

**ACP PROGRAMME FUNDING
RESEARCH SUPPORT**

APPLICATION REQUIREMENTS & EVALUATION CRITERIA

Nurturing Clinician Researcher Scheme (NCRS) **revised*

Objective:

To nurture young clinicians to become successful clinician-researchers of the SingHealth Duke-NUS Academic Medical Centre (AMC), by supporting them with resources, including funding and protected time, to optimise their research competencies & experience, thus their competitiveness for external research grants and readiness to embark on a sustainable research career.

Introduction:

Under the Nurturing Clinician Researcher Scheme (NCRS), nominations may be made for three categories **revised* of clinician-researcher, based on their research interest, current career trajectory plan and readiness for external grant application:

	Nurturing Clinician-Scientist Award (NCSA)	Nurturing Clinician-Innovator Award (NCIA)	Clinician-Investigator Development Award (CIVDA) <i>*new</i>
Research interests	Translational and Clinical Research (TCR) Health Services Research (HSR)	Device & technology development Data Science	All categories which the applicant can further grow the research platform / team / focus in their institution, ACP or SDDC.
Maximum funding quantum & tenure	Up to \$200,000 <i>*revised</i> over a tenure of up to 3 years.	Up to \$150,000 over a tenure of up to 3 years.	- Up to \$75,000 over a tenure of up to 2 years - Up to \$100,000 over a tenure of up to 3 years.

Guidance on the definitions of and expectations for the categories may be found in the guidelines below.

- 1) Each NCRS application must be applied using:
 - (a) **ACP Programme Funding Application Form** and,
 - (b) **NCRS Nomination Form**.
 If ACP has more than one nomination, *each nominee should be accompanied by an ACP Programme Funding Application Form and an NCRS Nomination Form*.

- 2) In the **ACP Programme Funding Application Form (to be completed by the ACP)**:
 - (a) The ACP shall provide a list of existing NCRS award recipients in the ACP (if any) in **Section Q(a)**.

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- (b) An ACP may nominate more than one candidate in any category. When there is more than one candidate in a category, the ACP shall rank the candidates in accordance with their expected potential to succeed in that category of clinician-researcher in **Section Q(b)**;
- 3) In each **Nomination Form**, the following information shall be provided using **Annex I (to be completed by Head of Department)**:
1. Profile of candidate
 2. Description of candidate
 3. Departmental plan for candidate's research trajectory / plan
 4. Departmental NCSS Records
 5. Departmental plan to support candidate's research endeavours if he / she is awarded the NCRS grant.
 6. Endorsement by Head of Department and Research Director / Head of SDDC, if applicable
- 4) In each **Nomination Form**, the research proposal shall be provided using **Annex II (to be completed by candidate and appointed mentor)**, with mentor's endorsement.
- The candidate must name the appointed mentor at the point of application and describe how the mentor will be able to nurture the candidate in his / her career development.
- 5) For each **NCSA** nomination, a research proposal is to be provided by the candidate using **Annex II Section 4-I (Research Write-up)**.
- 6) For each **NCIA** nomination, *specific* guidelines for the research proposal (**Annex II Section 4-II**) are as below:

(a) Background & Preclinical/Clinical Need

- *Background and significance of the preclinical / clinical need / gap identified.*
- *Current treatment / solutions and their shortcomings.*
- *What is needed to address the problem and / or treatment gap identified?*
- *Who is / are the target patients? What are the incidence and / or prevalence? What is the total amount spent per year to address the problem faced by these target patients?*

(b) Description of Solution

Give a concise description of the proposed Solution covering the following areas:

- *The need and rationale of developing the Solution*
- *The methods / approach and components of the Solution, and how it works.*
- *The alternatives that have been or can be considered (if any)*
- *PI's / Industry's preliminary studies (if any) or any other information that will help to establish the importance of the project.*

(c) Uniqueness & Competitive Analysis of Solution

How is the proposed Solution better than existing/emerging competing technologies / product / service?

(d) Collaborations

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Does the project have any associated agreements, such as Collaboration Agreements, Material Transfer Agreements (MTAs) or Non-Disclosure Agreements (NDAs)?

(e) Impact and Translation Pathway

(Public health impact, patient-related outcomes, value proposition)

Please describe:

- *Clinical importance and impact*
- *Where project outcomes have potential to be implemented / adopted into workflow, change clinical practice, health care policy*
- *Cost/ other efficiencies, advantages or benefits – quantitated, if possible)*

(f) Intellectual Property Management

- *Briefly describe potential intellectual property / trade secret / copyright generated from the Solution and how it will be handled*

(g) Follow-on Development and Commercialisation Plan

- *Describe potential future funding sources beyond this phase such as AM-NHIC MedTech Grant, NHIC I2D Grant, SMART Innovation Grant and NRF Central Gap fund and / or steps to develop the technology*
- *Plans for licensing, commercialization and / or healthcare adoption into healthcare policy or practice.*

- 7) For each **CIVDA** nomination **new*, a research proposal is to be provided by the candidate using **Annex II (Research Write-up) of the CIVDA Nomination Form** and shall include the following:
- (a) Overall research focus and nature of research (e.g. Clinical Research, Health Services Research, Innovation etc).
 - (b) Plan(s) for financial sustainability beyond grant
 - (c) 1-3 projects under particular research theme (need not be a single project)
- 8) Proposal for NCRS submission should encompass elements to support the transition of the candidate to become a proficient clinician researcher (i.e. to be able to initiate and direct his or her own line of research).
- 9) For each nomination, the **candidate's curriculum vitae**, together with a **Career Development Plan** endorsed by the **Academic Chair of the ACP**, shall be provided using **Annex III**.
- 10) For shortlisted candidates, a short interview with the review panel may be required. Details concerning the interview will be disseminated once it is finalised.
- 11) All application(s) must be completed using the prescribed templates. Failure to comply with requirements in any of the templates and / or an incomplete application will be disqualified and will not be reviewed.

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- 12) These documents and data therein will be used for the purpose to review, evaluate, recommend, and approve the NCRS award. The data shall also be used for the purpose to facilitate administration, talent management and development within the SingHealth Duke-NUS Academic Medical Centre.

- 13) In this grant call, newer ACPs and ACPs which have fewer NCRS (previously known as NCSS) awardees are especially encouraged to apply. Strong tangible support in the applicant's preparation by a well-established Clinician Researcher of the appropriate field, who should also mentor the applicant, in the submission is strongly advised.

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Guidelines:

1. The long term objective of awarding NCSA and NCIA is to support the career development of clinician-scientists of various categories, as laid out and described by NMRC (see latest NMRC announcement made in June 2021. <https://www.nmrc.gov.sg/grants/talent-development>)

Category	Intent
<i>Clinician Scientist in Translational and Clinical Research</i>	<ul style="list-style-type: none"> Supports clinicians with the intent and the potential to become career clinician scientists in the areas of translational and clinical research (TCR); who will eventually spend a significant proportion of their time in research, typically > 50% FTE (with salary support provided by the NMRC Clinician Scientist Award, CSA) in order to remain academically competitive.
<i>HPHSR Clinician Scientist</i>	<ul style="list-style-type: none"> Supports clinicians with the intent and the potential to become career clinician scientists in the areas of Health Promotion, Preventive Health, Population Health and Health Services Research (HPHSR), who will eventually spend a significant proportion of their time in research, typically > 50% FTE (with salary support provided by the NMRC HPHSR Clinician Scientist Award, HCSA) to remain academically competitive.
<i>Clinician Scientist in Innovation</i>	<ul style="list-style-type: none"> Supports clinicians with the intent and the potential to become career clinician innovators to approach unmet clinical needs with healthcare innovation ideas such as in disease diagnosis, medical treatment, and/or improvement of human health and quality of lives. with meaningful, lasting solutions, leverage on medtech / bioengineering and / or digital technology and who, in the long run, spend up to 30% FTE (with salary support provided by the NMRC Clinician Innovator Award, CIA) in clinical innovation / research, developing innovative solutions / devices to be eventually translated to frontline clinical care in collaboration with industries and / or external funding agencies.

2. The deliverables of the NCRS award categories are:

Category	Deliverables
<i>Nurturing Clinician-Scientist Award (NCSA)</i> <i>and</i>	<ul style="list-style-type: none"> The awardee is expected to apply for a NMRC grant, preferably a Talent Development Award, such as a NMRC TA, within the duration of the NCRS support, with the view of working towards a CSA / HCSA / CIA eventually. The awardees should continue in his / her effort to secure a national grant throughout the whole NCRS grant period, and beyond, if necessary. <u>For NCSA</u>, the NMRC NIG may be considered as an intermediate deliverable.

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<p><i>Nurturing Clinician-Innovator Award (NCIA)</i></p>	<ul style="list-style-type: none"> For NCIA, the NMRC NIG, NHIC Innovation to Develop (I2D) Grant, SMART Innovation Grant, A*STAR Biomedical Engineering Programme (BEP) and NRF Central Gap Fund etc. may be considered as intermediate deliverables. The NCIA awardee should demonstrate potential of their project in securing subsequent financial support from industries and sustained effort, throughout the whole duration of the NCRS award and beyond, to develop their project to create a physical device, solution or medical technology etc., with the potential to implement across the AMC and optimally across other healthcare institutions and / or commercialization.
<p><i>Clinician-Investigator Development Award (CIVDA)</i></p>	<ul style="list-style-type: none"> The awardee is expected to secure further funding to develop a supported research platform for the specific research focus, such as any competitive national grants, including NIG. At the end of the grant period, the applicant should aim to be have sustainable support as PI or Co-PI of a variety of public (e.g. NMRC or NHIC grants) and / or private (e.g. industry or charitable foundations) research grant funding, as well as clinical trial funding, where appropriate.

- Prospective candidates, who are interested to take the CS / CIN / CIV paths, may approach the respective Leads for advice and guidance regarding career paths for these categories.
 - CS Lead: Assoc. Prof Darren Lim Wan-Teck (email: darren.lim.w.t@singhealth.com.sg)
 - CIN Lead: Assoc. Prof Derrick Chan (email: derrick.chan.w.s@singhealth.com.sg)
 - CIV Lead: Assoc. Prof Deidre Anne De Silva (email: deidre.desilva@singhealth.com.sg)
- The Review Panel may determine the quantum and tenure of any individual award and may also impose specific condition(s) on the potential candidate to undertake. The quantum and tenure of award and / or specific conditions shall have to be accepted by the candidate and the ACP concerned as a pre-requisite for the Review Panel to recommend the candidate to the award committee for an NCRS award. The sum awarded shall be inclusive of all related costs, including miscellaneous expenses imposed by the candidate's host institution or relevant agencies. Fund disbursements shall be on an annual basis.
- Each NCRS awardee must enrol into Duke-NUS CCSD's (Centre for Clinician Scientist Development) Individual Development Plan (IDP), with the aim of preparing for a national grant application by the end of their NCRS award period.** They may be further advised to join the Khoo Scholars Programme and / or the ACE in Grants Programme that are run by CCSD, as deemed appropriate by their CCSD mentors.

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6. **Each awardee, with endorsement and support of his / her HOD, is expected to have at least 20% protected time** set aside for research. While the awardee is in the IDP / Khoo Scholars Programme, requirements of the programme(s) shall apply. For an awardee who is a Resident with PhD, ACGME residency guidelines shall then apply.
7. The ACP Vice Chair (Research) and Academic Chair are responsible for all deliverables required of the ACP under the NCRS.
8. Successful NCRS awardees will be scheduled for a mid-term review within the grant duration. **new*
9. Upon successfully attainment of the NCRS main deliverable (i.e. awarded NMRC or other national / external grants as indicated in page 4), the degree of overlap between the research projects proposed for NCRS and the national / external grant and NCRS grant utilisation will be reviewed. Any double-dipping of funds is discouraged and JOAM will work with the awardee and ACP on the next steps on a case-by-case basis after he / she has garnered a national / external grant. No NCRS grant extension period will be considered upon receipt of any NMRC Award. **new*

The possible actions include:

- (a) Termination of NCRS funding if there is high degree of overlap between research projects proposed for NCRS and the national / external grant; or
- (b) Continuation of NCRS funding with reduction in quantum to prevent double-dipping; and / or
- (c) Withdrawal of institution-funded FTE support if already provided by NMRC

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Eligibility Criteria for the Candidate: (at the point of application)

1. The NCRS candidate should be a qualified medical doctor / dental specialist registered with the Singapore Medical Council (SMC) / Dental Specialist Accreditation Board (DSAB) respectively, and employed to perform clinical duties in a SingHealth institution (hereinafter referred to collectively as “clinicians”). Additional SMC or DSAB certified qualifications, such as PhD, MCI or equivalent, are preferred.
2. With the aim of supporting residents who are on a research trajectory to start their research career as soon as they exit from residency and gain employment with one of the SingHealth Institutions, residents who are in their **final year of residency and have a MD-PhD / MBBS-PhD background (including A*STAR MD-PhD Scholars / Duke-NUS MD-PhD graduates) and SingHealth CS-Residents in final year of residency** are eligible to apply for this talent development funding support. The candidate must be **supported by the potential employing institution and the ACP with which the nominee will be associated, upon their successful exit from their Residency Training Programmes. **new***
3. On a case-by-case basis, a nursing or allied-health practitioner with a relevant PhD qualification, who performs clinical duties and aspires to become a clinician-researcher, working on human clinical research that has potential health impact, may be considered. **Such a nominee must be strongly supported by the ACP with which the nominee is associated.**
4. The nominee must not be a scientist or staff whose primary career commitment is to perform research.
5. The nominee must not be past recipient of a NCSS / NCRS award.
6. **After receiving the NCRS grant, the applicant must not have received internal funding** (e.g. institution funding, SingHealth Duke-NUS AMC funding) to conduct their own research project as PI which **cumulatively exceeds S\$300,000**, and **must not have received internal and external funding** (e.g. industry, external funding agencies) to conduct their own research project as PI which **cumulatively exceeds S\$500,000**. This is to ensure financial prudence and that the applicant can fulfil the eligibility criteria for NMRC CS-IRG-NIG application, in the event that the NCRS awardee is unable to secure a TA or CSA-INV award. **revised*
7. *For a clinician (with MBBS / MD / BDS), the **maximum number of years after exiting from specialist training should not exceed 5 years**; and for a PhD holder who is applying on an exception basis, the **maximum number of years of post-doctoral experience is 5 years post PhD**. [This is to align with NMRC’s eligibility criteria of ≤8 years post specialist exit / post PhD for TA application]. **revised**

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8. An application must include a Career Development Plan endorsed by the Academic Chair of the ACP (Annex III), which briefly outlines steps to be taken over the immediate next 5 years to put the nominee on track to becoming a clinician researcher.
9. The ACP must commit to set aside at least 20% protected time for the awardee to perform the research (Khoo Scholars programme in terms of protected time will apply where applicable). The associated cost shall be borne by the awardee's host institution.
10. CIVDA applicant should demonstrate **prior research experience** such as past / current participation in research, with **at least 3 publications**. **new*