

# Advancing interdisciplinary health research: a synergism not to be denied

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The test of a first-rate intelligence is the ability to hold two opposed ideas in mind at the same time and still retain the ability to function. — F. Scott Fitzgerald

In this issue of *CMAJ*, a distinguished group of interdisciplinary health researchers, led by Judith Hall from the University of British Columbia, examines governmental, industrial and academic spheres to identify the cultural and structural characteristics that demand, promote or prevent Canadian interdisciplinary health research (IDHR).<sup>1</sup> The group was commissioned by the then-nascent Canadian Academy of Health Sciences (CAHS). It seems appropriate that CAHS, a new and unique interdisciplinary body of experts freshly drawn from dentistry, medicine, nursing, pharmacy, rehabilitation, veterinary medicine and other disciplines with expertise in health sciences, should begin its initial journey by exploring this question.<sup>2</sup>

The article represents a coherent, forward-looking analysis of the current state of IDHR in Canada and suggests the time is right to pursue a more rigorous assessment of this issue. Notwithstanding this, the authors suggest a number of immediate actions to facilitate the promotion of IDHR forthwith.

It is useful to reflect on the contemporary factors that stimulate the need for IDHR, which include the increased complexity of health-related issues and the host of societal elements that frame them, both nationally and globally. The breathtaking emergence of novel technologies has transformed not only our ability for enhanced detection but also the capacity for more creative solutions. The current obesity epidemic, with a commensurate and remarkable escalation in diabetes incidence, is a clear example of a major societal issue best addressed through an IDHR approach that incorporates insights from such diverse sources as behavioural psychology, physiology, metabolism, nutrition, public health and education, urban planning and public policy.

It is now abundantly clear that no single discipline can or should have a monopoly on the search for creative solutions. The current analysis provides a lucid summary of the factors that restrain IDHR, beginning with the traditional structures, organizational matrix and culture of university faculties and departments. When this mix is garnished with the time-honoured territorial boundaries of professions, culturally coloured by their unique identities and lexicon, it is unsurprising that a unidimensional framework emerges. This is often reinforced by the linkage of individual disciplines to their research and professional training, grant-review panels, academic journals and criteria for university promotion, tenure and remuneration. Importantly, the report highlights poten-

tial measures to support IDHR through more strategic re-sourcing, rewards to IDHR and emphasis on the opportunities for interprofessional collaboration and interdisciplinary training. In this last regard, the strategic training initiatives of the Canadian Institutes of Health Research (CIHR) and its major contributions to team grants that emphasize transdisciplinary initiatives have been welcome advances.

Finally, Hall and colleagues<sup>1</sup> indicate the need for “a true analysis of the state of IDHR, through systematic and rigorous data collection on programs and policies across Canada.” The road map they propose involves a broad inventory of IDHR in all sectors, an examination of the impact of professional organizations on health research, and a systematic review of research training opportunities. One might add to this agenda a review of major health issues to explore how and in what form the facilitation of IDHR would assist in enhancing their solutions. As has been eloquently articulated elsewhere,<sup>3</sup> interdisciplinarity has important potential assets and liabilities, which such an in-depth assessment might usefully address.

Given the legitimacy of the arguments supporting a major assessment of IDHR in Canada and its obvious relevance to a preferred future, who should fund or sponsor a major assessment of IDHR in Canada? Clearly, universities, health care institutions, research granting agencies, governments and organizations in the health industry all have a vested interest in ensuring that Canada’s health research future is optimally poised to enhance the health of its citizens. In the process of achieving this goal, we must also be mindful and supportive of the need for Canada to be internationally competitive, to derive the social and economic advantages that necessarily accrue.

Who is the CAHS and why is it necessary? It is one of 3 founding academies of the new Council of Canadian Academies, formerly the Canadian Academies of Science. The CAHS comprises some 200 Fellows, elected by their peers, with diverse backgrounds aligned to foster a healthy society. CAHS Fellows have attained a high level of accomplishment in their respective fields and now combine their expertise in order to provide the best possible analysis of complex health related issues. The CAHS ([www.cahs-acss.ca](http://www.cahs-acss.ca)) is specifically not an advocacy group, but rather an organization comprising people who agreed to volunteer their time and expertise to participate in assessments of crucial health-related and biomedical matters affecting Canadians.<sup>2</sup> Canada has been without such an organization, despite the existence of analogous bodies in many other countries. Notably, the US Institute of Medicine of the National Academies (IOM) has, over the last quarter-century, produced several key studies and analyses

that have improved health care, not only within the United States, but around the world. To name only 2 examples, the IOM reports “To err is human: building a safer health system” and “Crossing the quality chasm, a new health system for the 21st century” (available through [www.iom.edu](http://www.iom.edu)) have both had dramatic implications for health policy.

In Canada, there remain a host of potential issues that receive inadequate expert and unbiased attention, which leaves Canadians vulnerable or performing at a level below their true potential. These include, for example, making the right choices about expenditures in patients’ last 100 days of life; ensuring the right quantity, character and integration of health professionals in the future; positioning Canada internationally as the best location for novel health research and development; and promoting healthy human behaviours. The CAHS serves as a vast resource of volunteer expertise. Election to it is not only an honour, but also a covenant to serve. The CAHS aims to provide comprehensive consideration of research evidence and thoughtful deliberations and advice to Canada on issues that might be requested by federal, provincial or territorial governments; government agencies; health organizations; nongovernmental organizations (NGOs); professional societies; academic and health institutions; and private organizations.

Although sponsors generate the questions or bring forward issues along with the necessary funding, the CAHS becomes the steward of the response process, ensuring the quality and impartiality of the assessment and the credibility of the final report. The creation of assessment panels involves, importantly, the selection of the most appropriate individuals from the global health-sciences community, chosen for their expertise but who must also be free from real and perceived conflicts of interest and able to contribute reasoned, balanced views. Assessments are secondarily reviewed by independent experts selected by CAHS. The final report is then approved by the CAHS Board before its release to sponsors and appropriate further dissemination.

A working group spearheaded by Matthew Spence, a former president of the Alberta Heritage Foundation for Medical Research, has envisaged other potential roles and activities for CAHS. Their suggestions included the interpretation and framing of international reports in a Canadian context, and holding forums in a discipline-neutral space that provide opportunities for dialogue on important issues in an open environment by people from diverse backgrounds. Such efforts are anticipated in some instances to lead to a larger, more comprehensive assessment.

Another function of CAHS is liaison with international and medical health-science academies to enhance global understanding and potentiate opportunistic collaborations on matters of mutual interest. Hence, in April 2006, the CAHS joined the InterAcademy Medical Panel, a global network of academies of science and medicine committed to improving health worldwide.

There is unquestionably a host of health-related issues facing Health Canada, the Public Health Agency of Canada, the CIHR and a variety of other health jurisdictions: CAHS aims to become a complementary partner, to enable independent assessments in strategic areas. CAHS is also partnering with the Canadian Academy of Engineering and the Royal Society of Canada to emphasize the broadest interdisciplinary opportunities that exist in science and technology. For example, the challenges we will face that relate to global warming and our water supply cross all conceptual and disciplinary boundaries: so, too, will likely be the best strategies to address them. Overcoming barriers to IDHR will be an important first step in hurdling the analogous challenges that exist across the social and empiric sciences. It promises to be an exciting time ahead. Surely our community can successfully pass F. Scott Fitzgerald’s intelligence test and master the art of interdisciplinary research, in order to reap the synergistic harvest that promises to follow.

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