team at any time in the event of the withdrawal of any Institution, Investigator or Collaborator from the Project Team.

Lead Principal Investigator

6.5 Each Project Team must appoint a Lead Principal Investigator (Lead PI) to oversee and coordinate the implementation of the Research during the funding period of the Research.

6.6 The Lead PI will serve as the primary point of contact with the Grantor for the purpose of the NIC. The Lead PI shall make all reasonable efforts to ensure that all Institutions, Investigators and Collaborators in the same Project Team are informed of all matters relating to the Grant.

6.7 The Lead PI must reside in Singapore for at least six (6) months in each calendar year over the duration of the funding period of the Research.

6.8 Project Teams shall identify a Host Institution Office of Research (HI ORE). If awarded the Grant, the HI ORE shall receive the Funding on behalf of the Project Team. The HI ORE shall in turn make funding arrangements with the other Partner Institutions.

SUPPORT AND FUNDING

Research Funding

7.1 Institutions may qualify for funding of **up to 80% of total approved qualifying costs** to develop and implement their Research for a period of up to three (3) years, with the possibility of extension for another one (1) year with no additional funding from the Grantor. Collaborators are not entitled to receive (directly or indirectly) any or any part of the Funds, whether in cash or in the form of Assets acquired using the Funding or otherwise. Approved qualifying costs include:

Developmental costs: These may include costs related to new equipment, IT software, manpower and training that are assessed prior to the implementation of the Research, and necessary to operationalise and evaluate the Research. Other developmental costs will be assessed on a case-by-case basis.

Operating costs: These include incremental manpower cost, engagement of services, travelling and transport and minor assets including medical equipment that are assessed to be necessary to operationalise and evaluate the Research.

7.2 Project Teams may refer to the [Funding Guide for the NIC](#) for more information on Funding. The actual funding quantum for selected Research will be determined upon assessment of the impact and scope of the Research.

7.3 Support for indirect costs, on top of supportable qualifying direct 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.

7.4 Funding will be provided in phases, subject to the successful attainment of Milestones and KPIs tied to each phase, as described in the table below:

	Design Phase	Development Phase	Implementation Phase
	Proof-of-Concept	Proof-of-Value	Test-bedding
Description	To articulate the concept of the programme / service / prototype and the process by which to achieve stated outcomes To provide studies and analysis that support the concept's viability for further development.	To develop and validate the programme / service / prototype so that it takes on a clearer form to achieve the intended outcomes.	To test and validate the programme / service / prototype in the field (a relevant environment) May include initial production and roll-out.
Requirements	N.A.	Successful attainment of KPIs and Milestones under the Design Phase. Proof-of-concept shows promising results and clear validation plan for proposed programme/service/	Successful attainment of KPIs and Milestones under both the Design and Development phases. Validated pilot programme/service/ prototype before field test-bedding.

	Design Phase	Development Phase	Implementation Phase
	Proof-of-Concept	Proof-of-Value	Test-bedding
		prototype through a pilot.	
Time Period	Three years, with the possibility of an extension for another one (1) year. Project Teams will have the flexibility to decide the time allocated to each phase. The Implementation Phase should last for at least one year.		

7.5 Project Teams are required to track three mandatory KPIs pre and post implementation of its solutions in the Implementation Partner as described in clause 8.8(d) below.

7.6 Project Teams are to demonstrate clear outcomes for the Proof of Concept and Proof of Value stages before proceeding to the Test-bedding stage. Project Teams who fail to do so will not receive funding support for the Implementation Phase (or Test-bedding stage) of the Research.

7.7 All Research must be conducted in Singapore and Funding shall not flow out of Singapore to support overseas entities, including Collaborators.

7.8 The relevant Project Teams will be notified by the Grantor if they are shortlisted for the award of the Grant. Funding shall be granted subject to the mutual agreement between the relevant Project Teams and the Grantor on the terms and conditions of the Grant as set out in a Letter of Award.

7.9 Funding will be administered and reimbursed through the NIC(PO).

APPLICATION SUBMISSION

General Instructions

- 8.1 Capitalised expressions used without definition shall have the meanings assigned to them in Public Document and Application Guide for the Grant Call on Chronic Diseases Management and its Annexes unless otherwise expressly stated.
- 8.2 For the avoidance of doubt, all applicants are assumed to have fully read and understood the Public Document and Application Guide for the Grant Call on Chronic Diseases Management and the important notices set out on the Annexes to apply for NIC CDM.
- 8.3 To submit an application on IGMS, PIs are required to obtain a CorpPass from your institution and this will be used to access IGMS. For more information on how

- to register your institution's representative as a CorpPass admin or obtain a CorpPass, please visit www.corppass.gov.sg.
- 8.4 The PI should submit only one application on behalf of the Project team **using the templates available on the IGMS** and upload these documents to the relevant sections in IGMS:
- (i) Research proposal
 - (ii) CV template (PI, Co-I/Collab)²
 - (iii) Other Attachments Template (Signatories and Other Support)
- 8.5 For reference, PI may also download the application templates on the [NMRC website](#), under the section for NIC CDM.
- 8.6 PIs shall ensure that the Project Proposal addresses the challenge statement set out in Clause 4.2 of this Document.
- 8.7 All information submitted pursuant to the Grant Call on Chronic Diseases Management including supporting technical data and applicable documentation must be in the English language.
- 8.8 Any softcopy document must be uploaded to IGMS as either in Word DOC or PDF format (please do not submit scanned PDF format except for signatories). Please adhere to the number of pages where specified and reformat softcopy such that all blank or irrelevant pages are removed. The applicants are required to complete the grant submission using the IGMS online submission system.
- 8.9 The applicants are required to complete the grant submission using the **IGMS online submission system**.
- 8.10 Once you have completed your application form in IGMS, please download a copy for your safekeeping (please refer to the IGMS user guide for instructions).
- 8.11 **Note that Co-Investigators need to hold at least an adjunct position in a local public institution.** Researchers from overseas institutions can only participate as collaborators. The terms of collaboration with overseas research institutions must conform to [NIC's Terms and Conditions](#).
- 8.12 **PI's CV is limited to 2 pages. Co-Investigators' and Collaborators' CV is limited to 1 page. Please indicate NA if the required information is not applicable. Please take note that NIC PO will not be responsible for any missing information not provided in the CV.**
- 8.13 Use **Arial font size 10** for all attachment/text.

² At the point of submission, PIs must make the decision of whether the Implementation Partner(s) will be taking on the role of Co-I or Collaborator. The role of Implementation Partner will not be applicable on IGMS.

- 8.14 Plagiarism (without permission from author or reference made to source) will be referred to HI ORE for investigation and may be subjected to disciplinary actions.
- 8.15 Refer to Annex B for details on Health Research Classification System (HRCS) to complete “Field of Research” in IGMS.
- 8.16 Refer to Annex C for checklist on Study Design and Statistical Considerations to complete “Methods/Approach” section in the research proposal.

Submission of Application

- 8.17 It is mandatory for all applications to be submitted and endorsed by HI ORE’s Director of Research (DOR) via **IGMS** by **15 October 2018, 5pm**. Internal HI ORE submission deadlines may apply, please check with your Office of Research (ORE) for more information. We will not entertain any late submissions or submissions from individual applicants without endorsement from the HI ORE. Please note that any clarifications sought by the DOR/ORE will need to be addressed by the PI prior to submission by **15 October 2018, 5pm**.
- 8.18 NIC PO reserves the right to reject the following:
- (i) Incomplete applications e.g. missing documents such as the research proposal, signatures, sections left blank and missing CVs, etc.
 - (ii) Applications using incorrect templates (please use only templates from the IGMS)
- 8.19 Project Teams should ensure that all information contained in the Applications and any other information submitted to the Grantor relating to the Grant Call on CDM is complete, accurate and not misleading. The Grantor reserves the right to reject any requests for additional funding or any changes in the Research or requested funding after the Project Proposal has been submitted to the Grantor.
- 8.20 No late submission or revision to the submitted application will be entertained after the closing date.

Project Proposal

- 8.21 Project Proposals should include, but shall not be limited to, the following:
- Project Abstract (includes summary of objectives, literature review, key components and innovations, and how the Research addresses the challenge statement)
 - Objective(s) of the Research;
 - Summary of supporting evidence from the literature review for the intended objective(s) and/or solution(s) of the Research;

- Description on the key components and innovations of the Research and how the Research could address the challenge statement, including computations on KPIs;
- Detailed Research phases, including a detailed implementation plan, timelines and milestones for the Research;
- Detailed evaluation framework and KPIs to track for the Research;
- Cost-Effectiveness, scalability and sustainability of the proposed solution;
- Estimated costs to or fees/charges payable by client, if any;
- Required funding for the Research;
- Challenges in Research design;
- Discussion on key assumptions of the Research; and
- IP declaration.

8.22 Additional guidance on completing Applications are as follows:

- a) Roles and Responsibilities. The roles and responsibilities of every Institution, Investigator and Collaborator must be clearly specified. Specifically, Project Teams are to articulate which Institution, Investigator or Collaborator will be in charge of tracking outcome measures, ensuring safety and well-being of persons involved in any activity conducted in relation to the Research and administering of the Funding if awarded.
- b) Proposed solution. Project Teams are expected to articulate in detail their proposed solution and will be expected to test-bed the proposed solution at the implementation phase if awarded the Grant. The Project Teams shall remain accountable for the safety and well-being of human subjects during the course of the Research and be responsible for the submission of any applications required for ethics approval, if necessary.
- c) Implementation Plan. Project Teams are required to describe all implementation activities, stages, Milestones and targets.
- d) Computation of KPIs. Project Teams are required to state the baseline and target KPIs by phases as elaborated in clause 7.4 above based on the following indicators.

Key Area	KPI
Project teams should emphasise on the <u>scalability and proposed plans to ensure widespread adoption of the solution</u> . Project teams will also be required to track the following mandatory KPIs and set targets, before and after the implementation of the proposed solution, to be achieved by the end of the project	
<u>KPI 1:</u> Effectiveness	<p>Project Teams are to demonstrate that the new care models and intervention programmes have <u>improved the management of chronic diseases in seniors</u>.</p> <ul style="list-style-type: none"> • Possible KPIs could include:

	<ul style="list-style-type: none"> • Better adherence to medication schedule and/or lifestyle changes • Improved care of seniors with multiple conditions • Better self-care among seniors with chronic diseases
<u>KPI 2: Cost-Effectiveness and Manpower Savings</u>	Project Teams are to demonstrate that the proposed intervention or solution is <u>cost-effective and demonstrate the potential manpower savings and/or effectiveness</u> as compared to existing programmes or intervention.
<u>KPI 3: Quality</u>	Project Teams are to propose <u>at least three clinical/client KPIs</u> to track. Possible clinical / client KPIs can include: <ul style="list-style-type: none"> • Acceptability by target population • Adherence to programme • Improvement in functional, physiological, emotional, behavioural and/or cognitive well-being as measured by appropriate tools

- e) Budget. Project Teams are required to articulate the **total required resources and budget** to implement their Research. Qualifying costs include developmental costs as described in clause 7.1(a) and operating costs as described in clause 7.1(b). Project Teams must ensure accuracy and prudence in budgeting. The Grantor shall not be obliged to consider any requests for additional funding in the event that the Project Teams failed to exercise due diligence in budgeting.
- f) Declaration of IP. Project Teams are required to disclose and describe any Background IP (whether owned by an Institution, Investigator, Collaborator or a third party) mentioned in the Application. The information to be disclosed shall include the type of IP (e.g. patent, copyright, confidential information), the IP owner, whether the IP has been registered or is pending registration, and whether the IP is commercially available off-the-shelf or whether the IP must be customised for use for the Research.

EVALUATION AND AWARD

Evaluation

9.1 Applications will be evaluated by an evaluation panel comprising evaluators from multidisciplinary backgrounds, including representatives from MOH.

9.2 Shortlisted Project Teams may be required to present their Research (at their own cost and expense) and answer questions from the Evaluation Panel. Details on the

requirements, date and time of the presentation (if any) will be released to the shortlisted Project Teams at a later date.

9.3 The criteria listed below shall be used for the evaluation of the Applications.

Component	Evaluation Criteria
Grant Requirements	<ul style="list-style-type: none"> • Proposal Submission • Locally-Based Project & Lead Principal Investigator • Team Composition • Address Challenge Statement
General	<ul style="list-style-type: none"> • Expertise and Ability of the Lead Principal Investigator and the team to carry out the proposed research project
Scientific Merit	<ul style="list-style-type: none"> • Address an important problem to yield significant results • Appropriate study design and sound basis for the intervention • Robust methodology and analyses • Advances scientific knowledge, technical capability, and/or clinical practice
Impact and Outcomes	<ul style="list-style-type: none"> • Impact • Cost-effectiveness of the proposed solution • Proposed outcomes / KPIs • Scalability and sustainability of proposed solution
Innovativeness	<ul style="list-style-type: none"> • Innovative features of the proposed solution, and why are they deemed innovative
Implementation	<ul style="list-style-type: none"> • Research feasibility and adoption in the local context • Reasonableness of funding request

9.4 The Evaluation Panel reserves the right to reject any or all Applications submitted for the Grant Call on Chronic Diseases Management, without being obliged to give any reason thereof.

Moderation

9.5 Where an Application is selected by the evaluation panel for consideration for award, the Project Team, through the Lead PI and HI ORE, will be notified. The terms of the Research, Milestones, KPIs and Funding quantum may be adjusted by the Grantor in agreement with the Project Team.

Award

9.6 The final decision to award the Grant will be made by the Grantor on the evaluation panel's recommendation. The Grantor and the evaluation panel shall not be obliged to

enter into any correspondence with any Institution, Investigator or Collaborator regarding reasons for non-acceptance of an Application.

Progress and Final Reports

9.7 Awarded Project Teams will be required to submit to the Grantor annual progress reports as stated in the Letter of Award in relation to all Research-specific KPIs, the progress of the Research implementation and any challenges that may impede progress.

9.8 Awarded Project Teams will also be required to submit a final report at the end of the funding period of the Research detailing the learnings made and whether the Research has met the desired outcome of the challenge statement.

IMPORTANT DATES TO NOTE

10.1 The timeline for key activities under the Grant Call on Chronic Diseases Management is set out below.

Activity	Date
Call for Applications	18 Sep 2018 (Tue)
Public Briefing	21 Sep 2018 (Fri)
Deadline for Project Proposal Submission	15 Oct 2018 (Mon)
Evaluation and Moderation Process	Jan 2019 – Feb 2019
Announcement of Results	By end FY2018

CONTACT DETAILS

11.1 Any enquiries regarding the NIC and/or the Grant Call on Chronic Diseases Management should be emailed to NIC_Ageing@MOH.gov.sg.