

## Special report

## The future of health research is hanging in the balance

Christopher J. Paige PhD

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The special report by Clark and colleagues in this issue of *CMAJ* concludes that Canada's Members of Parliament, who set government funding priorities and vote annually to determine the budget of the Canadian Institutes of Health Research (CIHR) for funding health research, have little knowledge of health research and funding.<sup>1</sup> Although the authors point out a number of limitations to their study, there is little doubt that this is an important start to what should become a call to arms. We must regard this survey of Members of Parliament as a challenge to all of us involved in health research to do a far better job of informing politicians and policy-makers about the work we do and inviting them to participate in our successes. We may give ourselves high marks when it comes to teaching the next generation of health care professionals and researchers, but we are failing when it comes to educating key decision-makers.

In my experience, one of the most serious gaps in the political knowledge base is the very fact that hospitals have become the driving force in health research. Hospital-based research institutes are undertaking not just clinical studies, but also the full spectrum of research from fundamental discovery to development to application and evaluation. The Association of Canadian Academic Healthcare Organizations, which represents 50 research hospitals across Canada, estimates that more than 75% of publicly funded health research — amounting to more than \$2 billion — is spent annually within hospital-based institutes and centres.<sup>2</sup> As part of their mandates, research hospitals seek to explore fundamental mechanisms of disease, develop novel therapeutic interventions and diagnostic procedures, and determine the overall risks and benefits of established therapies and more complex treatment plans. Many institutes will even tackle health systems research and population-based research so Canadians will have answers to questions about how best to deliver primary care, or whether health care should be privately or publicly funded. If we assume that Canadians expect the best of care, want access to innovative treatments, hope for breakthroughs in our understanding of disease that will lead to new treatments and expect made-in-Canada solutions to some of our health care system's problems, then we must operate research institutes that attract and retain both basic and clinical researchers.

Given these important roles, support for hospital-based research should be the darling of politicians and policy-makers alike. Unfortunately, this is where the policy-makers' lack of knowledge of health research funding becomes a real barrier to progress.

## Key points of the article

- Policy-makers are largely unaware that hospitals have become the driving force in health research
- Few policy-makers are aware that grants do not cover indirect costs associated with research
- The gap is widening between government-funded research and research that private industry is willing to fund
- Balanced and sustainable research support might be achieved with increased collaboration between government ministries and better communication between researchers and policy-makers

## Funding models under pressure

Fundamentally, few policy-makers are aware that grants do not pay for the full cost of research. The costs associated with salaries of principal investigators, regulatory compliance, financial and facility services, commercialization teams and many more critical items are generally not allowable expenses under the terms of granting agencies. And no research enterprise can exist, let alone succeed, without funding for these basic costs.

To its credit, the federal government instituted a component for indirect-cost allocation several years ago. However, it then applied a sliding-scale formula that resulted in a premium of less than 20% on grants awarded to the institutions undertaking the largest share of federally funded research.<sup>3</sup> Some provincial governments have also begun to provide funding to cover indirect costs in some of their grant programs, but collectively these funds do not come close to covering the full cost of conducting research in hospital-based institutes and centres.<sup>4</sup> And most other sources of funding of research do not even provide a bare minimum contribution.

The much-needed infrastructure investments made by the federal government through the Canadian Foundation for Innovation reversed decades of neglect and allowed Canadian universities and research hospitals to construct and revitalize their research enterprises.<sup>5</sup> This program, along with the Canada Research Chairs program, has succeeded in attracting and retaining top investigators — investigators who can choose to work anywhere in the world.

In the last 6 years alone, my institution has hired more than 40 principal investigators, 75% of whom were recruited from

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Christopher Paige is the Vice-President of Research at the University Health Network in Toronto and a professor in the Departments of Medical Biophysics and Immunology at the University of Toronto, Toronto, Ont.

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outside of Canada. Ironically, this success has only deepened our financial problems because the infrastructure funds for buildings do not cover operating expenses, and the real cost of providing laboratories for Canada Research Chairs far exceeds the value of the awards. We need to recognize that new buildings and talented people come with a cost, and we need to develop a more balanced approach to research funding.

Another prevalent misconception I have encountered at all levels of government is that universities cover the operating costs of research conducted in hospitals. Although this does occur to some extent in some locations, most universities are finding it hard enough to support their own campus-based research programs and do not have funds available to cover research conducted at their affiliated hospitals. In reality, although universities may have access to funds from education ministries, they are facing the same serious challenges as research hospitals are when it comes to supporting the full cost of research.

Although it is widely agreed that health research is the basis for improving health, health care dollars from provincial ministries of health are appropriately reserved for delivering health care to sick people. Research hospitals do not, and should not, use their operating funds to build and operate research facilities. This particular issue rarely comes up in discussions with policy-makers, in large part because they are unaware of how much research goes on in hospitals.

Research hospitals depend on donations from wealthy individuals and corporations, lotteries and other fundraising events to maintain their capacity to conduct medical research. When times are good this source of funding may prove barely adequate. An economic downturn would see some of our top researchers headed for greener pastures. For something as important to Canadians as health research, leaving our research capacity to depend on a lottery seems irresponsible at best.

## The role of the private sector

Clark and colleagues point out that some Members of Parliament think that the private sector should be the primary source of health research funding. Although the private sector plays an essential role in bringing research from discovery to market application, the notion that the private sector could replace government funding is profoundly misinformed. In fact, the trends are quite the opposite. Funding from the private sector for mid- to late-stage research, let alone early-stage research, has been in decline, and this trend is unlikely to be reversed.<sup>6</sup>

The result has been a widening gap between the research funded by government granting agencies and the research that private industry is willing to fund. Often, policy-makers think that a promising new discovery emerging from a hospital or university laboratory is taken up by industry right away. Today, this is rarely true. Rather, it falls to research centres to develop the product further to make it ready for market. Research hospitals, whose research is often highly mission oriented, would be ideal for this development, but it is key to create the environment to promote this. Too often policy-makers are willing to provide funds to hire commercialization experts, but they fail to realize that these individuals, as important as they are to

the process of commercialization, will not succeed if there are insufficient funds to develop a product appropriately.

## Balance and coordination

Research hospitals are a converging point of interest for many government ministries. Health research improves health care, and the next generation of health care professionals are trained in our facilities and taught by our staff. Research discoveries form the basis of new inventions that fuel our knowledge-based economy. Balanced and sustainable research support might be achieved if provincial ministries responsible for health, education, economic development and finance worked together within their provinces to find solutions for research hospitals. Better coordination between different levels of government would also help. In addition, members of the research community must recognize that politicians and policy-makers are operating with their own constraints, and we must learn to understand the framework for change. We must work with government to develop strong accountability measures that ensure that the agreed upon goals, both of research hospitals and policy-makers, are met.

## Recommendations

Several actions would help immediately, such as increasing the percentage of funds covering indirect costs of research to 40% for all government grants or providing a 100% goods and services tax (GST) rebate on eligible purchases made by research hospitals. A more radical solution would be to create a national system of credentialed research hospitals that would qualify for infrastructure support and would be accountable to sources of funding to deliver health care innovations. Researchers should try to communicate more frequently with politicians, policy-makers and the public; research hospitals should engage in greater advocacy; and policy-makers should strive to develop sustainable, balanced funding programs that will allow our research hospitals to excel. Nothing could be more important to the future of health research in Canada.

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**Correspondence to:** Dr. Christopher J. Paige, University Health Network, 610 University Ave., Toronto ON M5G 2M9; [paige@uhnresearch.ca](mailto:paige@uhnresearch.ca)