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## Promoting Research on Research Integrity in Canada

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# Promoting Research on Research Integrity in Canada

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Research on research integrity is an important element in building a strong national research integrity framework. There is a lack of empirical evidence and conceptual research on research integrity in Canada. To further strengthen and develop our system of research integrity, we believe that greater support is needed to promote research on research integrity. Research on research integrity is imperative in order to gain a richer understanding of the diversity of responsible conduct of research norms, practices, education and policies from a Canadian perspective. The knowledge gained would help in the development of an evidenced-based and responsive Canadian system of research integrity.

**Keywords:** education, governance, research on research integrity, responsible conduct of research

Since the end of 2009, many seminal reports have been produced in Canada with regards to the governance of research integrity; key among these are documents produced by the Canadian Research Integrity Forum (CRIF, previously known as the Canadian Research Integrity Committee or CRIC), the Council of Canadian Academies (CCA), and most recently, the *Tri-Agency Framework: Responsible Conduct of Research* from the three federal funding agencies: the Canadian Institutes of Health Research, the Natural Sciences and Engineering Research Council, and the Social Sciences and Humanities Research Council (CRIC, 2009; CCA, 2010; Tri-Agencies, 2011). This activity has also spurred several commentaries and editorials with regards to how

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research integrity should be governed in Canada (Kondro, 2009; *Nature*, 2011; Stanbrook et al., 2011).

In a recent article, *Canadian Medical Association Journal* editors Stanbrook, MacDonald, Flegel, and Hébert begin by explaining that “honesty, rigour and professionalism of scientists are the essence of research integrity” (Stanbrook et al., 2011). The authors speak on the necessity of education and agree with the recommendations from the 2010 CCA report on research integrity to build an agency charged with overseeing research integrity in Canada. These are laudable proposals and we agree that they would help ensure integrity and minimize research misbehavior. But before implementing onerous guidelines and formal oversight mechanisms, much more effort should be given to promoting research on research integrity in Canada so that we can have a more complete understanding of the practice of research integrity and the prevalence of misbehavior in Canadian universities and research institutes. Specifically, an evidence-based approach is essential to the development of a system of research integrity (including education, regulations, and other governance mechanisms) that best responds to the diversity of scholars and scholarship conducted in our academic institutions.

There is a glaring lack of empirical evidence in the Canadian context on research integrity and misconduct. It seems to be almost taken as a given that promoting education in the responsible conduct of research will help mitigate potential issues of research misconduct, despite some evidence to the contrary (Anderson et al., 2007). More evidence is needed about the types of educational topics and pedagogical approaches that are most effective at promoting integrity. What should trainees know and retain? What are the most effective methods of adult education given scholars’ time and other constraints? How accurate and pertinent is the information being delivered by mentors? In their draft consultation document, the Tri-Agencies affirm that institutions are responsible for “[p]romoting education on, and awareness of, the importance of the responsible conduct of research” (Tri-Agencies, 2011); yet it is not at all clear what training and materials are actually available to scholars and students at different institutions. Outside of education and training in medical ethics and the ethics of research involving humans, little is known about the state of research integrity education provided by Canadian researchers and institutions. We agree with Stanbrook and colleagues’ proposal, and that of the CCA, regarding the importance of promoting education in academic institutions; but we believe that the best way to begin this promotion is to start by surveying the current educational landscape.

One of the major points that Stanbrook and colleagues make is that a new or existing agency (e.g., the Panel of Research Ethics) should be given the power and mandate to investigate allegations of research misconduct. They base this proposal on the grounds that there are perceived or real institutional conflicts of interests when academic institutions conduct

their own investigations. The institutions—and the faculty members involved in research integrity/misconduct or conflict of interest committees—may be embarrassed by the need to investigate misconduct (especially of high profile researchers), be wary of a diminished public reputation, or be afraid of losing national and international research funds in the event of a finding of misconduct. Yet the proposed solution, i.e., an external agency charged with conducting investigations, may be a very costly option depending on the number of investigations conducted. Would “misconduct” be restricted to the gravest of scientific misbehavior such as fabrication, falsification and plagiarism, or would it also include allegations of other academic misbehavior such as unethical authorship or peer-review (in part the responsibility of journal editors), violations of animal or human research ethics policies (the role of research ethics boards and animal care committees), or misappropriation of research funds (in part, the responsibility of research sponsors)? Up to this point, the Tri-Agencies have shown only a limited capacity for monitoring and auditing the research they sponsor. Moreover, that capacity appears to have been limited to breaches of financial rules. Clearly, the *Tri-Agency Framework: Responsible Conduct of Research* seeks a broad definition of breaches of agency policies (Tri-Agencies, 2011), a tall order if every allegation of inappropriate credit, duplicate publication, or conflicts of interest are investigated by an external body. Moreover, an agency charged with responsibility for this area needs to have the credibility necessary for winning the trust of the research community and the public. This means that it has to operate at arm’s length not only from research institutions, but also from research sponsors. This is an important point since the Canadian policy framework governing the conduct of research is implemented by those who fund the research. The external body overseeing allegations of misconduct needs to operate in a fair minded way based on adequate evidence including knowledge of the norms and practices applicable to the wide array of Canadian research activities. Credibility, in short, requires a knowledge base.

Developing an appropriate governance model for a central body that could investigate, sanction, and possibly promote education needs to be based, at minimum, on some evidence. This evidence should not be derived only from qualitative or quantitative (observational) research, but also include conceptual research that uses philosophical, legal, economic, and political science methods. For example, information about the prevalence of research misconduct and other misbehavior by Canadian researchers, or the reasons that some researchers engage in poor research conduct, are a few of the questions needing investigation in order to develop sound policies and design pertinent and effective education on research integrity. Further, studies on the robustness and coverage of research integrity policies in Canadian universities would be helpful in developing sound policy and governance options (Schoenherr and Williams-Jones, 2011). Given that governance of research integrity under

Tri-Agency policies involves research and scholarship beyond the natural and applied sciences, it is imperative that research on research integrity focus also on under studied areas, such as the humanities and the social sciences, as well as many of the emerging multi- and interdisciplinary fields of study, including bioethics (Master, 2011; Smith and Williams-Jones, 2011). Research on research integrity from a Canadian standpoint is needed in order to conceptualize the most effective means of developing a robust and comprehensive national research integrity policy and educational framework.

Although our proposal is prudent in its vision of how to reasonably move forward, many might object that we do not need more evidence of how research integrity works in Canada. It can be argued that sufficient research has been performed in other jurisdictions, and there are a plethora of governance models and national and international policies that Canada can use as a starting point to further develop its own research integrity framework—see the report released by the Canadian Research Integrity Committee (CRIC, 2009). While this is certainly a valid point, studying research integrity in the Canadian context is essential if we are to build on our existing research policy governance system and research culture. This is not to say that the prevalence of research misbehavior might differ significantly between Canada and other nations, but that a Canadian approach should be tailored to the particular research culture within Canadian institutions while also being in line with other provincial, national, and international policies. To put this point more generally, while there certainly are norms of research integrity applicable internationally, there needs to be a nation-by-nation context-sensitive application and implementation of those norms, and such additional norms that are needed locally.

As Stanbrook and colleagues point out, a robust system of governance and education on research integrity are some of the key elements to the responsible conduct of research. A substantive public and private investment is made to supporting research and scholarship, and thus, it is essential that leaders and decision makers be well informed of policy options—based on sufficient evidence and conceptual rigor—that can promote and ensure the highest standards of integrity and ethical conduct for Canadian research and scholarship.

We conclude by providing some preliminary thoughts on how necessary evidence about Canadian research integrity can be gathered. First, the development of request for applications on research integrity from the Tri-Agencies and other government and non-governmental agencies funding research, similar to the dedicated funding provided by the National Institutes of Health (NIH) Research on Research Integrity (R21) grants program (NIH, 2011), is an essential starting point. In addition, universities, colleges, and private institutions conducting research should make substantial efforts to assess and augment educational programs (of diverse sorts) to promote a culture

of responsible conduct of research within their institutions. Lastly, Canadian academic societies and other governmental and non-governmental organizations interested in the governance of science and research should make efforts to strengthen awareness on the part of their scholars regarding the importance of research integrity, and help where they can in the development of sound policies. Through various efforts, including funds to support research on research integrity, empirical evidence and a deeper conceptual understanding of research integrity education, practices, policies, culture, and governance can be gathered in order to provide a richer knowledge base which decision makers can use to build a stronger Canadian system of research integrity.

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We are researchers who study issues related to research ethics, governance, professional ethics, and research integrity, and so we have a vested interest in research on research integrity. Master was previously an employee of Health Canada where he developed Health Canada's Scientific Integrity Framework and served as secretariat to the Canadian Research Integrity Committee. McDonald's research on the ethical conduct of research involving humans is funded by grants from the Canadian Institutes for Health Research. Williams-Jones' research on conflict of interest and professional ethics is funded by grants from Quebec Fonds de recherche sur la société et la culture, and the Ethics Office of the Canadian Institutes of Health Research. We would like to thank Professor Timothy Caulfield for helpful feedback. The views expressed here are those of the authors; they do not reflect the positions of Health Canada, the Canadian Research Integrity Forum, the Government of Canada or the author's respective academic institutions.

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