



March 27, 2012

Dr. Alain Beaudet  
President, Canadian Institute of Health Research  
160 Elgin Street, 9th Floor  
Ottawa, ON K1A 0W9

Dear Dr. Beaudet:

## Letter to the CIHR from Pillar 1 (Biomedical) junior investigators at UBC

### Opening Summary

We are a group of new-to-mid career investigators from diverse institutes (Michael Smith Laboratories, Life Sciences Institute and Children and Family Research Institute) at the University of British Columbia (UBC). We have absorbed the proposed changes to the CIHR's Operating Grant competition and heard Dr. Jane Aubin's presentation and wish to register our views. We believe these changes will have a disproportionate effect on newer investigators. We have highlighted what we feel are the weaknesses and strengths of the proposed changes, followed by detailed comments and a concluding statement.

### Weaknesses

In our assessment, the changes proposed:

- Ignore **the central issue of the dire need for more operating grant funds and the inadequate priority balance between strategic versus open grant competitions.**
- Fail to address the core issue that causes low success rates and discontent amongst CIHR investigators: the increase in academic research recruitment facilitated by federal programs without corresponding increases in operating funds. Any change that fails to address this fundamental issue will be inconsequential.
- Are predicated on a necessity for change that is unwarranted, but rather, seems to be cost-driven.
- Lack a path of progression from early stage grants to medium term and stable funding for mid-career researchers despite claims to the contrary.
- Artificially create funding silos that reduce researcher equality and flexibility.
- Dismantle a core requirement for scientific integrity by replacing rigorous peer review by knowledgeable reviewers and instead creating a primary layer of superficial review. The premise that existing peer review panels are inadequate based on individual complaints or reviewer workload is not justified.
- Are not well-planned and lack adequate detail to assure investigators of its likelihood of success; focus group of highly respected scientists, peer review panel chairs, reviewers etc would be vital to ensuring changes are done properly.
- Are rushed, with extremely short timelines to framework establishment by June 2012, and little time for feedback by the grant holders.



## Strengths

We wish to accentuate what we think is positive in this proposal, and where we see some avenues for improving the current funding structure as follows:

1. In recognition of the need to fund both high risk, novel ideas with short-term awards as well as established, highly productive senior investigators with longer term, larger awards, we propose no more than 20% of operating grant budget funds be identified for each of these 2 categories (3 year Pilot/Project and 7 year Program grants) while 80% of funds be dedicated to “operating grants” that can be 3-5 years in length. This removes the problem of a 2 tier, “class” division, while retaining the core strength of Canadian health research in preserving stable funding for excellent science. The key is to allow the grant applicant to check off what program he/she would be interested in and leave the review panel to determine suitability, not create separate streams of applications.
2. Instead of dissolving current peer review committees (PRC) and replacing them with an untested multi-stage review process involving more steps and reviewers (i.e. increasing work load), CIHR should revamp existing panels with all of the enhancements proposed for the College of Reviewers. CIHR should prioritize evaluations in face-to-face meetings, not remote, electronic discussions. To reduce reviewer burden, CIHR could institute triage procedures at an earlier stage, but this MUST be through consideration of full grant proposals and be overseen by PRC chairs and Scientific Officers, not administrators, as is the case for online Fellowship reviews. Any change regardless, MUST include metrics to measure the effects to determine whether the change is benefitting or harming research capacity.
3. The envelope budget of ~\$550 million to open competition grants pales in comparison to the Science and Technology budget for R&D of \$7 billion. As was suggested by Preston Manning (Dec 28, 2011, Globe and Mail opinion <http://www.theglobeandmail.com/news/opinions/opinion/the-right-players-in-the-right-roles-for-innovation-gold/article2282204/>), government needs to “let the universities focus primarily on basic research and ..... on training students” and should be lobbied to re-direct a fraction of this budget to CIHR Open grant funding.

## Detailed Comments

### **A. What are the grassroot researchers’ issues with the CIHR?**

**Low funding success rates in the open grant competition is due to a substantial increase in number of high quality researchers.**

- The implication from the CIHR Open Forum that researchers worthy of funding are successful in obtaining funds and that the current success rates are acceptable is ill advised.
- We are very concerned by the stated goal of the CIHR to maintain the status quo of 3,000 unique nominated principal investigators instead of trying to increase the number of applications awarded funds; the argument of a higher success rate when one excludes grants scoring below 3.5 is not used by any other agency, including the NIH at 9% funding rates. The ONLY denominator for funding rates should be how many investigators applied seeking support.



- There has been a huge influx of new faculty since 2000 due to initiatives such as the Canada Research Chair (CRC) program, and the CIHR has not adapted its operating funds program to compensate for the influx of researchers at Canadian Universities. For example, at UBC:
  - The Department of Biochemistry and Molecular Biology completed 9 new hires in the past 10 years with 24 core department members total, including the new hires
  - The Department of Microbiology and Immunology completed 6 new hires since 2002 and now totals 21 core department members; including the new hires
  - This represents a 33% increase in just 2 academic units at UBC, which rely primarily on CIHR funding for research support.
  - This problem is exacerbated by the abolishing of mandatory retirement in 2007 in BC.
- Investigators have to resubmit grants 2 to 4 times for renewal because of the back-log of biomedical researchers that apply to a small subset of the 53 CIHR panels.
- Outstanding junior investigators with multiple publications in high profile journals (Cell, Molecular Cell, Nature Structural and Molecular Biology, Science) are unable to attain funding.
- **The Canadian Cancer Society Research Institute (formerly NCIC) revamped its funding programs in a way that foreshadows CIHR proposed changes.** The intent and consequences are highly instructive as CCSRI aimed to avoid duplicating CIHR's successful programs and created a short-term and a long-term grant stream for highly successful individuals or teams. The elimination of stable, medium term grants was a major loss of cancer research funding to investigators in Canada and forced them to move to the CIHR open suite of programs to find new funding opportunities. If CIHR mirrors such a change, this will obliterate support for stable medium term grants that new and mid-career investigators require to generate and sustain their research programs.
- A one to two year funding gap during the first ten years of starting a research program is devastating to productivity – currently experienced personnel are being laid off, labs are starting from scratch and good projects are being scooped by competing groups.
- Will be unable to commit to recruiting and training graduate students or post docs if grant funding for Project grants are shorter than time required to obtain a Ph.D.
- Research programs in pillar 1 are labour, technology and often animal-model intensive. Funding gaps not only ensure loss of HQP, but also of the ability to retain animal models that can take generations to return to workable numbers.
- Unlike the NIH, the CIHR mechanism for providing bridge funding to applicants close to the funding cut-off is variable across CIHR institutes and is not transparent.
- Institutional support should not specify normal teaching duties as a negative otherwise only research institute researchers would be competitive and university academics with teaching loads of 1-2 courses (36-72 hours/ year) would be disadvantaged.



## **B. Comments on the Proposed Changes to the CIHR's Open Suite of Programs**

### **1. Programmatic funding**

The proposed programmatic funding stream:

- Will set up a two-tiered system where a 33% of awardees hold 55% (based on Dr. Aubin's description of 1000 Program grants at \$300,000 each which is higher than stated in the Design Discussion Document) of the research funds. This is fundamentally wrong as it enshrines a system of inequity. There will simply not be enough funds to accommodate the number of outstanding applicants that merit a program grant.
- No clear indication of how the funds will be distributed in the new system across the 4 pillars.
- Will make it almost impossible for junior PIs to move from the project to the program grants.
- It is unclear how the programmatic funding will help the middle track researchers who are struggling to renew or obtain grants based on lack of funding availability.
- Force mid-career investigators to choose between applying for Programmatic funding or for Project funding, both of which will involve extremely high uncertainty due to the evolving nature of the pool of applicants.

### **2. Project-based funding**

The drawbacks of the proposed project-based funding stream include:

- Insufficient research funding for basic biomedical research. We note that none of the examples in the discussion document of project-based funding are basic science research projects.
- Inadequate time-frame for basic biomedical research:
  - Junior investigators in biomedical research cannot establish successful research programs based on grants that have a beginning, a middle, and an end point in three years.
  - Three year grants are not sufficient to properly explore any idea in biomedical research, especially considering that a competitive renewal will need publications, which require many months to acceptance, further reducing the time period when data can usefully be generated.
  - It takes 5 to 7 years to generate and characterize a gene targeted mouse model.
  - The average Ph.D. student requires 5 to 6 years to complete their studies.

## **C. Comments on the proposed changes to Peer Review**

- Page 21 – the 2010 CIHR Peer Review Survey found that 79% of respondents were satisfied with the efficiency of the peer review process, 70% were satisfied with the fairness of the peer review process and 54% were satisfied with the quality of peer review. Considering that fewer than 20% of applicants were successful in attaining CIHR research funds, these numbers are quite complimentary to the current peer review system and do not call for a radical overhaul of CIHR peer review.
- Changes can be made to current peer PRC structure and panel membership without completing changing the entire peer review system. The majority of the bullet points mentioned on the College of Reviewers (slide 14 in Dr Aubin's presentation) have been



used before or could be incorporated in the existing panel structure and were NOT new ideas as this purports to be:

- “A more robust registry of potential reviewers” included:
  - Grant holders - not new, is already being done.
  - International reviewers; not new, were used in the past; ineffective in the past according to Dr Aubin.
  - Knowledge users - can be done with existing PRC.
  - Other disciplines - can be done with existing PRC, although the proportion of non-experts to experts must be kept in check to ensure adequately rigorous review.
  - Lay reviewers - not new, also currently in use variably, can be done with existing PRC.
- “Modular/personalized training provided strategically”- additional training may be beneficial to varying degrees depending on experience BUT there is no substitute for hands-on, face-to-face meetings for new reviewers.
- “Mentoring program for new reviewers” - not new, new investigators observing PRCs was stopped due to privacy concerns.
- “Strengthened recognition of reviewer service” - not new, this has been talked about and not acted upon. In fact, reviewers are being taken for granted with further decreases in per diems let alone, not having an honorarium as with some agencies. The proposal seeks to cut costs while expecting MORE, not less, pro bono work from panelists.
- “CIHR needs the support from the entire research community to develop a truly multi-disciplinary registry of potential reviewers to support the review of applications received by CIHR each year”. The CIHR is relying on researcher’s sense of obligation to serve as a reviewer. Research investigators have a strong sense of obligation but this will be eroded if these programs are implemented against their will.
- The proposed College of Reviewers needs to be assembled by expert researchers and carefully matched to specific proposals. Will the College of Reviewers be assembled by CIHR administration or senior researchers that are familiar with research areas? Electronic matching is not appropriate for the level of expertise required to assess how to match a reviewer to a grant application.
- The Design Discussion Document states that the College of Reviewers will be trained (p.5) but there are no details describing how to train reviewers who will encompass a huge range of research areas.
- Repeated use of the phrase “the devil is in the details” in response to queries at the forum was NOT re-assuring that anything close to a workable, well considered system is being brought in to replace existing peer review.

## **Foundation/Programmatic Research Grant Review – 3 stage process**

### **Stage 1**

- Will by definition be biased, if as stated on p22 of the report, “The Project Scheme attempts to remove track-record bias from Stage 1 of the review process”.



- p. 30 of the document states that “the Stage 1 application would be matched to reviewers with the appropriate expertise” but there is no description of a written project proposal at this stage or that the proposal/idea would be an important part of the review.
- 30 to 60 minutes to evaluate applications based only on investigator track record is going to heavily bias towards publications in certain types of journals.
- It is doubtful that a multi-disciplinary panel will be able to fully take into account discipline-to-discipline variation in norms of publication volume and impact factor.
- How is the CIHR going to handle the administration of, let alone, identifying 8 reviewers per grant and ensuring that their expertise is appropriate?
- A report from reviewers must be available for unsuccessful applicants to know how to improve their application. This will take more time commitment than is anticipated.

## Stage 2

- 1-3 hours is not sufficient time to evaluate a research proposal that may award the applicant a \$300,000 per year grant for 7 years. This type of application should be carefully assessed by multiple experts and the review process should take longer than it would typically take to review a journal article.
- On-line discussions will not be effective in holding reviewers accountable for their opinions.
- What time frame is anticipated for conducting reviews on-line? In face-to-face meetings, reviewers commit fully to be available for reviews for 48-72 hours. If required to stay online while reviews or teleconferences are held, reviewers will commit only for as long as other personal and professional commitments (picking up kids, teaching classes etc) are not impinged. Conversely, if reviews can be done over days, the absence of real time discussion will allow impressions to set before they are corrected by other reviewers; this is extremely unwieldy and inefficient; one cannot have a meaningful discussion if there is a lag to the responses.

## Stage 3

- Stage 3 is the face-to-face meeting of an inter-disciplinary committee. It is unclear as to the exact nature of the inter-disciplinary committee. Would this be a meeting of all panel chairs? For example, if the microbiology, immunology and virology panels (MID, IT and VVP) were brought together as a multi-disciplinary panel, grant writing will devolve into how best to convince non-experts of the importance of your work. This will only lead to superficial, trend- and marketing-driven proposals aimed to convince the majority of *non*-experts evaluating the proposal, with even fewer representatives of the field the grant originates from. This is a recipe for *less*, not more knowledgeable reviews.
- It is difficult to imagine, let alone implement, how the discussion data from the virtual discussions will be consolidated and reviewed.

## Project-based funding peer review – 3 stage process

### Stage 1

- Short LOI stage application and absolute necessity to obtain funding every 3 years could lead to investigators attempting to swamp the system with multiple LOIs at almost every deadline, achieving a massive increase in peer review burden and resulting in Stage 1 being a lottery rather than an effective screening stage.



- A short 2-3 page project proposal does not allow for early recognition of outstanding applications because there is not enough space for the details required to determine if an application is outstanding.
- Given the assumption that the track record is not present in the proposal, if the applicant's name is in the proposal, the reviewer can look up the publications on-line. If the LOIs are anonymous it will not be difficult to uncover who is proposing the research based on the work proposed.
- It will be nearly impossible to assess biomedical research based on quality and originality of an idea without sufficient preliminary data to back up the idea.
- Evaluating only the research idea of a grant application but not track record is poor scientific basis for funding worthiness and weakens the integrity of the CIHR.

**Stage 2 and Stage 3** – these stages appear similar in the program and project streams; see above for specific comments.

**Concluding Statement**

Page 13 of the Design Discussion Document states that the– “CIHR is committed to ensuring the development and integration of new talent into the Open Suite of Programs through a dedicated scheme of direct training support and mechanisms to enable new or emerging investigators to access either project-based or program-based funding.”

We question how CIHR can invest in new talent when it cannot support the talent already present at Canadian universities? As new and mid-career investigators that are extremely dedicated to our research programs: **We are the CIHR stakeholders.** We want to work effectively with the CIHR to solve this fundamental funding crisis and imbalance of fund distribution.

Yours sincerely,

Date: Apr 3<sup>rd</sup> 2012

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**Signatures from Junior Investigators at UBC**

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Biochemistry and Molecular Biology Centre for High-Throughput Biology	Dr. Joerg Gsponer Assistant Professor		Mar 28, 2012
Biochemistry and Molecular Biology Centre for High-Throughput Biology	Dr. Leonard Foster Associate Professor CRC in Quantitative Proteomics		Mar. 29 2012
Biochemistry and Molecular Biology Centre for High-Throughput Biology	Dr. Thibault Mayor Assistant Professor CIHR New Investigator		Mar 29 2012
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Biochemistry and Molecular Biology	Dr. Eric Jan CIHR New Investigator MSFHR Career Scholar		MAR. 29, 2012
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Department of Pediatrics Child & Family Research Institute	Chris A. Maxwell, PhD Assistant Professor		March 30, 2012
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Department of Pediatrics Child & Family Research Institute	Colin J. Ross, PhD Assistant Professor		Mar. 30, 2012
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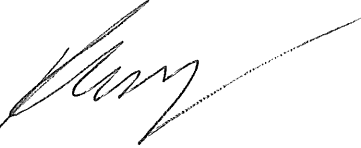


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