# NHG Centre for Medical Technologies & Innovations (CMTi) Clinician Innovator Preparatory Programme (CiPP)
## INFORMATION SHEET

## 1. INTRODUCTION

1.1. The NHG CMTi Clinician Innovator Preparatory Programme (C**i**PP) aims to introduce clinicians to the foundational skills and knowledge required for health technology (HealthTech) innovation through innovation training and project experience, as well as to foster a healthy innovation culture in NHG.

1.2. Awardees are required to complete the programme within two years.

1.3. The programme comprises of three components:
a) An award quantum of S$13,000;
b) A comprehensive foundational innovation training curriculum; and
c) Mentorship

1.4. The programme is overseen by the NHG Centre for Medical Technologies and Innovations (CMTi) Committee which comprises of key subject matter experts from NHG institutions.

## 2. ELIGIBILITY

2.1. Applicants should be doctors (i.e. clinically qualified with MD/MBBS/BDS) or health science / healthcare professionals with non-medical degrees, such as nurses, pharmacists and other allied health professions with primary appointments at NHG institutions.

2.2. All applicants should also fulfil the following criteria:
a) Demonstrate interest in HealthTech innovation and intention to develop himself/herself as a Clinician Innovator (CI) but have little or no innovation experience; and
b) Able to commit time to complete the required courses under the C**i**PP training curriculum and project within the award period.

2.3. Awardees and applicants of NMRC Human Capital Awards and Talent Development Programmes such as Transition Award (TA), Clinician Innovator Award (CIA), Clinician Scientist Award (CSA), HPHSR CSA (HCSA) and Singapore Translational Research Investigator Award (STaR), will not be eligible for the C**i**PP.

2.4. Applicants are recommended to commit an estimated 0.1FTE to complete their innovation project within the award period, with the approval from their Reporting Officer.

2.5. Applicants are to note that the proposed project:

a) Must be a HealthTech product innovation project that aims to potentially address unmet clinical needs in healthcare
*(Note: Scope of proposals pertaining to the development of new software (e.g. digital apps, artificial intelligence for diagnosis and/or intervention, etc.) shall be limited up to prototyping and pre-clinical testing (i.e. inclusion of clinical trials involving patient data is not allowed)*;
b) Must be a project with specific aims that can be achieved within the award quantum;
c) Should have a realistic timeline that ensures that applicable ethics approval(s), finalisation and execution of relevant agreements, and set deliverables can be completed within the award term;
d) Must specify the plans for obtaining follow-up grants for subsequent Proof of Concept and/or Proof of Value.

2.6. Applicants are to ensure that the appropriate collaborator(s) essential to technology development for their proposed project, are secured where required, before submitting an application. Applicants may reach out to NHG CMTi for assistance in matching of collaborator(s).

2.7. Interested clinicians are strongly encouraged to contact the C**i**PP Secretariat for discussion on suitability of the programme prior to submitting an application.

2.8. To provide support for applicants in scoping their projects and for feedback on their proposals, there will be coaching sessions held during the Call period. All applicants are encouraged to register for this session with NHG CMTi as soon as there is interest to submit an application and at least 2 weeks prior to the call deadline. Registration is on a first-come-first serve basis and timeslots are subjected to the coaches' availabilities. Register for a coaching session here or scan the QR code on the right.

If the proposed project encompasses a software/digital technology component, applicants are required to complete the e-learn module on eLEARN prior to the coaching session for a more fruitful discussion. Please follow the steps to access the module:

1. Log into your eLEARN account at https://elearn.sg/nhg/Login
2. Select "Marketplace"
3. Search "Digital Health Applications (DHA) Clinic"
4. Select "Register" to enrol and complete the module

2.9. Applicants are required to seek endorsements for their applications from the following personnel:

a) Reporting Officer (RO);
b) Head of Department (HOD);
c) Director/Chief/Head of Family Group (applicable for health science / healthcare professionals only); and
d) Director of Research (DOR).

## 3. FUNDING SUPPORT AND TRAINING

3.1. Each awardee will receive an award quantum of up to S$13,000 for up to 2 years.

3.2. Within this award quantum, S$3,000 is ring-fenced for the fees of required courses under the C**i**PP training curriculum (refer to Annex 1). The required training courses must be completed within the 2-year award tenure.

3.3. The remaining S$10,000 may be utilised as project funding (in accordance to the C**i**PP Funding Guidelines) and as further top-up for required C**i**PP training course fees, if the awardee is unable to secure funding support for training from his/her department/institution.

3.4. Award renewal is generally not allowable.

## 4. MENTORSHIP

4.1. Each applicant is required to nominate a mentor who is an institution representative on the NHG CMTi Committee (refer to Annex 2). The C**i**PP Secretariat may help to facilitate the matching of appropriate mentor if required.

4.2. Each applicant will receive mentorship in the following areas:
a) Guidance in their clinician innovator career development
b) Advice on their innovation project
c) Navigation to appropriate innovation resources
d) Engagement in institution or NHG cluster level innovation activities and initiatives

4.3. Applicants may propose other qualified NHG mentor(s) that is not part of the NHG CMTi Committee, with justifications and, subject to approval.

4.4. During the award, awardees will be granted access to the subject matter experts on an adhoc basis in area(s) of their own interest. Proposed topic areas may include venture building, medical technology development cycle, medical device regulatory affairs, intellectual property, etc. This will be subsequently facilitated by NHG CMTi.

## 5. REQUIREMENTS OF THE PROGRAMME

### 5.1. Key Performance Indicators (KPIs) / Deliverables

| KPI / Deliverable | Details |
|---|---|
| **Completion of** C**i**PP **Training Curriculum** | To fulfil the training requirements under the C**i**PP curriculum within the award tenure |

| | |
|---|---|
| **Completion of Innovation Project and Fulfilment of Required Project Deliverables** | To be demonstrated through C**i**PP Interim/ Final reports |
| **Application to New Competitive Grant Funding for Innovation Project** | Extramural or Intramural |

5.2. **Assessment**

Awardees are required to submit an Interim Progress Report and a Final Report within 1 month after the mid-point of award and 3 months from the end of funding period respectively.

Awardees are required to present to the CMTi Committee at the mid-point and/or at the end of the C**i**PP award period.

Awardees are required to report their research and innovation achievements up to 5 years after the end of the award period.

## 6. APPLICATION PROCESS

6.1. Applicants must comply with the requirements of NHG Domain Specific Review Board (DSRB) to be the PI of the proposed project, and ensure that they have met the minimum training requirements of NHG DSRB and/or other regulatory body (e.g. Health Sciences Authority (HSA) if applicable.

6.2. Applicants are required to submit all application documents **in softcopy** to the C**i**PP Secretariat at NHG Group Research through their Institution's Clinical Research Unit / Clinical Research and Innovation Office (CRU/ CRIO):

a) **Application Form**;
b) **Applicant's Curriculum Vitae (CV)**;
c) **Mentor(s)' CV** – applicable only if he/she is not from the NHG CMTi Committee;
d) **Screenshot of completed e-learn module on Digital Health Applications (DHA) Clinic** – applicable only if project encompasses a software/digital technology component; and
e) **Written proof of intent to collaborate from Collaborator(s) (i.e. email or letter of intent) –** applicable only if project requires collaborator(s) for technology development

6.3. The Institution's CRU/ CRIO will set an **internal deadline** for the above submission and ensure that the documents reach the C**i**PP Secretariat by the stipulated deadline. Please check with your institutions for the deadline. Applications submitted after the call closing date and time will not be considered.

6.4. The Application Form can be downloaded from the NHG Research Website (www.research.nhg.com.sg) from the opening date of the Call for Applications.

6.5. Ethics applications are to be submitted to NHG DSRB, relevant IRBs or other regulatory bodies for review after award recommendation, if applicable and if not already done so. The C**i**PP Secretariat will coordinate with shortlisted applicants on these matters.

6.6. Please allow up to 3 months from the Call closing date for processing and review of applications.

## 7. APPLICATION EVALUATION CRITERIA

7.1. The applications will be reviewed based on the following criteria:

a) Proposed project's aims, methodologies, budget, measurable outcomes, and significance of potential healthcare impact
b) Applicant's level of interest and commitment in innovation;
c) Applicant's immediate plans for innovation (e.g. ongoing projects, grant applications, etc.); and
d) How innovation fits in with applicant's future career plans

## 8. CONTACT INFORMATION

For more information, please refer to the NHG Research Website at www.research.nhg.com.sg and/or contact the C**i**PP Secretariat:

**Ms Adeline Chan**
Tel: 6340 2414
Email: Adeline_MX_CHAN@nhg.com.sg

**Ms Valerie Yeo**
Tel: 6496 6021
Email: Valerie_Mh_YEO@nhg.com.sg

**Annex 1**

**NHG CMTi** CiPP **Training Curriculum**

Core courses are compulsory.
For elective courses, awardees are required to complete one course of their choice from each category. Awardees may also propose other relevant courses not listed in the table, with justification, and subject to CMTi Committee's approval.

Please refer to the respective course provider's website for the latest course fees.

| **Category** | **Type** | **Course Title** | **Course Provider** | **Duration** | **Course Fees (incl. of GST)** Accurate as at time of print |
|---|---|---|---|---|---|
| **Basic Research Methodology** | **Core** | 1. Good Clinical Practice (GCP) Online *(self-directed; 1 month online access)* | NHG Group Research^ | 14 hours | $703.08 |
| | **Elective** | 2. Research Preparatory and Study Design | | 1 day | $408.24 |
| | | 3. Biostatistics | | 3 days | $873.18 |
| | | 4. Manuscript Writing and Poster Presentation | | 0.5 day | $283.50 |
| | | 5. Grant Writing and Management | | 1 day | $521.64 |
| | | 6. Introduction to Evidence in Healthcare | | 1 day | $567.00 |
| | | 7. Questionnaire Design | | 1 day | $612.36 |
| | | 8. Prognostic Model Course | | 1 day | $555.66 |
| **Health Technology (HealthTech) Innovation** | **Core** | 1. NHG MedTech Course | NHG Group Research^ | 1 day | $113.40 |
| | | 2. Design Thinking for Healthcare Innovation: Focusing on Identifying and Inventing for Unmet Need* | Singapore Biodesign# | 2 days | $615.60 |
| | | 3. Biodesign Bootcamp: Deep Dive Into Healthtech Innovation With An End In Mind* | | 5 days | $1,701.00 |
| | **Elective** | 4. An Introduction to Product Development and Quality Management System for Health/Medtech Innovations | | 1 day | $307.80 |

*Information is accurate as at time of print. Please refer to www.research.nhg.com.sg for latest information.*
*Last updated 05 October 2023*

| Category | Type | Course Title | Course Provider | Duration | Course Fees (incl. of GST) Accurate as at time of print |
|---|---|---|---|---|---|
| **Health Technology (HealthTech) Innovation** | **Elective** | 5. Business Model Innovation for Healthcare Innovations | Singapore Biodesign# | 3 days | $923.40 |
| | | 6. Business Implementation for Health/Medtech: Project to Market Overview | | 2 days | $615.60 |
| | | 7. Health and MedTech Project Management | | 1 day | $307.80 |
| | | 8. Prototyping and User Interface Design for Web App Development | SMU# | 3 days | $518.40 |
| | | 9. Medical Device Regulatory Management (Certificate Course) | Asia Regulatory Professionals Association (ARPA) | Self-directed; 1 month online access | ~$700.00 |
| **Intellectual Property (IP)** | **Core** | 1. NHG IP Management Seminar | NHG Group Research^ | 1 day | $113.40 |
| | **Elective** | 2. IP Management Course for Public Agencies | IPOS (IP Academy) | 2 x 0.5 days | $486.00 |
| | | 3. Avoiding Copyright Infringement for Public Officers | | 2 x 0.5 days | $486.00 |
| | | 4. IP Management in R&D – Understanding the National IP Protocol (NIPP) and Master Research Collaboration Agreement (MRCA) | | 2 x 0.5 days | $583.20 |
| | | 5. Navigating IP Issues in R&D Collaborations | | 2 x 0.5 days | $583.20 |
| | | 6. How to Perform Prior Art Searches | | 1 day | $518.40 |

*Awardees may choose to attend either the 2 day workshop or 5 day boot camp to fulfil the core course requirement depending on schedule feasibility and interest.

^For courses offered by NHG Group Research, GST will not be charged for the fees claimed under the CiPP award quantum.

#Fees for Singapore Biodesign and SMU courses are indicative based on FY2023 and after Skillsfuture subsidies available for Singapore Citizens <40 years old and SPRs.

*Information is accurate as at time of print. Please refer to www.research.nhg.com.sg for latest information.*
*Last updated 05 October 2023*

**Annex 2**

**NHG CMTi Committee Members**

Each applicant is required to nominate a mentor who is an institution representative on the NHG CMTi Committee. Applicants may approach any members listed in the table below or contact the CiPP Secretariat to help facilitate the matching of appropriate mentor if required.

| Institution | Name | Position(s) |
|---|---|---|
| NHG HQ | A/Prof Tey Hong Liang | CMTi Clinical Director<br>Senior Consultant & Director of Research, National Skin Centre |
| | A/Prof Yong Keng Kwang[#] | Group Chief Nurse |
| | A/Prof Eric Wong | Group Chief Data & Strategy Officer<br>Senior Consultant, Emergency Department, Tan Tock Seng Hospital |
| | Mr Wilfred Soon | Group Chief Informatics Officer |
| | Mr Khalid Anuar[#] | Deputy Director, Group Allied Health |
| Institute of Mental Health | Dr Christopher Cheok | Senior Consultant & Chief Forensic Psychiatrist |
| Khoo Teck Puat Hospital | Dr Bin Wern Hsien | Head & Senior Consultant, Department of Anaesthesia<br>Medical Director, Admiralty Medical Centre<br>Chairman, Technology Assessment Committee, Yishun Health |
| | Dr Clement Chia | Consultant, Department of General Surgery & Head of Breast Surgery Service |
| Tan Tock Seng Hospital | A/Prof Tan Cher Heng | Executive Director, Centre for Healthcare Innovation<br>Senior Consultant, Department of Diagnostic Radiology<br>Assistant Chairman Medical Board (Clinical Research and Innovation) |
| | Dr Loh Yong Joo | Head & Senior Consultant, Department of Rehabilitation Medicine<br>Director, Clinical Innovations, Clinical Research & Innovation Office |
| | Dr Shawn Vasoo Sushilan | Senior Consultant, Department of Infectious Diseases<br>Clinical Director, National Centre for Infectious Diseases |
| Woodlands Health | Adj A/Prof Ernest Kwek | Chief & Senior Consultant, Department of Orthopaedic Surgery<br>Clinical Director, Research, WH Office of Research Development and Scholarship |
| NHG Polyclinics | Dr Valerie Teo | Family Physician-Consultant<br>Head, Kallang Polyclinic |

[#] Nursing and allied health applicants may approach A/Prof Yong Keng Kwang or Mr Khalid Anuar as mentor instead of committee members from their own institution if preferred.