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| **2017 Catalyst Grant Competition Program Guidelines/Call for Proposals on Medication Optimization** |  |

**About CFN**

Canadian Frailty Network (CFN) is a network funded by the Government of Canada’s Networks of Centres of Excellence (NCE) Program to improve care for older Canadians living with frailty by increasing frailty recognition and assessment, by increasing evidence for decision making and by advocating for change in the health and social care systems to ensure that the needs of this vulnerable population are met.

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| **A Collaboration with the Canadian Institutes of Health Research and the New Brunswick Health Research Foundation** |  |
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CFN is pleased to announce a Catalyst (CAT) funding initiative: *Medication Optimization* in collaboration with the New Brunswick Health Research Foundation (NBHRF; www.nbhrf.com/en) and the Canadian Institutes of Health Research (CIHR; www.cihr-irsc.gc.ca/e/193.html). This CAT funding initiative will mainly focus on funding studies evaluating the appropriate medication management in older Canadians living with frailty (see below for priority funding initiatives).

In support of this current funding initiative, and its alignment with CIHR’s Dementia Research Strategy, CFN, CIHR and NBHRF will be hosting a showcase during CFN’s annual conference (September 2019) where successful Catalyst applicants will be invited to share their work with research funders, and interested and relevant stakeholders in the field. All projects funded under this initiative are encouraged to familiarize themselves and explore potential alignment with initiatives currently funded under the Canadian component of the CIHR Dementia Research Strategy, and in particular with the Canadian Consortium on Neurodegeneration in Aging.

**Research Funding Priority – Medication Optimization**

The number of prescription medications used by Canadians increases as we age often leading to polypharmacy. Polypharmacy increases the risk of adverse drug side-effects and drug-drug interactions, and as well as the development of drug-induced frailty and cognitive impairment. A majority (two thirds) of older adults (65 or older) are prescribed five or more drug classes and over one-quarter are prescribed 10 or more drugs. The risk of adverse drug-induced events is even greater for those aged 85 or older where 40% are estimated to take drugs from 10 or more drug classes. In addition to polypharmacy, research suggests that sex and gender are important factors in adverse drug reactions, as women experience nearly twice as many adverse drug reactions as men.

Canadians living with frailty are particularly at high risk of adverse drug-induced outcomes due to their increased vulnerability resulting from reduced physiological reserve capacity. CFN is launching this medication-focused CAT grant competition to fund innovative research proposals that address the ongoing concern of polypharmacy and related medication issues in older Canadians living with frailty.

Catalyst grants are proposed as a first step to build capacity in the area of improving medication prescribing/deprescribing and overall medication management in older Canadians living with frailty and affected by or at risk of cognitive impairment. To be clear, “build capacity” refers to increasing the research evidence to improve the practice of medication prescribing/deprescribing and overall medication management in older Canadians living with frailty to, among other things, reduce or eliminate drug-induced cognitive impairment.

**Competition Details**

CFN invites qualified researchers to submit applications focused on CFN’s Research Priority, medication optimization for Canadians living with frailty, under our CAT Grant Program. The CAT Grant Program supports scalable research studies including pilot, feasibility and translational studies that investigate novel and innovative approaches/methodologies/technologies. Studies must focus on older Canadians living with frailty and/or their families and caregivers. Therefore, study protocols must include frailty assessment of all study participants using a published frailty assessment instrument appropriate for the care setting. To be competitive, studies should also conduct a sub-analysis of results to determine the impact of sex as a biological variable and/or gender as a social determinant of health as it relates to medication management in older Canadians living with frailty.

**Overall Competition Goal:** Fund research investigating appropriate medication prescribing/deprescribing and optimizing medication management for older Canadians living with frailty.

**Funding Details:** This Catalyst Grant Program will fund projects with multidisciplinary, multi-institutional teams, for up to 16 months and to a maximum of $100,000. Proposals must include partners who have committed cash or eligible in-kind contributions on a 1:1 basis to that of CFN funding. To be clear, as an example, if you request $100,000 from CFN you will need to secure an additional minimum $100,000 in partner cash or in-kind contributions.

CFN is looking to invest a maximum of $650,000 for this competition. This is in addition to the funds allocated for work conducted in the province of New Brunswick (see below for additional details). Please note: CFN may enter into additional collaborations/partnerships that may expand the total budget for this competition and research priority areas in the near future. All interested applicants should regularly check the CFN website and social media for updates.

Because we have increased the CAT grant time frame from 12 to 16 months, no extensions will be granted to funded projects. In addition, CFN is requiring that all applicants demonstrate that they have submitted their study for REB review/approval. For applicants whose REB will not review studies prior to funding, please provide a letter from your REB stating that reviews will only take place once CFN funding is confirmed. Note that successful applicants will need to submit all REB approvals to CFN within four months of being notified of CFN funding. Failure to provide REB approval within this time frame will result in termination of CFN funding.

**Specific Priority Funding Initiatives:** Within the overall goal of medication optimization, CFN will prioritize funding in the following manner:

**a. CIHR Collaboration:** Up to $300,000 (of the $650,000 total budget) has been allocated to fund studies that increase research evidence in the practice of medication optimization and deprescription to reduce or eliminate drug-induced cognitive impairment.

**b. NBHRF Collaboration:**  CFN and NBHRF have created a separate fund to encourage researchers to co-ordinate, support and promote health research medication optimization in NB. CAT studies that include a research component in NB will have an opportunity to access these funds. To be clear, CFN and NBHRF encourage a multi-provincial study design to advance health care improvement throughout Canada, but specific funds are allocated for the research component conducted within NB.

**c. Medication Optimization Summit**: CFN recently consulted with a number of stakeholder from across Canada to identify research priority areas for medication optimization for older Canadians living with frailty. The following research priorities areas are eligible for CAT funding:

1. Develop novel innovations focused on facilitating appropriate medication prescribing and/or deprescribing for older adults living with frailty.
2. Develop or improve models that facilitate pharmacists playing an active role in the process of monitoring and assessing use of potentially inappropriate medications in older adults living with frailty.
3. Determine values and preferences held by older adults living with frailty with respect to medication use (e.g. determine perspectives regarding appropriate medication prescription or deprescribing).
4. Build an (electronic) system and practice system so that medications being taken by older adults living with frailty can be monitored and reviewed in real-time to determine the current need and appropriateness of each medication, as well as potential for adverse events.
5. Improve upon current approaches to clinical trials by specifically evaluating the therapeutic benefit and adverse effects of new and current medications on older adults living with frailty.
6. Develop novel innovations or improve upon existing innovations so that older adults living with frailty (and their trained care providers) are empowered to monitor and assess their own medication use.
7. Determine the challenges and barriers to developing a nation-wide pharmacare plan for all Canadians.

**Eligibility Criteria:** It is important to note that these funding criteria reflect the mandate and objectives of CFN and the NCE.

* Applicants (Principal Investigators, PI) must be eligible to receive grant funding from CIHR, NSERC or SSHRC. There can be more than one PI per project; however, a lead contact PI known as the Project Leader for the proposal must be identified.
* Applicants must be part of an Institution that is a signee of the CFN Network Agreement (see http://www.cfn-nce.ca/about-us/become-a-member/). In order to receive funds, successful PIs must abide by the Network Agreement, through which they will become Network Investigators of CFN, and take on all of the associated rights and obligations. These obligations include the requirement to provide CFN with project reports as requested, and to participate in reviews of projects and proposals submitted to CFN funding opportunities as required. In order to receive CFN funds, successful Applicants must submit final ethics approval to CFN. Successful PIs will also need to adhere to the Network’s Conflict of Interest Policy and Conflict of Interest Guidelines, and submit a Conflict of Interest Declaration Form.
* The Project Leader must complete one of the CIHR Institute of Gender and Health’s online sex- and gender-based analysis training modules. Please visit <http://www.cihr-irsc-igh-isfh.ca/>. This certificate must be submitted to CFN in order to be eligible for funding (see section How to Apply).

**Evaluation Criteria:** In addition to the above, eligible proposals must satisfy the evaluation criteria listed below.

* CAT grants must demonstrate the potential for their future equitable scale and spread. Because of the relatively short-length of the CAT funding term, proposals must describe future implementation plans to demonstrate future scalability and spread. Ultimately the applicant will need to map out how the current project and future research plans will help accelerate improvement in medication optimization to benefit older Canadians living with frailty.
* Research projects must fit within CFN’s strategic priorities and patient-oriented research themes. CFN’s strategic priorities focus our research funding activities into four broad areas related to the care of Canadians living with frailty.
  + CFN’s strategic priorities are: Matching care to values; Empowering, engaging and supporting patients and their families and caregivers; Improving clinical outcomes and Improving care across the continuum
  + CFN’s patient-oriented research themes are: Improved end-of-life care (EOL)and advance care planning (ACP); Improved acute care and critical care; Optimization of community care/residential care and Optimization of transitions of care.
* Proposals must have a clearly stated hypothesis, goals and objectives, with clearly defined milestones and deliverables. If appropriate proposals should clearly define the research question(s) and knowledge or practice gap(s) being investigated. A Gantt chart is strongly recommended.
* Study protocols must include a frailty assessment of all study participants using a published frailty assessment instrument appropriate for the care setting. Analysis of differential impact of the study intervention or innovation based on the degree of frailty is strongly encouraged.
* Proposals must include the evaluation of one or more measurable socio-economic outcomes such as patient-centred outcomes, patient-centred experiences, patient/family satisfaction, or health economic outcomes. These outcomes must be measurable within the funding period. Where appropriate, the inclusion of a health economist and/or ethicist on the project team is strongly encouraged and would greatly strengthen the proposal.
* Project feasibility needs to be demonstrated through a detailed description of the methodology and by the inclusion of experienced team members with the appropriate expertise.
* Proposals must include Highly Qualified Personnel (HQP) trainees who will be directly involved in a meaningful way in the study. HQP trainees must participate in appropriate aspects of the CFN Training Program (See <http://www.cfn-nce.ca/training/training-program-requirements-for-hqp/>), which has been designed to promote and facilitate interdisciplinary and multi-sectoral learning and experience for the next generation of HQP by providing opportunities not available within their institutions and/or educational programs. HQP can be part-time or full-time graduate/doctoral/post-doctoral or undergraduate students, residents, fellows or working professionals. Note that meaningful involvement in the research components of a CFN-funded project would include such activities such as data collection, data synthesis, report writing, etc., but would exclude tasks that are more related to administration and/or coordination (e.g. data entry, meeting scheduling, minute taking, completion and distribution of paperwork, etc.).
* Proposals must clearly describe a knowledge translation plan and potential for project results to have a significant effect on health care practice or policy. Projects must demonstrate that knowledge users (e.g. patients/families, decision makers, stakeholders, practitioners) are involved in the research in a meaningful and tightly integrated manner. For clarity, meaningfully involved participation of knowledge users includes being involved in the planning and execution of the research project and/or in assisting in the interpretation and translation/mobilization of research findings. Teams must describe the KT strategy and expected outcomes based on a KT framework identified in the April 2012 Knowledge Translation Framework for Ageing and Health from the World Health Organization (http://www.who.int/ageing/publications/knowledge\_translation.pdf).
* Proposals must demonstrate collaborative efforts of investigators in more than one discipline (e.g. combinations of disciplines from the biomedical sciences, natural sciences and social sciences), and at more than one institution, and preferably from more than one province.
* Proposals must demonstrate meaningful partnerships and collaborations with other organizations and stakeholders (e.g. health care practices, service providers, care facilities, etc.) to create opportunities for knowledge exchange, translation and mobilization. Ultimately proposals need to demonstrate the potential that results will be recognized nationally and globally for scientific excellence and improve the care for Canadians living with frailty and/or improving the lives of their caregivers.
* Proposals must clearly describe how sex as a biological variable and/or gender as a social determinant of health have been considered and integrated into the research plan.

**How to Apply**

The application process requires submission of Intent to Apply (IA) prior to submitting a complete Application. CFN will only accept an Application if an IA has been submitted by the deadline below. See steps below.

**Step #1 - Intent to Apply (IA):**

* Go to Funding Opportunities page at <http://www.cfn-nce.ca/research-evidence/funding-opportunities/2017-catalyst-medication-optimalization-grant-program/> to download IA template.
* Completed Intent to Apply must be submitted via email to [apply@CFN-nce.ca](mailto:apply@CFN-nce.ca).
* Information collected in the IA includes a summary of the research (highlighting objectives, milestones, deliverables), team members and partners.
* The IA is for administrative purposes only and will not be adjudicated.
* Project team member lists must include all confirmed and anticipated Principal Investigators (PI) and Co-Investigators (Co-I). No additional PIs or Co-Is can be added after the IA has been submitted. The Project Leader (PL; i.e. primary lead PI) is responsible for managing a team of investigators to create, prepare and submit the complete Application. See <http://www.cfn-nce.ca/media/66477/cfn-project-team-roles-2016-07-07.pdf> for project team role definitions.
* After registering your IA, you will receive a CFN file number that you will use to submit your completed Application electronically by the deadline.

**Step #2 - Application:** Only Project Leaders that have previously submitted Intent to Apply are eligible to submit a complete Application. Go to CFN’s Forum website (<https://forum.tvn-nce.ca/index.php/Main_Page>) to complete the Application online. Please review the Application Instructions prior to completing the Application online (<http://www.cfn-nce.ca/research-evidence/funding-opportunities/2017-catalyst-medication-optimalization-grant-program/>).

A complete Application is comprised of:

1. Project Team Information
2. Application Form
3. Partner Letters of Support
4. Detailed Budget and Budget Justification
5. Principal Investigators’ CVs
6. CVs of other team members
7. Required signatures
8. Proof of study submission to the applicable Research Ethics Board (REB) – CFN is requiring that all applicants demonstrate that they have submitted their study for REB approval.

For applicants whose REB will not review studies prior to funding, please provide a letter from your REB stating that reviews will only take place once CFN funding is confirmed.

Note that successful applicants will need to submit all REB approvals to CFN within four months of being notified of CFN funding. Failure to provide REB approval within this time frame will result in termination of CFN funding.

1. Certificate of completion - Proof that the Project Leader has completed one of the CIHR Institute of Gender and Health’s online sex- and gender-based analysis training modules (<http://www.cihr-irsc-igh-isfh.ca/>).

**Important Dates**

Please read the Program Guidelines and Application Instructions carefully before completing and submitting your complete Application.

1. Deadline to submit Intent to Apply (IA) – **October 6, 2017 – 5 pm ET**
2. Deadline to submit a complete Application – **November 13, 2017 – 5 pm ET**
3. Adjudication of Applications is estimated be completed **mid to late February 2018**
4. Applications will be adjudicated by CFN’s Scientific Review Committee and Research Management Committee.
5. Successful Applicants will be notified in March 2018. Funding installments will commence after all necessary agreements have been executed and REB approval received.

**Contact for Further Information**

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