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Title page

Title: CIHR funding of prison health research: Is it enough?

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Abstract

Background: The health of prisoners is poor compared to the general population. Health research provides a means to define health status and to identify ways to improve health. The Canadian Institutes of Health Research (CIHR) is the Government of Canada's health research investment agency. We aimed to define the proportion of grants and funding from CIHR for prison health research, that is, research on the health and health care of people in prisons and at the time of release.

Methods: We searched the CIHR Funding Decisions Database by subject and by investigator name for funded grants for prison health research in all competitions between 2010 and 2014. We calculated the proportion of grants and funding awarded for prison health research, and described characteristics of funded grants.

Results: In this five year period, 21 grants were awarded that included a focus on prison health research, for a total of $2,289,948. Six of these grants were operating grants and six supported graduate or fellowship training. In total, 0.13% of all grants and 0.05% of all funding was for prison health research.

Interpretation: CIHR awarded very little funding for prison health research between 2010 and 2014. Strategic initiatives including funding opportunities could be developed to support prison health research in Canada, which could improve the health and healthcare of prisoners and health in the general population.

Introduction

Research is instrumental to understanding and improving the health of individuals and populations. The Canadian Institutes of Health Research (CIHR) is the Government of Canada's health research investment agency, with the mission to create new scientific knowledge and to enable its translation into improved health, more effective health services and products, and a strengthened health care system for Canadians.[1] While Article 15 of the International Covenant of Economic, Social and Cultural Rights, which was ratified by Canada in 1976, identifies the right of all persons "[t]o enjoy the benefits of scientific progress and its applications," health research may not include certain populations and its benefits may not reach some populations, with potentially significant consequences to individual and population health.

In Canada, there are approximately 251,629 adult admissions to provincial and territorial facilities and 8,006 to federal facilities each year,[2] and there is an average of 40,000 people in correctional facilities on any given day.[3] This translates into an estimated 1 in 250 adults who spend time in a correctional facility in Canada each year.[4] Persons who are detained prior to sentencing or who are sentenced to less than two years in custody serve their time in provincial or territorial facilities, and persons who are sentenced to two years or more serve their time in federal facilities. Healthcare in correctional facilities may be delivered by the governmental authority responsible for health, as in Nova Scotia and Alberta, or by the governmental authority responsible for corrections, as in federal facilities and in Ontario.

Research from Canada and other countries reveals that the health of people who experience incarceration is significantly worse than the health of the general population with respect to social determinants of health, mental illness, substance use, mortality, communicable diseases, and intentional and unintentional injuries.[5-7] There is a growing evidence base for strategies to improve the health of this population while in custody and after release to the community,[8] though many of these interventions have not been implemented in Canada.

In this context, we note the lack of health research in Canada that is focused on people who experience incarceration, and particularly the paucity of interventions research.[8, 9] In light of the findings of a recent US study,[10] we aimed to investigate the proportion of CIHR grants and funding allocated to research between 2010 and 2014 that is focused on the health and health care of people in prisons and at the time of release, and to describe characteristics of funded grants.

Methods

Search: We developed a search strategy in consultation with an Information Specialist. We searched for prison health research in the CIHR Funding Decisions database using two strategies: i) a search using subject terms, and ii) a search using investigator names. For the search using subject terms, we defined the terms through an iterative process, in which we reviewed relevant abstracts to identify various terms used to describe the population of interest. Our final subject terms were any of the following: prison, imprisonment, jail, detention, incarcerated, incarceration, offender, probation, parole,

correctional, convict, inmate, criminal, crime, corrections, détenu, incarcéré, carcéral, but not the term "troubles de la parole," which is a French term for speech disorders.

To improve the sensitivity of the search, we also conducted a search using the names of investigators publishing in the field of prison health research. We developed a list of names of investigators by conducting a search in PubMed (on February 17th, 2016) for prison health research published in 2015, assuming that investigators who received CIHR funding for prison health would likely be publishing research in this field after their grant was funded. We used the following search terms in PubMed: ((prison* OR imprison* OR jail* OR detention OR incarcer* OR offender* OR probation OR parole OR correctional system OR convict* OR inmate* OR criminal* OR crime*) AND Canada) AND ("2015/1"[Date - Publication]: "2015/12"[Date - Publication]). We assessed the records identified in this search as per the review procedures (below), and compiled a list of the names of first and last authors of prison health research publications. We then searched the CIHR Funding Decisions database with the name of each investigator in the period of 2010 to 2014 without specifying subject terms.

We also searched the CIHR Funding Decisions database for all grants funded by CIHR in competitions between 2010 and 2014 to define the total number of grants awarded and the total amount of funding.

Inclusion criteria: We defined two inclusion criteria: i) an explicit focus on the health and health care of people in prisons, *i.e.* persons who were detained or incarcerated in Canada whether in a federal, provincial, or territorial correctional facility, or who had been released from custody within the past year, and ii) a focus on health as defined by the Canadian Institute for Health Information,[11] which includes indicators of health status, determinants of health, and health system performance. In this paper, we use the summary term "prison health research" to describe PubMed records and grants that meet these two criteria.

Review procedures: For the results of the PubMed search to identify investigators conducting prison health research, two authors (FK and KM) reviewed the titles and abstracts to determine if the records met the inclusion criteria. If either reviewer thought that the record was relevant, the investigators' names were used in the CIHR Funding Decisions database search.

One author (FK) ran the searches in the CIHR Funding Decisions database using the subject terms and using each investigator name. After eliminating duplicates, two authors (FK and KM) reviewed all grants to determine whether they met the inclusion criteria. For grants with no abstract in the database, we contacted the lead investigator to request further information such as an abstract or summary, and in one case decided on eligibility based on the title. Any disagreements regarding relevance were resolved through discussion. For grants that did not meet the inclusion criteria, the authors categorized the reason why the grant was not eligible. For grants that did meet the inclusion criteria, the reviewers extracted data on the CIHR Institute that funded the grant and categorized the subject focus of the grant, e.g. mental health, infectious diseases, etc. We also identified

grants that included an explicit focus on prison health research but also had a focus on other populations or settings, for example, a grant for research focused on people who were incarcerated as well as on other people who were involved in the criminal justice system but not incarcerated; we assumed that at least a proportion of each of these grants would be targeted toward prison health research.

Results

The PubMed search to identify investigators conducting prison health research yielded 308 records. Of these, 25 records met the inclusion criteria, from which we identified 44 unique investigators. As shown in Figure 1, the search by investigator name in the CIHR Funding Decisions database identified 52 funded grants in total and 50 unique grants. The search by subject in the CIHR Funding Decisions database identified 133 funded grants, 9 of which were also identified in the subject search. In total therefore, there were 174 unique grants identified in the subject and investigator searches.

Of the 133 grants identified in the subject search, 112 did not meet the inclusion criteria for the following reasons: 48 noted that incarceration or other criminal justice involvement was prevalent or associated with the population or condition under study (*e.g.* disease or social determinant) but did not focus on prison health research, 16 focused on persons in contact with the criminal justice system but not clearly persons who experienced incarceration, 11 were about the criminalization of HIV nondisclosure, five were not focused on Canada, two studied populations affected by incarceration or crime such as children of incarcerated women or survivors of sexual assault, two intended to measure the impact of an intervention on incarceration or criminal justice involvement, 17 had unintended keyword matches such as “correctional surgery” or “conviction” about an idea, and 11 did not meet the inclusion criteria for other reasons. The search using investigator names did not identify any additional grants that were relevant.

We identified 18 grants for prison health research, and the total funding for these grants was $2,127,948. Three other grants included an explicit focus on prison health research along with a focus on other populations or settings, so 21 grants in total focused on prison health research representing $2,289,948 of funding. In all competitions between 2010 and 2014, CIHR funded 16,336 grants for a total of $4,520,974,400. Therefore, 0.13% of all grants and 0.05% of all funding was spent on prison health research.

Table 1 shows the characteristics of the 21 grants that included a focus on prison health research. Only six operating grants were funded in prison health research during this five-year period. Most grants had a disease-specific focus, such as mental illness or bloodborne infections, and a minority of grants had a broader focus, such as health status or health care. The Institute for Population and Public Health funded the largest number of grants (n=7) and the Institute of Human Development, Child and Youth Health provided the largest amount of funding ($698,011).

Table 1. Characteristics of CIHR funded grants between 2010 and 2014 on prison health research, N=21*

Characteristic		Number	Funding
Grant type	operating	6	$1,237,944
	planning or knowledge dissemination	6	$215,659
	catalyst	3	$98,845
	graduate or fellowship training funding	6	$647,500
Subject	mental health	8	$1,596,611
	bloodborne infections	3	$85,520
	health status	3	$149,171
	social determinants of health	2	$55,313
	health care	2	$39,336
	self-harm	1	$105,000
	substance use	1	$93,997
	mortality	1	$165,000
CIHR Institute	Population and Public Health	7	$447,698
	Health Sciences and Policy Research	3	$344,582
	Aboriginal Peoples' Health	2	$55,313
	Human Development, Child and Youth Health	2	$698,011
	Infection and Immunity	2	$65,845
	Neurosciences, Mental Health and Addiction	2	$449,018
	Gender and Health	1	$105,000

*displayed by number of grants funded

Interpretation

For every hundred dollars of funding from CIHR, less than five cents was spent on prison health research between 2010 and 2014. About one in every 1000 grants was for prison health research, and the total funding per year for prison health research was less than $500,000 during this period. The absolute and proportional levels of CIHR funding for prison health research are remarkably low.

What amount of CIHR funding would be appropriate for prison health research and how should this be decided? A recent US study identified a similarly low level of funding for criminal justice health research, at less than 0.1% of all grants funded by the National Institutes of Health between 2008 and 2012, and 0.1% of all funding awarded in 2012. While it is difficult to define an appropriate level of funding for research on any population or disease, surely we should have transparent strategies in place to systematically identify and support areas of research that are important for Canada,[12, 13] for example in consideration of the size of the affected populations, the burden of disease, potential impact on important outcomes, equity, and the political and legal context.[14] If we can agree that prison health research is a priority for Canada on the basis of these or other criteria, we should identify and implement pull and push mechanisms to support this focus,[15] including targeted funding opportunities, training and early/mid-career awards, prizes for research, and ways to facilitate research in correctional facilities.

Defining such strategies should include persons who are involved in advocacy and research focused on prison health, including people with a history of incarceration, consistent with CIHR's Framework for Citizen Engagement and Strategic Plan.[13, 16]

There are several potential limitations to this study. Information on all submitted grants is not publicly available, so we do not know whether the low level of funding reflects a lack of submitted proposals on prison health research. We considered funding from CIHR as an indicator of federal government support for prison health research, however, there are other avenues for the federal government to financially support prison health research such as indirect support through funding the Correctional Service of Canada. It is also possible that prison health research was directly supported through the Social Sciences and Humanities Research Council (SSHRC), although this is unlikely since the eligibility criteria for the Social Sciences and Humanities Research Council (SSHRC) changed to exclude most health research in 2009.[17] Research focused on other populations and other settings may have relevance to people in correctional facilities, including subpopulations that are disproportionately represented in correctional facilities such as people who use drugs and Indigenous persons.[5, 6] However, important differences in context and in the legal status of people in prisons and post-release may limit the generalizability of other research to this population and setting.

In addition to the issue of funding, advancing prison health research requires examining and addressing the unique challenges, constraints and ethical issues of conducting research in correctional settings and with vulnerable populations.[8, 18] Beyond the shadow of the ethically unacceptable research in prisons in the past century, we need to pay attention to obtaining voluntary consent to participation in research,[19, 20] to privacy, and that participation does not cause harm (for example by limiting one's access to health or other services while incarcerated).[9] We need to work with external institutional review boards who may not be familiar with contemporary research issues with this population and in this setting, in the context of a lack of specific guidance in Canada on how to address these matters.[21] For example, in the US the Institute of Medicine and the National Academy of Sciences have published a guide to the ethical conduct of research with prisoners, which describes the roles and responsibilities of researchers, institutions, and institutional review boards.[19] Other institutional barriers include the need for and costs of security staff to supervise research activities, and that research may not fit within and may even conflict with the mandate of corrections. It may be difficult to follow research participants through transfers between institutions and across jurisdictions, as well as into the community after release from custody. Finally, access issues pose challenges to including people during incarceration in developing and implementing research, though this has been achieved with impressive results by at least one group of researchers in Canada.[22]

These challenges notwithstanding, there are many reasons to focus on and invest in prison health research in Canada. As noted, this is a large population with poor health, and the government has a legal and ethical obligation to provide health care for this

population while in custody, which should be equivalent to the standard of care in the community.[23-25] We know that effective interventions exist,[8] and further work is needed to elucidate how best to intervene to improve health and to adapt and implement promising interventions in particular settings in Canada. Improving the health of this population could reduce health disparities, contribute to public health through less transmission of communicable diseases, improve public safety through the treatment of substance use disorders and mental illness, and lower costs of re-incarceration and inappropriate health care utilization.[26] We call on the CIHR and the federal, provincial, and territorial governments to consider appropriate and fair ways to support prison health research in Canada as an important strategy to improve population health.

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Figure 1. Flow diagram of search for CIHR grants on prison health, 2010-2014