







Rural360: incubating socially accountable research in the Canadian North

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ABSTRACT

People in Northern Newfoundland and Coastal Labrador (NNCL), Canada, face major challenges obtaining accessible and contextually-relevant healthcare. *Rural360* is a socially accountable research incubator that provides funding for NNCL physicians to research solutions to these issues. NNCL graduates of the adjoined *6for6* research training program for rural physicians are invited to submit the research project they have conceptualised as part of that initiative as a letter of intent, and subsequently as a research proposal, to *Rural360*. These submissions are reviewed by relevant subject matter experts as part of the *Rural360* adjudication process. This process is iterative and strives to guide and assist participants in refining their submission. The overarching objective of *Rural360* is to collaborate with rural physicians to conduct, disseminate or otherwise catalyze unsupported community-based research in NNCL. In so doing, it is highly socially accountable, empowering participants to become change-makers who investigate contextually important health issues that emerge from NNCL communities.

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Main text introduction

Unprecedented climactic and socio-economic forces [1–4] are poised to exacerbate already considerable health disparities [5,6] endemic to the Circumpolar North. Accordingly, the Arctic Council, under Finnish and more recently, Icelandic leadership, has prioritised the wellbeing of the region's citizens and communities [7,8], acknowledging their commitment to the Arctic people they ultimately serve. This position echoes social accountability, an approach popular with medical schools [9] and defined in this context as an "obligation to direct ... education, research and service activities towards addressing the priority health concerns of the community, region and/or nation that they have a mandate to serve" [9]. Since then, this concept has proven itself a burgeoning measurement of success and a crucial planning tool for medical education initiatives [9], shifting the conversation of the value of programs toward how they "advance the health of the people and communities we serve" [9,10] and improve the capacity to respond to the needs and challenges of health care [11]. This is the vision of Memorial University of Newfoundland's (Memorial) Faculty of Medicine (Canada), and the image in which our team set out to craft a suite of programs that empower rural physicians to research solutions to local health issues. Rural physicians have close

relationships with their patients that allow them to understand local health needs and system challenges. With research training, they can learn to investigate these issues using a standardised approach and translate their findings into practice through evidence-based care or new models of practice [12]. Unfortunately, limited training in research skills, scarce funding, and a lack of research assistance can be major barriers [12,13], and these issues are particularly severe in the Northern regions of Newfoundland, and the seaboard and inlets of Labrador (Canada), collectively referred to as Northern Newfoundland and Coastal Labrador (NNCL). In 2014, the authors (from Memorial) took decisive action to address educational barriers with *6for6* [14,15], a research training program for rural physicians that uses a unique "six learners, six sessions, one year" design, empowering participants to learn research fundamentals and pursue a research project with a tailored curriculum, university resources, and mentorship. The *6for6* program succeeds in providing support to rural physicians to conceptualise and propose community-based and locally relevant research projects [12], but the dearth of research funding for rural health projects in Canada remains a challenge. This was the impetus for *Rural360*, an extension of *6for6* similarly crafted in the spirit of Memorial's social accountability vision. Founded in 2017, *Rural360* collaborates with rural physicians to conduct,

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disseminate or otherwise catalyze financially unsupported community-based research in NNCL. In so doing, it strives to cultivate partnerships with healthcare providers and direct research, resources and services toward addressing rural healthcare needs. While educational programs that support rural physician-led health research are rare [16,17], to our knowledge *Rural360* is the first university-based program to provide funds, resources and expertise to forge faculty-rural physician research partnerships that address healthcare issues. Here we describe the *Rural360* program, its structure and processes, and results to date.

Rural360 program structure

Overview

Rural360 is an “incubator” for rural health research, facilitating access to resources (funding, expert feedback on proposals, facilitated collaborations with content experts) that allow rural physicians to bypass the barriers to research in NNCL. *Rural360* is designed to nurture early proposals into full-fledged grant applications. This process favors continuous revision and approval over rejection, so the adjudication process is encouraging and helps participants learn and gain momentum as opposed to investing their limited time into an application that is outright denied. *Rural360* is structured as a three-year initiative, which based on our experience delivering *6for6*, is the right duration for a rural-focused research program to gain momentum and build brand-familiarity within the medical community.

Conceptual approach

The process begins with participants (NNCL physicians) having a question about a health issue or an idea about health system change that they have identified via their patients and/or community. Through *6for6*, we assist them to each formulate a research question around their own concept. Participants become familiar with principles of community and patient engagement to ensure these elements are integrated into their projects. The capstone project for *6for6* is a research proposal. *Rural360* is designed to pick up exactly at this point, providing candidates with resources (e.g. graduate assistant, librarian, faculty experts) to refine their proposal for eventual funding upon reaching an acceptable level of scientific rigour (as determined by a panel of experts). *Rural360* links directly with *6for6*, advancing ideas into fully realised projects through a “pathway” of support that covers all 360 degrees of the research process. This pathway ranks as highly socially accountable on the social obligation scale, [9] empowering participants to become *change-makers* who investigate *contextually important* issues defined alongside rural society. A positive

impact on rural community health as evaluated by *local health partners* is ultimately the measure for success [9].

Eligibility

Rural360 is exclusively for physicians practicing in NNCL who are interested in conducting healthcare research for and about communities in these regions. Our program is open to any projects related to patient or system level health issues, although projects tend to align with the following subthemes, united by the common theme of social accountability – research for and about the health, healthcare and wellbeing of NNCL people and communities. These subthemes are:

- *Indigenous Health*: Projects (research, quality improvement or knowledge translation) pertaining to the health, healthcare and/or general wellbeing of Indigenous and/or First Nations, Métis, and Inuit people in NNCL.
- *Community Engagement*: Projects that meaningfully engage communities and citizens as partners in socially accountable research, aligned with local needs.
- *Knowledge Translation*: Projects focused on imparting research findings for the betterment of health, healthcare and/or wellbeing in NNCL.
- *Healthcare Innovation & Outcomes*: Projects examining novel approaches to healthcare delivery (e-health, telehealth, group medical appointments, etc.) related to the health of NNCL patients.
- *Medical Education*: Projects involving the study of medical education in the NNCL setting.
- *Emerging Issues in Northern Health*: Projects that address current and significant issues in NNCL health, but do not fit under the other five subthemes.

Application process

Letters of intent may be submitted any time but submissions and grants are limited to one per candidate. Once received, a committee provides feedback on each letter of intent to improve the submission. Rarely, a letter will be rejected due to an ineligible project or inadequately developed idea (for the latter, substantial feedback and an invitation to revise and resubmit accompanies the rejection). All other letters are returned to the applicants with feedback and an invitation to submit a full proposal. We also liaise applicants with academic faculty to form research teams around the projects, and with a graduate assistant to help develop the proposal, patient/community engagement strategy, and knowledge translation

plan. Submitted proposals are sent to a panel of subject-matter experts for review, and from here reviews loop, with the review team returning comments to the candidate, who (with the help of academic faculty supported by a graduate assistant) addresses comments and returns an improved proposal to the review team. This continues until there are no further revisions. Once all feedback is addressed and the project obtains ethics approval, funds are released. All projects have a one-year scope, must include a citizen on their research team, and must translate their findings back to the community. We also require a progress report mid-way through the grant, and a final report. At the end of the project, *Rural360* offers a second, smaller opportunity for funding to facilitate knowledge translation. To access this funding, participants must submit a new application describing their knowledge translation plan.

Funding route

Grants are available in two amounts: \$15,000 (CAD) for a research project, and \$7500 (CAD) for a knowledge translation project. This funding is in addition to the help we provide participants to develop publications and other materials for scholarly dissemination (e.g. posters, presentations). *Rural360* is funded by the International Grenfell Association, a non-profit organization with a mandate of supporting initiatives that serve NNCL communities [18]. The *6for6* program, funded by Memorial's Dean of Medicine, was instrumental to our funding proposal as it is a case in point that rural research capacity building is possible and can be highly successful. Together, our teams continue to champion rural, remote and Northern research within Memorial and beyond.

Evaluation

We will evaluate *Rural360* after 3 years of delivery, using a logic model to map how the program uses inputs (e.g. money, time, staff effort) to drive activities, outputs and outcomes around NNCL research capacity, and an evaluation matrix to plan specific questions to be addressed with evidence. There will also be a particular focus on gauging the value of *Rural360* in terms of research outcomes (e.g. publications, other grants, continued research education, etc. achieved by participants).

Outcomes

To date, *Rural360* has committed \$60,000 (CAD) to five projects led by NNCL physicians, two of whom have

used their grants to leverage a cumulative \$22,500 from an external funder.

Recommendations & lessons learned

Although *Rural360* is in its formative years, we have identified some early lessons learned and recommendations. First, a prerequisite research education initiative (in our case, *6for6*) is essential, ensuring applicants have a baseline knowledge of research fundamentals before applying for funding. Second, linking participants with other experts is crucial. Multidisciplinary teamwork and partnerships are essential in rural [19] and health science research [20], and improving healthcare in circumpolar areas [5]. Finally, funding can be obtained from many sources (e.g. grants, internal medical school/institutional funding, private donations, etc.). More important is how participants obtain that funding, and fostering an adjudication system that caters to the needs of rural physicians. *Rural360's* processes were specifically created to accommodate rural and remote physicians' substantial clinical commitments and position as nascent researchers.

Discussion

Scholars have been largely silent on the issue of funding for rural, remote and Northern health research. *Rural360* makes a strong case for change so that rural and remote health research can thrive. Specifically, the nurturing approach to review juxtaposes strongly against the infamously competitive adjudication processes of major funding agencies that are intimidating even to seasoned researchers. In fact, the major Canadian funder for health research (Canadian Institutes of Health Research – CIHR) has acknowledged the need for a dedicated initiative to fund research in Northern, rural and remote Canada, and one delivered in ways outside the traditional rules of research funding [21]. While such an initiative has not yet been instituted by CIHR, *Rural360* is trailblazing this vision by “promot[ing], coordinat[ing] and fund[ing] [rural health research] ... ensur[ing] research excellence through a rigorous peer review process ... further enhance[ing] research capacity and ... translat[ing] research into usable knowledge.” [21]

Rural360 also makes research resources available with a delivery model that represents a paradigm shift in terms of how projects typically secure funding. In one of the few studies on the topic, Barclay, Phillips and Lyle [22] identified a striking deficiency in investment in Australian rural health research from 2005 to 2014 that paled in comparison to the continued health disparities and challenges faced in these regions. A similar

disparity has also been identified in Canada's Northern, circumpolar areas [5]. The *Rural360* program represents a considerable injection of resources into NNCL research, contrasting the globally-reported shortcoming. Additionally, the secondary funding that participants can receive makes the presentation of NNCL research more feasible. Not only is it an opportunity to create and share research, but a way to make meaningful and impactful change in NNCL communities.

The Rural Road Map co-developed by the College of Family Physicians of Canada and the Society of Rural Physicians of Canada emphasises the need to increase the currently limited rural research in Canada with a well-coordinated and adequately funded national rural research network [23]. They recommend to: "Create and support a Canadian rural health services research network with the goal of connecting existing rural health research initiatives, and coordinating and strengthening research that enhances the health care of rural Canadians" [23]. In their pre-budget submission to the Canadian government both organizations requested federal funding to develop and support programs like *Rural360* across Canada.

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References

- [1] Hueffer K, Ehrlander M, Etz K, et al. One health in the circumpolar North. *Int J Circumpolar Health*. 2019;78(1):1607502.
- [2] Parkinson AJ, Evengård B. Climate change, its impact on human health in the Arctic and the public health response to threats of emerging infectious diseases. *Glob Health Action*. 2009;2(1):2075–2077.
- [3] Willox AC, Stephenson E, Allen J, et al. Examining relationships between climate change and mental health in the Circumpolar North. *Reg Environ Change*. 2015;15(1):169–182.
- [4] Gassiy V Indigenous communities in the Arctic change in socio-economic and environmental perspective. *Arctic studies-a proxy for climate change: intechOpen*; 2018. p. 1–19.
- [5] Young TK, Chatwood S. Health care in the north: what Canada can learn from its circumpolar neighbours. *Can Med Assoc J*. 2011 Feb 8;183(2):209–214.
- [6] Chatwood S, Bytautas J, Darychuk A, et al. Approaching a collaborative research agenda for health systems performance in circumpolar regions. *Int J Circumpolar Health*. 2013;72(1):21474–21478.
- [7] Arctic Council. Finland's chairmanship program for the Arctic council 2017–2019. Finland: Ministry for Foreign Affairs of Finland; 2017.
- [8] Arctic Council. Iceland's Arctic council chairmanship 2019–2021. Iceland: Ministry for Foreign Affairs, Iceland; 2019.
- [9] Boelen C. Why should social accountability be a benchmark for excellence in medical education? *Educación Médica*. 2016 July–Sept;17(3):101–105.
- [10] Memorial University of Newfoundland Faculty of Medicine. Destination excellence: faculty of medicine strategic plan 2018–23. 2018:1–40.
- [11] Boelen C, Woollard RF Global consensus for social accountability of medical schools. 2010:1–16.
- [12] Graham W, Asghari S, McCarthy P, et al. Rural physician scholars: archetypes creating change. *Can J Rural Med*. 2017;22(4):161.
- [13] Lionis C, Dumitra G, Kurpas D, et al. Building research capacity in rural health settings: barriers, priorities and recommendations for practitioners. *Aust J Rural Health*. 2018;26(4):1–3.
- [14] McCarthy P, Bethune C, Fitzgerald S, et al. Needs assessment for development of 6for6 longitudinal research skills program tailored to rural and remote family physicians. *Can Fam Physician*. 2016;62(2):e80–e88.
- [15] McCarthy P, Bethune C, Fitzgerald S, et al. Curriculum development of 6for6 longitudinal research skills program for rural and remote family physicians. *Can Fam Physician*. 2016;62(2):e89–e95.
- [16] Matsubara S, Ohkuchi A, Kamesaki T, et al. Supporting rural remote physicians to conduct a study and write a paper: experience of clinical research support team (CRST)–Jichi. *Rural Remote Health*. 2014;14(3):1–8.

- [17] Schmidt DD, Kirby S. A modular approach to rural and remote research education: a project report. *Rural Remote Health*. 2016;16(1):1–9.
- [18] International Grenfell Association. About IGA; 2019 [cited 2019 May 22]. Available from: <http://www.grenfellassociation.org/who-we-are/about-international-grenfell-association/>
- [19] Bethune C, Heeley T, Graham W, et al. There is no “I” in rural research capacity building [letter to the editor]. *Aust J Rural Health*. 2019;27(3):268.
- [20] Disis ML, Slattery JT. The road we must take: multidisciplinary team science. *Sci Transl Med*. 2010 Mar 10;2(22):1–4.
- [21] Pong R, Atkinson A, Irvine A, et al. Rural health research in the Canadian institutes of health research. A position paper prepared for Canadian Health Services Research Foundation and Social Sciences and Humanities Research Council 1999.
- [22] Barclay L, Phillips A, Lyle D. Rural and remote health research: does the investment match the need? *Aust J Rural Health*. 2018;26(2):74–79.
- [23] Advancing Rural Family Medicine: The Canadian Collaborative Taskforce. The rural road map for action – directions. Mississauga, ON: Advancing Rural Family Medicine: The Canadian Collaborative Taskforce; 2017.