Connecting cardiovascular clinical researchers through the CANadian Network and Centre for Trials Internationally (CANNeCTIN): Achieving excellence through collaboration

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Clinical research includes the innovation and evaluation of novel diagnostic tools, therapeutic approaches, and systems of care delivery and prevention in patients. Canada, being the birthplace of 'clinical epidemiology' and 'evidence-based medicine', has championed clinical research and its translation to impact practice and policy. Canadian researchers, accordingly, have played important leadership roles in the global clinical research community, particularly in the cardiovascular arena. The continued decline in acute cardiovascular mortality associated with myocardial infarction, stroke and heart failure, both in Canada and globally, is largely attributable to clinical research and the translation of clinical research findings into practice (1).

However, clinical research is also logistically challenging because its success is predicated on scientific entrepreneurialship, organizational leadership, multilateral partnership and team collaboration. In this era of dynamic global competition, Canadian leadership in clinical research is constantly being challenged. With the increasing clout of research in middle-income countries with much lower overhead costs, such as in Eastern Europe, China and India, and major investments into clinical research infrastructures in countries such as the United Kingdom and the United States, Canadian research teams are constantly under pressure to compete at a disadvantage.

To support clinical and translational research, and to maximize the impact of research innovation on health outcomes, the Canadian Institutes of Health Research (CIHR) has established new programs to support clinical research. One example is the Clinical Research Initiative (CRI), which, through nationwide consultation, identified the need to support clinical research networks in strategic, internationally competitive domains of research. In addition, there was a need to align the conduct of research, training and personnel programs with infrastructure support. To implement this vision, the CIHR has worked with the Canada Foundation for Innovation and many other partners to structure a unique program that, for the first time, has coordinated support for projects, networking, training and infrastructure in an integrated fashion. The goal is to facilitate innovations in clinical research, while providing the foundation to link researchers and trainees in an exciting, globally competitive environment. The CRI received an excellent response from the research community. Overall, 34 letters of intent were received and, ultimately, five teams were funded, which included the Canadian Atherosclerosis Imaging Network, a National Knowledge Translation Network, as well as the CANadian Network and Centre for Trials Internationally (CANNeCTIN).

CANNeCTIN is, in fact, an archetype of a well-designed clinical research network that features innovation in research studies to address high-priority problems in cardiovascular care while incorporating training and feasibility pilot trials into the program. CANNeCTIN creates a framework through which these components can be linked, while inviting broad national participation and international collaboration.

Several challenges to the evolution of clinical research emerged over the past few years, and CANNeCTIN is well positioned to address these with the community. One challenge is the changing biological landscape of scientific tools such as genomics, proteomics and biomarkers. These will have an impact on issues such as patient selection, study design and statistical methods. Another is the existence of a two-tiered system of research leadership – those who designed the studies versus those who enroll patients. The flattening of the organization will help to increase participation, partnership, innovation and training of future leaders. Finally, translating research findings into clinical practice and health delivery is also a challenge that is being proactively addressed through CANNeCTIN and other complementary CRI networks. The continued effort of the CANNeCTIN team to engage other clinical researchers in Canada, and other research networks, will maximize its impact and address the original goals of the CRI.

The CIHR is continuing its commitment to clinical research as outlined in its new "Health Research Roadmap" (2), in which, under "Strategic Direction 2: Address Health and Health System Research Priorities", the first priority is to enhance patient-oriented research. Through partnerships with academic health sciences centres, provincial agencies and the private sector, a coordinated strategy is being established to further enrich the landscape of clinical research. This should enable Canada to reassert its international leadership in clinical research, and continue to foster future generations of leaders by creating an exciting environment for clinical research.

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