

Health research funding

Members' of Parliament knowledge of and attitudes toward health research and funding

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ABSTRACT

Background: Establishment of the Canadian Institutes of Health Research (CIHR) in 2000 resulted in increased funding for health research in Canada. Since 2001, the number of proposals submitted to CIHR that, following peer review, are judged to be of scientific merit to warrant funding, has grown by 77%. But many of these proposals do not receive funding because of budget constraints. Given the role of Members of Parliament in setting government funding priorities, we surveyed Members of Parliament about their knowledge of and attitudes toward health research, health research funding and CIHR.

Methods: All Members of Parliament were invited to participate, or to designate a senior aide to participate, in a 15-minute survey of knowledge of and attitudes toward health research, health research funding and CIHR. Interviews were conducted between July 15, 2006, and Dec. 20, 2006. Responses were analyzed by party affiliation, region and years of service as a Member of Parliament.

Results: A total of 101 of 308 Members of Parliament or their designated senior aides participated in the survey. Almost one-third of respondents were senior aides. Most of the respondents (84%) were aware of CIHR, but 32% knew nothing about its role. Participants believed that health research is a critical component of a strong health care system and that it is underfunded. Overall, 78% felt that the percentage of total government spending directed to health research funding was too low; 85% felt the same way about the percentage of government health care spending directed to health research. Fifty-four percent believed that the federal government should provide both funding and guidelines for health research, and 66% believed that the business sector should be the primary source of health research funding. Participants (57%) most frequently defined health research as study into cures or treatments of disease, and 22% of participants were aware that CIHR is the main federal government funding organization for health research. Participants perceived health research to be a low priority for Canadian voters (mean ranking 3.8/10, with 1 being unimportant and 10 being extremely important [SD 1.85]).

Interpretation: Our results highlight significant knowledge gaps among Members of Parliament regarding health research. Many of these knowledge gaps will need to be addressed if health research is to become a priority.

Une version française de ce résumé est disponible à l'adresse www.cmaj.ca/cgi/content/full/177/9/1045/DC1

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Over the past 8 years, health research has been an important but declining priority for the federal government. The development of the Canada Foundation for Innovation, the Canada Research Chairs, Genome Canada, the Networks of Centres of Excellence, the Canadian Health Services Foundation and the Canadian Institutes of Health Research (CIHR)¹ reflects this initial interest. Although most of these programs receive multi-year funding, CIHR receives annual funding from the federal government. However, its annual increases have not risen proportionately with the number of requests for funding it receives each year.

CIHR is the federal funding body for health research and consists of 13 institutes. It supports 4 pillars of research: biomedical research, clinical research, social and cultural aspects of health and population health research, and health services and systems research. With the formation of CIHR,² federal funding for health research increased from \$289 million in 2000 to \$553 million in 2002, with subsequent 5%–6% annual increases until 2006. That year, the increase was 2.4%.³ The initial increases in funding stimulated a sharp rise in the number of grants submitted and funded annually. In the 2006 competition, the increase in funding was lower than expected and the success rate in the open compe-

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tition fell to 16% from the mean rate of 31.7% in previous years. As a result, 60% of peer-reviewed grants rated as very good or excellent were not funded, as compared with 38% in 2001 (CIHR: unpublished data, 2007).

Because Members of Parliament vote annually to determine CIHR's budget for funding health research, we surveyed Members of Parliament and their senior aides about their knowledge of and attitudes toward health research, health research funding and CIHR.

Methods

Participants

In June 2006, all 308 Members of Parliament were invited by letter to participate in the study. Members' offices were contacted up to 5 times unless a refusal was received. Members were given the option to complete the survey online or by telephone. They also had the option of designating their senior aides or executive assistants to complete the survey. Because senior aides and executive assistants compose communications representing the views of the Members and prepare briefing notes,⁴ we considered senior aides and executive assistants to be knowledgeable enough about Members' views to be able to complete the survey on their behalf. For this reason, the Member's office was the unit of analysis for the

study. Participants were assured that only aggregated responses would be reported. They were also informed that they could withdraw their data at any time during the survey. Consent was obtained by telephone. Because this was a public policy study, in accordance with the Tri-Council Policy Statement on Ethical Conduct for Research Involving Humans,⁵ we applied for and obtained a waiver of ethics review from the IWK Health Centre Research Ethics Board.

Survey

We developed the survey instrument (Appendix 1, available online at www.cmaj.ca/cgi/content/full/177/9/1045/DC2), which was then professionally translated into French. The English version was pretested with 2 senior aides to Members of the Nova Scotia Legislature. The questionnaire comprised 2 sections. The first focused on knowledge of and attitudes toward health research, health research funding and CIHR, and contained 45 closed and 13 open-ended questions. The second section required each participant to discriminate between different funding priorities by choosing 1 option from each of 10 randomly selected pairs. Interviews were completed between July 15, 2006, and Dec. 20, 2006.

One of us (D.R.C.) recruited and interviewed all anglophone participants; a bilingual research assistant recruited and interviewed francophone participants. Both interviewers

Table 1: Party affiliation, regional distribution, demographic profile and positions of 308 Members of Parliament within the House of Commons in June 2006

Characteristic	No. (%) of Members of Parliament*			p value
	Total n = 308†	Respondents n = 101	Nonrespondents n = 207	
Party affiliation				0.046
Conservative Party	125 (40.6)	42 (41.6)	83 (40.1)	
Liberal Party	102 (33.1)	40 (39.6)	62 (30.0)	
Bloc Québécois	51 (16.6)	8 (7.9)	41 (19.8)	
New Democratic Party	29 (9.4)	11 (10.9)	18 (8.7)	
Regional representation				0.01
British Columbia and Yukon Territory	39 (12.7)	13 (12.9)	26 (12.6)	
Prairies and Northwest Territories	56 (18.2)	18 (17.8)	38 (18.4)	
Ontario and Nunavut	106 (34.4)	37 (36.6)	69 (33.3)	
Quebec	75 (24.3)	15 (14.9)	60 (29.0)	
Atlantic Canada	32 (10.3)	18 (17.8)	14 (6.8)	
Demographic profile				
Female	64 (20.8)	22 (21.8)	42 (20.3)	0.76
Age, yr, mean	52.6	51.7	53.1	0.45
Years of service, no., mean	7.0	6.8	7.0	0.42
Position				0.02
Current cabinet minister	27 (8.8)	9 (8.9)	18 (8.7)	
Former cabinet minister	57 (18.5)	24 (23.8)	33 (15.9)	
Member of key committee‡	36 (11.7)	18 (17.8)	18 (8.7)	

*Unless stated otherwise.

†Includes 1 independent Member of Parliament who declined to participate in the survey.

‡Key committees are the Standing Committees on Health, Finance, and Industry, Science and Technology.

were trained to record verbatim responses to the open-ended questions, with a single prompt for additional comments. French open-ended responses were translated into English for coding.

Statistical analysis

Data were analyzed by political party membership, region and years of service as a Member of Parliament. Regions were divided as follows: British Columbia and Yukon Territory; Prairies and Northwest Territories; Ontario and Nunavut; Quebec; and Atlantic Canada. We used one-way analysis of variance with Tukey tests for between-group differences and the χ^2 test to determine differences among categorical data.

Results

Participants

Of the 308 Members of Parliament contacted, 101 (33%) agreed to participate in the survey. Ten selected the online interview; 91 chose the telephone interview. All of the participants completed the study and answered all of the questions. Sixty-nine participants were Members of Parliament, and 32 were designated senior aides. Table 1 compares the respondents and nonrespondents by party affiliation, region, demographic characteristics, and position within the cabinet and relevant committees.⁶ Survey participants had a mean age of 51.7 years (standard deviation [SD] 9.7) and a mean length of service of 6.8 years (SD 5.6), and 22% were female. By comparison, all of the Members of Parliament had a mean age of 52.7 years (SD 9.8), a mean length of service of 7 years (SD 5.7), and 21% were female.⁶

To determine whether Members' of Parliament and senior aides' responses differed significantly, we compared 49 variables from the questionnaires of Members of Parliament and

senior aides in the Conservative and Liberal parties. We observed statistically significant differences in responses between the members and aides in the Conservative Party for 3 of the 49 variables: 2 regarding health care priorities (hiring more doctors and nurses, and expanding home care) and 1 regarding awareness of CIHR. We observed statistically significant differences among participants in the Liberal Party for 2 of the 49 variables (measures of current health research funding compared with health care spending and total government spending respectively).

Health care priorities

Participants ranked health care as the most important issue facing the country (Table 2). Health research was viewed as the second most important funding priority for the health care system, with a mean rating of 8.2 of 10 (SD 1.4) (Table 3). In the forced-choice analysis, in which participants were asked to select their preferred funding options from a provided list, the most frequent response was "hiring more doctors and nurses," followed by "increased funding for health research" (Table 4). Participants also rated Canadian government involvement in scientific research as very important, with a mean rating of 8.8 of 10 (SD 1.5).

Knowledge

Participants were asked to describe what they understood the term "health research" to encompass. The most frequent responses included research into cures or treatments of disease (57%), identification of health risks and epidemiology (24%) and disease prevention (23%) (a complete list of responses is available online in Appendix 2 at www.cmaj.ca/cgi/content/full/177/9/1045/DC2). Most of the participants (70%) named better health and quality of life as a primary benefit of health research. Some (35%) suggested that health research would

Table 2: Issues on the political agenda ranked as most important by 101 Members of Parliament and senior aides, by party

Most important issue	Party affiliation, no. (%) [*] of respondents				
	Conservative Party <i>n</i> = 42	Liberal Party <i>n</i> = 40	Bloc Québécois <i>n</i> = 8	New Democratic Party <i>n</i> = 11	Total <i>n</i> = 101
Health care	16 (38.1)	19 (47.5)	2 (25.0)	6 (54.5)	43 (42.6)
Border security and national defence	11 (26.2)	3 (7.5)	—	—	14 (13.9)
Industry growth and employment	6 (14.3)	5 (12.5)	2 (25.0)	—	13 (12.9)
Environment†	4 (9.5)	3 (7.5)	1 (12.5)	4 (36.4)	12 (11.9)
Law and order	9 (21.4)	2 (5.0)	—	—	11 (10.9)
Child care	5 (11.9)	4 (10.0)	—	—	9 (8.9)
International trade	4 (9.5)	—	1 (12.5)	—	5 (5.0)
Education†	—	4 (10.0)	—	—	4 (4.0)
Government accountability†	3 (7.1)	—	—	—	3 (3.0)
Afghanistan†	2 (4.8)	1 (2.5)	—	—	3 (3.0)
Other‡	6 (14.3)	4 (10.0)	2 (25.0)	2 (18.1)	14 (13.9)

^{*}Percentages may not total 100 because multiple responses were allowed.

†Some participants gave spontaneous responses that were not included in the list of options.

‡"Other" includes 11 unique responses, each mentioned by no more than 2 respondents.

lead to more efficient health care and savings to the health care system and the economy in general. Less than 10% noted economic benefits of health research such as employment or commercialization opportunities (a complete list of responses is available online in Appendix 3 at www.cmaj.ca/cgi/content/full/177/9/1045/DC2).

Most of the respondents (84%) were aware of CIHR, but 32% knew nothing about its role. Twenty-two percent of the

participants knew that CIHR is the main federal government funding organization for health research, and 19% responded that it conducts research. Participants' perceptions of the quality of CIHR's work varied significantly by party affiliation ($p = 0.004$). Liberal Party members were most positive and Bloc Québécois members were least positive about it (results are available online in Appendix 4 at www.cmaj.ca/cgi/content/full/177/9/1045/DC2). Most of the respondents did not know

Table 3: Ranking of health care funding priorities by 101 Members of Parliament and senior aides, by region

Funding priority	Region; mean ranking (SD)*					
	British Columbia and Yukon Territory	Prairies and Northwest Territories	Ontario and Nunavut	Quebec	Atlantic Canada	All
Reducing wait times	8.5 (1.4)	8.1 (1.9)	8.5 (1.8)	7.7 (2.2)	8.2 (1.6)	8.2 (1.8)
Funding health research	7.9 (1.8)	8.1 (1.2)	8.0 (1.4)	8.7 (1.4)	8.3 (1.4)	8.2 (1.4)
Hiring more doctors and nurses	8.5 (1.0)	7.8 (1.7)	8.0 (1.5)	8.4 (1.7)	8.2 (1.6)	8.2 (1.5)
Investing in new technology	7.5 (1.9)	8.3 (1.3)	7.9 (1.7)	7.9 (1.4)	7.9 (1.8)	7.9 (1.6)
Increasing access to health care	8.0 (1.9)	6.7 (2.0)	8.1 (1.6)	7.3 (2.4)	8.7 (1.8)	7.8 (1.9)
Expanding home care coverage	7.1 (1.8)	6.9 (1.3)	7.4 (1.8)	7.5 (1.9)	7.4 (2.2)	7.3 (1.8)
Increasing coverage of cutting-edge pharmaceuticals	6.2 (1.8)	5.4 (1.9)	6.3 (1.5)	6.5 (1.4)	5.9 (2.1)	6.1 (1.7)
Renovating existing hospitals	6.6 (2.6)	4.8 (2.3)	5.9 (2.1)	5.5 (2.0)	5.5 (2.0)	5.7 (2.2)
Building more hospitals	4.8 (2.6)	3.7 (2.3)	4.8 (2.0)	4.3 (2.3)	4.2 (2.4)	4.4 (2.2)

Note: SD = standard deviation.

*Ranking was on a scale of 1 (unimportant) to 10 (extremely important).

Table 4: Forced-choice selection of preferred funding options* by 101 Members of Parliament and senior aides

Preferred funding option	Region; % of times response was selected					
	British Columbia and Yukon Territory	Prairies and Northwest Territories	Ontario and Nunavut	Quebec	Atlantic Canada	All
Hire more doctors and nurses	76.0	72.1	80.7	86.7	86.8	80.4
Increase funding for health research	59.1	58.6	61.8	69.0	51.4	60.2
Build affordable housing for 2000 families	44.4	42.9	63.2	60.6	76.0	58.7
Expand access to home care for elderly people	50.0	61.3	56.3	64.0	60.0	58.5
Create 50 000 new daycare spots†	58.6	25.0	46.2	53.1	62.2	48.2
Purchase 50 new magnetic resonance imaging machines	57.6	52.8	43.7	38.9	53.1	48.1
Purchase 200 clean-diesel buses for transit	41.9	45.5	38.6	58.6	24.2	40.8
Reduce taxes‡	34.8	62.1	43.1	28.6	17.1	37.3
Hire and train 1000 new police officers	40.7	56.0	36.4	22.9	35.0	36.8
Purchase new equipment for the Canadian military§	34.8	28.6	23.1	8.0	41.9	26.6

*Each of the above funding options was randomly paired with every other option, and respondents were asked to select, in 10 different pairs, which of the 2 options they preferred. Each option cost \$100 million.

† $p < 0.025$ for difference between regions.

‡ $p < 0.005$ for difference between regions.

§ $p < 0.05$ for difference between regions.

what CIHR did well (61%), or what it did poorly (62%) (see responses in Appendix 5, available online at www.cmaj.ca/cgi/content/full/177/9/1045/DC2).

Funding priorities

Participants were asked to select their preferred option from a list of 4 varying levels of federal government involvement in health research. Fifty-four percent responded that the federal government should provide both funding and guidance for health research. Limiting involvement to providing funding for scientific research was the option favoured by 25%, providing resources for a few specific goals was favoured by 18%, and limiting involvement to establishing guidelines was preferred by 3%. Forty-four percent of the respondents identified the business sector as the largest source of funding for health research in Canada; others thought it was the federal government (28%), provincial governments (13%), private foundations (9%) or universities (6%). Participants were asked about their attitudes toward the business sector funding health research. A majority (66%) supported business as the primary source of funding. Members of the Conservative Party were the most supportive (83%), and members of the New Democratic Party were the least supportive (27%) ($p = 0.002$) (responses are summarized in Appendix 6, available online at www.cmaj.ca/cgi/content/full/177/9/1045/DC2).

Participants were asked about their perceptions of health research funding in relation to total government spending and to government spending on health care. Participants estimated that the combined federal and provincial annual spending on health research amounted to 3.0% (SD 3.9%) of total government spending. Estimates varied by party; for example, members of the New Democratic Party thought the amount was smaller (1.6%, SD 3.0%) and Bloc Québécois members thought the amount was larger (7.3%, SD 9.2%) ($p = 0.016$). When informed that actual health research funding amounted to 1.3% of total government spending, 78% of the participants perceived this level to be insufficient (results are available online in Appendix 7 at www.cmaj.ca/cgi/content/full/177/9/1045/DC2). Conservative Party members were less likely to agree the level was insufficient (62%); members of

the Liberal Party (85%), the Bloc Québécois (100%) and the New Democratic Party (100%) were more likely to agree it was insufficient ($p = 0.033$). Participants estimated that the combined federal and provincial annual spending on health research funding amounted to 6.6% (SD 5.5%) of total health care spending, private and public combined. When informed of the actual percentage — 3.5% of \$130 billion in 2004⁷ — 85% reported that funding was insufficient. Participants who believed that current health research funding was lower than the actual level of 3.5% were significantly more likely than those who believed it to be higher to think that current funding was too low ($p = 0.007$).

Participants were asked to rate the significance of 8 barriers to increased health research funding on a 10-point scale, with 1 being insignificant and 10 being extremely significant. The most significant barriers were “there are too many other competing priorities” (mean rating 7.2) and “investing in front-line health care is a better use of the money” (mean rating 6.0). Members of Parliament with fewer than 8 years of service were significantly more likely than those with 8 or more years of service to name “we do not know where the money is going and how it is spent,” “we cannot be assured that the best science is being done” and “the research being conducted is not a priority for the government” as barriers (results are available online in Appendix 8 at www.cmaj.ca/cgi/content/full/177/9/1045/DC2). Respondents did not perceive funding for health research as an important priority for voters compared with health care, job growth, and law and order (Table 5). Eighty-seven percent of the participants wanted Canada to play a larger role in health research than other Organisation for Economic Co-operation and Development (OECD) countries.

Interpretation

The results from this 2006 survey suggest that Members of Parliament and their senior aides valued health research. They understood its potential for improving health and its importance to the health care system, but their knowledge was limited. The impact of health research on the economy,

Table 5: Ranking of how 101 Members of Parliament and senior aides perceive the importance of national issues to voters in their ridings

Issue	Party affiliation; mean ranking (SD)*				
	Conservative Party	Liberal Party	Bloc Québécois	New Democratic Party	Total
Health care	8.2 (1.72)	8.5 (0.97)	8.0 (0.93)	8.8 (1.54)	8.4 (1.40)
Industry growth and employment	6.5 (1.55)	7.0 (1.88)	7.0 (0.93)	7.2 (1.47)	6.8 (1.65)
Law and order	7.4 (1.69)	6.3 (1.83)	5.8 (1.28)	6.6 (1.51)	6.8 (1.78)
Child care	5.5 (1.89)	6.8 (1.67)	7.8 (1.67)	7.2 (2.09)	6.4 (1.95)
Border security and national defence	6.3 (1.83)	5.4 (1.93)	4.4 (1.77)	4.6 (1.92)	5.6 (1.97)
International trade	5.3 (1.50)	4.8 (1.73)	5.8 (1.39)	4.9 (1.92)	5.1 (1.64)
Funding health research	3.8 (1.75)	4.0 (2.02)	4.6 (1.77)	3.1 (1.51)	3.8 (1.85)

Note: SD = standard deviation.

*Ranking was on a scale of 1 (unimportant) to 10 (extremely important).

and the role of health research in the promotion of healthier lifestyles and the improvement of health care delivery were generally not appreciated.

Members of Parliament also had limited knowledge of health research spending in relation to overall government spending and to health care spending. Few knew the amount spent on health research in Canada per year, or the main sources of funding. When informed of the actual amount spent on health research funding as a percentage of total combined federal and provincial spending (1.3%) or as a percentage of overall federal and provincial health care spending (3.5%), a large majority believed that these figures were too low. They were concerned about how Canada's health research investment compared with that of other Organisation for Economic Co-operation and Development (OECD) countries.

Respondents believed that health research is not an important voter issue and that Canadians care more about health care, job growth, and law and order than health research. Nevertheless, surveys of Canadians have consistently reported that health research is a high priority for public investment.^{8,9} A 2006 Environics poll for Research Canada, an advocacy group for health research, found that 91% of 1000 participants wanted increased government investment in health research.⁹

CIHR, the primary federal government funding body for health research in Canada, receives a funding allotment approved by Parliament in the annual budget. However, Members of Parliament and their senior aides do not appear to be well informed about CIHR, its funding or its role in supporting high-quality health research studies in Canada.

There are many ways for the federal government to support health research, but stable funding to CIHR is essential to a national research strategy. The low rate of success in the 2006 open competition (16% v. mean rate of 31.7% in previous years) as well as fewer highly rated proposals being funded in 2006 than in 2001 (40% [916/2298] v. 62% [810/1301])⁴ has led to health researcher disillusionment.¹⁰ A further complication is most CIHR grants are for 3–5 years; however, CIHR is informed of its budget only 1 year in advance and cannot carry funding forward. Consequently, lower-than-anticipated annual funding increases, such as the increase in 2006, result in low funding rates for new projects and, in turn, leave many high-quality grants unfunded. The 2007 budget included a 5% funding increase for CIHR, which was a return to the more traditional rate of funding increases, but this change did not translate to an increase in the number of successful grants.¹¹

This study has several limitations. Although 33% of the Members of Parliament participated and did not differ from nonparticipants in mean age, sex or years of service, the sample was not representative of party affiliation. The Bloc Québécois, for example, has a policy of not participating in surveys and therefore had a low participation rate. Although 16% (8 of 51) was deemed a good level of participation for Bloc Québécois members, those who participated may not have represented the views of the party. Similarly, the opinions of the participants may not have reflected the opinions of

those who did not: nonparticipants may have had a greater interest in health research. Party membership differed by region and length of service in Parliament (e.g., Liberal and Bloc Québécois members had longer service than members of other parties). The impact of this factor as a predictor of answers is unclear. The use of senior aides or executive assistants is also a potential limitation. However, although significant, the differences in responses between Members of Parliament and senior aides in the Liberal and Conservative parties were few in number. This suggests that the differences bordered on chance, which in turn suggests that our methodology was sound.

Another limitation to the study is the lack of comparators. Because the survey focussed only on health research, we do not know if Members' of Parliament knowledge of and attitudes toward other major issues on the national agenda, such as the environment or national defence, were better or worse than those on health research. Although some participants raised environmental issues in response to open-ended questions, only the forced-choice questionnaire contained an environment option among the choice of answers. Because the profile of the environment on the national agenda has increased dramatically since 2006, the current importance of environmental issues among Members of Parliament is likely underrepresented in the survey results.

Members of Parliament and their senior aides supported health research and thought health research funding was too low. However, they did not consider health research to be a high priority for Canadian voters and were underinformed about the issue. Members of Parliament are unlikely to act unless they are convinced that health research and its funding are important to voters. If health research is to flourish in Canada, a more stable funding system supporting appropriate research needs must be developed for CIHR. For this to happen, Canadians must increase the importance of health research on the political agenda. Research stakeholders need to present open, honest and forthright arguments on the importance and the multiple benefits of health research in Canada to the general public and government.

This article has been peer reviewed.

Competing interests: Daniel Clark is currently a member of the Conservative Party of Canada and in the 2000 federal election was a candidate for the Progressive Conservative Party of Canada in the riding of Timmins–James Bay. Patrick McGrath is currently a member of the Governing Council of the Canadian Institutes of Health Research (CIHR). Noni MacDonald was on the CIHR Advisory Board of the Institute of Infection and Immunity from 2001 to 2003, and she is the Section Editor of Public Health with *CMAJ*. Neither Dr. McGrath nor Dr. MacDonald is a member of any political party. The opinions and interpretations in this article are those of the authors alone.

Contributors: Daniel Clark and Patrick McGrath conceived and designed the study. Daniel Clark conducted the analysis overseen by Patrick McGrath, with minor suggestions from Noni MacDonald. All of the authors were involved in the interpretation of the data and in the writing, revision and approval of the manuscript.

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