2023

MINISTRY OF HEALTH
SINGAPORE

Grant Call on Translation

National Innovation Challenge (NIC) on Active and Confident Ageing

PUBLIC DOCUMENT AND APPLICATION GUIDE

June 2023

Organised by:
Ministry of Health (MOH)

Supported by:
National Research Foundation (NRF)

IMPORTANT NOTICES

1.1 For the avoidance of doubt, this Public Document and Application Guide for the Grant Call on Translation shall be subject to the important notices for applicants as set out in the NMRC Research Grant Terms and Conditions and its Annex: Additional Terms and Conditions for Projects Funded under the National Innovation Challenge on Active and Confident Ageing (NIC on Ageing).

INTRODUCTION

2.1 The NIC on Ageing, first approved by the National Research Foundation (NRF) Board on 14 January 2015, aims to build a strong Ageing R&D ecosystem that catalyses cross-institutional, multi-disciplinary applied research to increase the productive capacity and health span while optimising the rising costs of care in an ageing population like Singapore.

2.2 Phase 1A (FY2015 to FY2018) focused on jumpstarting and spurring interest in ageing research, by seeding projects across a wide range of topics under three key themes: (i) Lengthening health span; (ii) Productive longevity; and (iii) Ageing in place. Seven grant calls spanning a wide range of ageing domains on home care, cognition, ageless workplaces, assistive devices, frailty prevention, falls prevention and chronic disease management were launched.

2.3 In Phase 1B (FY2019 to FY2022), we focused on a smaller number, but high-priority areas for research, namely frailty and caregiving. We increased the funding quantum and project duration to support bigger-scale projects that can yield more impactful outcomes. We also emphasised the need for research teams to (a) leverage/incorporate technology in their proposed solutions; (b) collaborate with healthcare clusters and community partners in the development and implementation of their solutions; and (c) where relevant, also integrate the study or application of behavioural sciences in their project. In Phase 1B, we also started the Healthy Longevity Catalyst Awards (HLCA) to seed bold innovations through global collaboration.

2.4 Leveraging the foundation built through earlier phases of the NIC, the next phase of the NIC on Ageing (i.e. NIC Phase 2) under RIE2025 will continue to spur multi-disciplinary research in emerging priority areas of ageing. In particular, we will focus on driving larger-scale translation and test-bedding in the community for promising projects that have already achieved proof-of-value.

OBJECTIVES

3.1 The Translation Grant Call aims to support the scale-up of promising research projects in the community that will benefit seniors. The focus is on large-scale test bedding, to (i) understand application of implementation science approaches (e.g. barriers affecting uptake of the innovation by service providers/seniors, staff training & resourcing required), (ii) establish cost-effectiveness, and (iii) validate whether the good POC/POV results continue to hold when project is scaled. The envisioned outcome is such that at the end of the research grant, researchers will be able to generate sufficient evidence to demonstrate that the solution is effective, cost-efficient, viable, and financially sustainable at scale, and can use their findings to garner support from potential funders

to adopt and implement the solution more widely (e.g. rolling out as a mainstream service in eldercare settings).

FOCUS AREAS AND SCOPE OF PROPOSAL

4.1 A Principal Investigator (PI) can submit **only one application** in response to at least one of the focus areas. However, he/she may be part of the Project Team of other applications.

4.2 The focus areas are:

(i) (Prioritised) Cognition: To implement effective and scalable tools or interventions to detect cognitive decline, preserve cognitive health, or to delay onset of cognitive decline and dementia,

(ii) Frailty: To implement effective and scalable detection tools to identify pre-frailty and frailty, as well as interventions to reverse/delay frailty and improve health outcome

(iii) Caregiving: To implement effective and scalable solutions or care models to enhance caregiving support and improve productivity of care, as well as to address the multi-factorial needs of care recipients and caregivers.

4.3 Project Teams should specify the target group and test-bedding sites for the proposed solution. In addition to impact and health outcomes, the research should also study components such as user adoption, cost-effectiveness, scalability, and financial sustainability in the longer term.

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 that could be 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 Translation is open to **all public and private entities and institutes of higher learning (IHLs).** We strongly encourage multi-disciplinary and/or cross-institutional innovation and ideas. **Host Institutions must be public entities or IHLs.** Project Teams should identify an individual from the Host Institution as the Lead Principal Investigator (Lead PI) and specify technical and implementation partners for research and development and the deployment of solutions (e.g., technology providers, service providers, industry partners, community

organisations). Host Institutions are to ensure their private partners are financially capable (i.e. committed to co-fund 30% of the Direct Costs allocated to them) and have the ability to support the translation of innovative solutions for the duration of the project.

6.2 The grant is open to projects that have already achieved Proof-of-Value (POV) with a working prototype (e.g. app, system) or intervention that has demonstrated good potential for impactful outcomes and application at a larger scale.

Project Team Composition

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

6.4 Applicants for the Grant Call on Translation are required to form a Project Team comprising members from multi-disciplinary backgrounds (e.g., pairing medical and technology, engineering) with:

- At least one healthcare cluster and three community partners in the development and implementation of their project; and

- At least one technical partner *if* their cluster and community partner do not have the relevant expertise (e.g., expertise in the technology solution that the team is planning to provide).

Project teams can engage professional consultancy services with agencies (e.g. National Health Innovation Centre (NHIC)) to provide technical guidance and support for commercialisation of solution if needed.

If the LOI is shortlisted, project teams will have to seek input from the MOH division(s) assigned by the review panel on the full proposal.

6.5 There is no restriction on the number of Institutions, Investigators and Collaborators in each Project Team. **However, a representative from each collaborating Institution, organisation and/or Implementation Partner (from healthcare cluster, community or technical partner) should be appointed as part of the Research Team as Co-Investigator or Collaborator.**

6.6 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

6.7 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.

6.8 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.

6.9 The Lead PI should have PhD or MD/MBBS/BDS qualifications and/or other appropriate Postgraduate Qualification (at least a Master's Degree) in areas relevant to the proposal research.

6.10 The Lead PI must hold a primary appointment in a local publicly funded institution and salaried by the institution.

6.11 The Lead PI must be an independent PI with demonstrated track record of research, as evidenced by the award of nationally competitive funding (international funding to be considered on a case-by-case basis), substantial publication record in the past 3 years, or PI status in research institutes.

6.12 The Lead PI must have a laboratory or research program in Singapore.

6.13 The Lead PI must hold a minimum of 9 months employment (per calendar year) with local Singapore Institution(s). Upon award, the PI must agree to fulfil at least 6 months of residency in Singapore for each calendar year over the duration of the grant award.

6.14 The Lead PI must not have outstanding reports from previous BMRC, NMRC grants and other national grants.

6.15 For proposals involving patients, the PI should be Singapore Medical Council (SMC) registered; or should be able to demonstrate ability to access patients through SMC registered Co-Is or Collaborators.

SUPPORT AND FUNDING

Research Funding

7.1 Funding is capped at $5 mil (inclusive of 30% indirect costs) for a period of up to five (5) years. Public entities and IHLs may qualify for full funding support for direct costs, while private entities (except for non-profit entities) that are part of the Project Team will be funded at up to 70% of supportable direct costs. Approved qualifying direct costs include:

- Expenditure of Manpower (EOM)
- Expenditure on new Equipment (EQP)
- Other Operation Costs (OOE)
- Overseas Travel (OT)

7.2 Project Teams may refer to the Guidelines for the Management of NMRC funding programmes for more information on types of expenses that are non-fundable. 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[1], on top of supportable qualifying direct costs, is 30% 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 Project Teams will submit a Letter of Intent (LOI). Shortlisted LOIs will be invited to submit a Full Proposal, and the Grantor will notify the Project Teams if they are successful 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.

7.5 Funding will be administered and reimbursed through the NIC Programme Office (NICPO).

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 Translation unless otherwise expressly stated.

8.2 To submit an LOI 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.

8.3 Applicants are to complete all required sections in the IGMS application for the LOI application in Table 1 below. For reference, PI may also download the application templates on the NMRC website, under the section for Grant Call on Translation.

8.4 Use **Arial font size 11** for all text and attachments. Please follow the instructions for each section closely.

8.5 For identification purposes, please indicate the name of the Lead PI and Host Institution in the header of the respective templates.

8.6 The Lead PI, Co-Investigator(s) and Collaborator(s) must fulfil the eligibility criteria specified under Table 1 of this document.

8.7 Each application is limited to only 1 Lead PI.

8.8 Each Research Team member (Lead PI, Co-I, Collaborator) must submit their CVs for the LOI application, based on the CV template and page limit specified for each role in Table 1. Please

[1] Indirect Costs 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 general administration and general expenses (e.g provision of research space), operation, maintenance, utilities, rental and departmental administration expenses.

indicate "NA" if the required information is not applicable and note that NICPO will not be responsible for any missing information not provided in the CV.

8.9 Co-Is must be salaried employee from a local public/private institution. Researchers from overseas institutions can only participate as Collaborators.

8.10 Plagiarism (without permission from author or reference made to source) will be referred to Host Institution for investigation and may be subjected to disciplinary actions.

TABLE 1. REQUIRED SECTIONS OF THE LOI APPLICATION

<table>
<tr><th>TEMPLATE</th><th>Description</th><th>Page Limit</th></tr>
<tr><td>Proposal</td><td>Research Proposal</td><td>5 pages</td></tr>
<tr><td>CV</td><td>Curriculum vitae of the Lead PI, Co-I(s) and Collaborator(s)
<table>
<tr><th>Role</th><th>Definition</th><th>Eligibility criteria</th></tr>
<tr><td>Lead PI</td><td>An individual who is expected to be actively involved in overall project management and accountable for deliverables.</td><td>He/She must hold a primary appointment in a local publicly funded institution and salaried by the institution.</td></tr>
<tr><td>Co-Investigator</td><td>An individual involved in the scientific development and execution of the project. A co-Investigator typically devotes a higher percentage of effort to the project compared to a collaborator and is considered a key research personnel of the "Research Team".
There is no limit on the no. of participating co-Is.</td><td>He/She should be salaried by a local public/private institution.</td></tr>
<tr><td>Collaborator</td><td>An individual involved in the scientific development and execution of project. A collaborator typically devotes only a specific percentage of effort to the project. There is no limit on the no. of participating collaborators.</td><td>He/She can be from local/overseas/public/private institutions.</td></tr>
</table></td><td>3 pages for each CV.</td></tr>
</table>

<table>
<tr><td></td><td>Top 10 publications of Lead PI and Co-Is in the last 10 years (CY2013 – present)</td><td></td></tr>
<tr><td rowspan="2">Other Support and Annexes</td><td>Other Support
For Lead PIs only - Please provide the details for the grants currently held or being applied for in the table provided in the Other Support and Annexes template.</td><td rowspan="2">N.A.</td></tr>
<tr><td>Annexes
<table><tr><th>Annex</th><th>Description</th></tr><tr><td>Annex A</td><td>To be provided within the Other Support and Annexes template.</td></tr><tr><td>Annex B</td><td>Industry support letters (if any)
- Applicants may upload the support letters (Filename: “Other Support Annex B”) into the ‘Other Attachments” section on IGMS.
- For private entities, their letters of support must indicate that they are committed to co-fund 30% of the Direct Costs that are allocated to them in the budget request.</td></tr></table></td></tr>
<tr><td>Declaration and additional information</td><td>Declaration by Project Team and Host Institution Endorsement and submit scanned copy of the signatories on a separate page.</td><td>N.A.</td></tr>
</table>

Submission of Letter of Intent (LOI) Application

8.11 It is mandatory for all LOI applications to be submitted and endorsed by HI ORE’s Director of Research (DOR) via IGMS by 11 Aug 2023, 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 deadline.

8.12 Please note that applications are subject to rejection upon submission if:

(i) Any of the required documents was not submitted (Please refer to README document Appendix I)
(ii) Wrong template (e.g. outdated, different programme’s) was used for any of the required documents (Please use latest templates as available in IGMS)
(iii) Any of the Proposal or CV documents exceeds page limits
(iv) Missing or incomplete declarations (e.g. past funding received, concurrent grant applications).

8.13 Project Proposals should include, but shall not be limited to, the following:

Letter of Intent	• Summary of objectives • Evidence of Proof-of-Value from earlier research phases • Key components and innovations • How the Research is relevant to the focus areas • Summary of the implementation plan, timelines and milestones • Summary of the evaluation framework and KPIs to track for the Research • References • Letter(s) of Support from industry partners (if any)

Full Proposal	• Objective(s) of the Research;
	• Summary of supporting evidence showing Proof-of-value 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 implementation plan, timelines and milestones for the Research;
	• Detailed evaluation framework and KPIs to track for the Research, including how the project team will evaluate impact, user acceptance and adoption, cost-effectiveness, scalability, financial sustainability and viability;
	• Roles and Responsibilities of Project Team members
	• Required funding for the Research and justifications;
	• Challenges in Research design;
	• Discussion on key assumptions of the Research; and
	• IP declaration.
	• Letter(s) of support form industry partners (if any)
	• Letter(s) of support from senior management (from Co-Is and Collaborators) expressing that they:
	  o will provide necessary support, including eventual development if proven to be effective, sustainable and viable
	  o have verified that project does not duplicate other existing efforts.

8.14 Additional guidance on completing Applications are as follows:

a) <u>Roles and Responsibilities</u>. The roles and responsibilities of every Institution/organisation, 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) Target group. Project Teams should specify the target group and proposed test-bedding sites. The proposed study should also address barriers to technological adoption of the solution/intervention.

c) Implementation Plan. Project Teams are required to describe all implementation activities, stages, milestones and targets pertaining to impact, user acceptance and adoption, cost-effectiveness, scalability, financial sustainability and viability.

d) Tracking of KPIs. Project Teams are required to propose KPIs and describe how they intend to evaluate the progress of the Research. Project Teams are required to indicate existing baselines of these KPIs in their proposal and set targets to be met at the end of the project. Project Teams are to also indicate appropriate tools for measuring these KPIs.

e) Budget. Project Teams are required to articulate the total required resources and budget on IGMS for the implementation of their Research. Qualifying direct costs are as described in clause 7.1 above. 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 fail to exercise due diligence in budgeting.

f) Safety and Regulatory Considerations. Project Teams shall remain accountable for the safety of human subjects during the course of the project and be responsible to submit any applications required for ethics approval, if necessary. Project Teams shall also ensure adherence to relevant Information and Communications Technology (ICT) risk mitigation frameworks for associated technological components of the project.

g) 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 a review panel comprising reviewers from multidisciplinary backgrounds, including representatives from MOH.

9.2 Shortlisted Project Teams will be invited to submit Full Proposals by a stipulated deadline. Shortlisted teams may be required to present their Research and answer questions from the Review Panel after the submission of the Full Proposals. 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	• Address priority areas (cognition, frailty or caregiving) • Team Composition (at least 1 cluster and 3 community partners) • Usual NMRC requirements (e.g. must be local research institution; PI must be locally-based, etc)

Proof-of-value	• Robustness and relevance of POV findings
	  • Achieved relevant targets and KPIs under previous research grant
	  • Demonstrate positive outcomes measured by appropriate tools and scales (e.g. MMSE, SPPB)
	• Findings were based on a reasonable sample size

Expertise	• Expertise and Ability of the Lead Principal Investigator and the team (including community partners) to carry out the proposed research project.
	  • For PI, having prior experience with translational research or past collaborations with community providers would be an important consideration
	  • Positions/appointments held by PI and team members should be relevant to the application and in line with their respective expertise
	  • For community partners, past participation/experience in research projects would be helpful. In addition, community partners would be required to submit a letter of support documenting their Management's support and commitment on the research project.

Potential impact and outcomes when scaled	• Impact (improved health outcomes, increased productivity, sustained impact and behavioural changes that are transferable to improvements in daily lives etc) • Cost-effectiveness of the proposed solution compared to existing solutions
Implementation methodology	• Useability and adoption by end-users • Scalability/replicability (e.g. connectivity to mainstream systems, interoperability across settings) • Reasonableness of funding request • Financial viability and sustainability of proposed business model

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

<u>Moderation</u>

9.5 Where an Application is selected by the Review 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 Review Panel's recommendation. The Grantor and the Review Panel shall not be obliged to enter into any correspondence with any Institution, Investigator or Collaborator regarding reasons for non-acceptance of an Application.

Post-Award Monitoring

9.7 Awarded projects will be subject to an **Annual Progress Update to a Review Panel (RP) comprising of subject matter experts. At the project mid-term mark (e.g., Year 3 for a 5-year project) a Mid-Term Review will be conducted based on the year's progress report. Project teams will be required to share findings and progress of research at key milestones with the assigned MOH divisions to ensure relevance of research to policy challenges.** Project Teams are to demonstrate clear progress for the various project phases, failing which the NIC Programme Office (NICPO) and the NIC Select-Committee may review the quantum or continuity of funding support for subsequent phases of the project.

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. The final report will be subjected to assessment by the Review Panel to determine whether research objectives have been achieved.

IMPORTANT DATES TO NOTE

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

Activity	Date
Public Briefing	9 Jun 2023
Launch of Grant Call and Submission of LOI	9 Jun – 11 Aug 2023
Call for Submission of Full Proposals for Shortlisted LOIs	~Oct 2023 - Jan 2024
EP Meeting and Interview with Project Teams	Mar 2024
Announcement of Results	Apr 2024

CONTACT DETAILS

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