








Gaps in health research related to sex work: an analysis of Canadian health research funding

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ABSTRACT

Public health is tasked with addressing the urgent global priority of promoting the health and human rights of adults engaged in sex work and research is critical to support this endeavor. 'What' is studied, 'how' research is done, and 'who' is centered in this research is reflected in how research funding is allocated. In this article, we interrogate funding allocation for sex work-related health research in Canada. Drawing on critical perspectives aimed at illustrating how stigma operates in society, we examine operating grants (N = 64) awarded by the federal health research funding agency between 2003 and 2020. We find that sex workers' health is problematized disproportionately in a street marketplace context that centers on HIV and sexually transmitted infections. Limited work attends to the socio-structural context of sex work and instead perpetuates stigmatizing narratives about sex work. Public health intervention studies are rare, presenting a barrier for implementing and evaluating evidence-based health promotion strategies. Notably, the research projects were conducted by a small number of highly networked, geographically clustered researchers, illustrating gaps in research that considers the complexity of sex work. We propose that it is essential to consider funding as a process that may be limiting the range of health issues being addressed and privileging a small community of researchers, which can inadvertently serve to worsen health inequities among some sex work communities. Researchers and funding bodies may draw on this analysis to inform a research agenda that meaningfully supports the health, safety, and well-being of sex workers in Canada and globally.

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Introduction

Public health has an essential role in responding to the global need for research and practices to promote and protect the health and human rights among people engaged in sex work – defined for our purposes as the adult consensual exchange of sexual services for monetary gain (Global Network of Sex Work Projects [NSWP], 2013; Pivot Legal Society, 2017). As the number research studies concerned with the health of sex workers continue to expand, it is important that we consider the scope, aims, populations, and approaches used in undertaking this work. Currently, there is growing evidence of intersecting ethical and methodological challenges within sex work-related health research (Dewey & Zheng, 2013; Shaver et al., 2011; Vanwesenbeeck, 2013). Sampling and gender

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bias are primary concerns, with particular oversight noted for men, transgender people, and those working within indoor settings (Bimbi, 2007; Bungay et al., 2016). There are also worries that health research topics problematize health through a narrow lens of behavioral practices that fail to address the full range and complexity of health issues faced by sex workers and social and structural inequities such as racism, classism, and sexism (Hunt, 2013) and multiple and intersecting forms of stigma that can affect health (Benoit et al., 2016). Failure to address such challenges may ultimately affect the potential of health research to achieve the desired aims of advancing health and health care among those involved in the commercial sex industry.

With these concerns in mind, we sought to identify how researchers, research participants, and community service organizations that regularly participate in research activities experience research and make decisions about their engagement with this work. As a part of this larger study, our first step was to develop a profile of the sex work-related health research in our specific Canadian context. In order to sample projects, researchers, participants, and community partners comprehensively, we needed to determine the scope, focus, and extent of funded research, the researchers and communities involved, and the geographical locales where research occurs. Funding allocation represents the complex social processes inherent in the logic and strategy of building an evidence-base for health improvement (Kavanagh et al., 2020). It also illustrates the dominant norms of how sex work and health are problematized, a critical step in critiquing the role of research in addressing or perpetuating social and health inequities (Mykhalovskiy et al., 2019). In this paper we detail a profile of sex work-related health research funding in Canada. Building on an extensive program of interdisciplinary research in gender equity and gender-based violence (<https://capacityresearch.ubc.ca>) tackling research ethics in practice (Bungay et al., 2016), we conclude with recommendations to tackle these gaps to more meaningfully address structural, interpersonal, and individual factors relevant for health promotion and health service delivery in Canada, with potential relevance for other international contexts.

Methods

To establish the profile of Canadian funding for sex work-related health research, we undertook an analysis of the publicly available, federal health research granting agency database held by the Canadian Institutes of Health Research (CIHR). Comparable to federal funding agencies in the United States of America, the United Kingdom, and Australia, CIHR is Canada's federal funding agency for health research. It is comprised of 13 institutes with funding across four research themes: i) social/cultural/environmental/population health; ii) health systems/services; iii) clinical; and iv) biomedical (Canadian Institutes of Health Research [CIHR], 2018). We employed a stepwise approach drawing from retrospective document review methodology (Gearing et al., 2006; Siems et al., 2020) to identify the geographic and substantive scope of research, individuals involved, and the methods employed. A formal request was made to CIHR using specific search terms (Table 1) drawn from our expertise, relevant literature, and consultations with library science experts and CIHR staff for projects funded 1 January 2003–31 March 2020. The time frame was appropriate, as at the time of request only research projects funded during this time period were available for download. English and French materials were included. CIHR provided the team with a data set of 129 successfully funded projects that included project details (e.g. title, abstract, keywords), applicant information (applicants' names

Table 1. Funding database search terms.

Search terms
sex work, sex worker, sex workers, sex workers', sexwork, sexworker, sexworkers, sexworkers', sex industry, commercial sex, prostitution, prostitute, prostitutes, prostitutes', selling sex, street work, street worker, street workers, street workers', sex buyer, sex buyers, sex buyers', male clients, sex tourism, sex tourist, romance tourism, sex trade, sexual labour, intimate labour, erotic entertainment, exotic dancing, exotic dancer, exotic dancers, exotic dancers', escort, escorts, escorts', the girlfriend experience

and roles, institution name and faculty of the lead applicant), funding details (e.g. project duration, funding source and amount), and classification descriptors used by CIHR in awarding the grant (see [Appendix A](#)). Federal privacy and copyright regulations prevented the sharing of full grant applications.

The selection of projects for data extraction occurred in several steps. A project (referred to as a case), was eligible for inclusion if it: i) contained at least one of our search terms; ii) and was primary research. Graduate scholarships, post-doctoral, and other fellowship awards were excluded as these represented salary awards versus research project funding. Of the total 129 cases, 60 graduate scholarship, post-doctoral, and fellowship awards were excluded. The remaining 69 cases were reviewed using a predetermined scale based on our inclusion criteria with ratings from strong to weak relevancy (see [Table 2](#)). Three team members independently reviewed all cases and met to compare ratings and resolve conflicts. Cases were included if they met strong or medium relevancy, resulting in 64 included cases. Cases were initially analysed using descriptive statistics to detail CIHR funding theme, study populations, health topic, award amounts, location of research activities, province and territory where funds were held, and the academic institution of the principal applicant.

To identify researchers for our larger study recruitment activities, we needed a sampling strategy to avoid duplication or over representation of place, method or population. Recognizing that the research community is highly networked (Cox et al., 2009) we needed to identify unique and overlapping research relationships within and between universities and people. Consequently, we undertook a social network analysis (SNA) (Marin & Wellman, 2011) of the researchers participating in the 64 cases, identifying when researchers were in the role of principal, co-principal applicant (PA or Co-PAs) or co-applicants (CAs), and the university and faculty where their appointments were held. We specifically used SNA to identify clusters of networks and relationships within and between universities and to identify the central nodes, defined as the principal applicant who held the greatest number of connections to other researchers, serving as a hub from which research funding was held. To determine locales and organizations for recruitment of sex workers and community service organization (CSO) staff in the larger study, we included CSOs in the SNA. We identified CSOs that were listed as collaborators and had staff who engaged in research activities in the 64 cases, identifying the locale of the CSO and their roles.

To advance our analysis beyond the descriptive, we subsequently reviewed the findings to identify whether and how current funding contributed to and/or challenged normative assumptions about sex work. We drew on critical perspectives concerning occupational or 'whore' stigma (Benoit

Table 2. Review protocol.

Category	Sub-category	CIHR Selection Criteria
Relevancy	Strong	<ul style="list-style-type: none"> ● 'Keyword Found' total more than 3 AND ● Our keywords are in title, research's keywords, AND/OR abstract (2/3) ● Project must undergo ethical approval ● Specifically contributes to the field of sex work research by either: <ul style="list-style-type: none"> Sex workers are the only or majority of research subjects OR ● Sex work is the priority topic area
	Medium	<ul style="list-style-type: none"> ● 'Keyword Found' total between 2–3 ● Our keywords are in title, research's keywords, AND/OR abstract (2/3) ● Specifically includes sex workers or topic of sex work, but may also include other people and issues ● Project must undergo ethical approval AND ● Sex work/Sex workers is considered as a variable, sub population, or subtopic
	Weak	<ul style="list-style-type: none"> ● Our keywords are in title, research's keywords, OR abstract (1/3) ● Unclear contribution to sex work research ● Undetermined if project sought ethical approval
	None	<ul style="list-style-type: none"> ● None of our keywords in title, research's keywords, abstract, or material provided ● Unclear contribution to sex work research ● Undetermined if project sought ethical approval or project did not need ethical approval

et al., 2016; Pheterson, 1989) that problematizes sex work as contravening norms of sexuality (Abel & Fitzgerald, 2010; Jiao & Bungay, 2019). This enabled us to examine whether current funding reinforced potentially stigmatizing research that may inadvertently contribute to health inequities and growing unmet health needs among those engaged in sex work (Benoit et al., 2018, 2016).

Results

As noted previously, 64 research grants funded by CIHR met our inclusion criteria indicating a substantive focus on sex work. Population and public health, particularly epidemiological cohort studies, were the most common type of research (60%), followed by biomedical research focused on cellular functioning (see Table 3). Only 3% of the grants focused on health services research, and none focused on clinical research. The research primarily problematized sex work-related health through a narrow set of issues: sexual practices and infectious diseases including sexually transmitted infections (STIs) and HIV (77%), and less commonly, injection drug use (5%). Thematic analysis of abstracts illustrated that research questions predominantly emphasized behaviors of sex workers such as condom use or drug use, rather than attention to structural or social concerns as an element of health behavior or health outcomes. Only 11 grant abstracts specifically identified gender of their participants; all included women and two were gender inclusive for men, women, and transgender people. Despite ample evidence of the interrelated negative health effects associated with systemic racism and poverty among women engaged in sex work (see Hunt, 2013; Palmater, 2016), no abstracts specifically

Table 3. Project characteristics.

Characteristic	n (%) / value N = 64
Research health topic	
Sexually transmitted infections and HIV	49 (77%)
Health and safety (general)	8 (13%)
Injection Drug Use/Substance Use	3 (5%)
Other	4 (5%)
Location of funds held	
British Columbia	22 (34%)
Manitoba	21 (33%)
Ontario	11 (17%)
Quebec	8 (13%)
International	2 (3%)
Location of research activities	
International	31 (48%)
Domestic	24 (38%)
Both International and Domestic	6 (9%)
Unknown	3 (5%)
Grants by CIHR theme	
Social/cultural/environmental/population health	38 (60%)
Biomedical	18 (28%)
Health systems/services	2 (3%)
Missing	6 (9%)
Funding amounts	
Total funding awarded (1 April 2003–1 April 2020)	\$15,009,958
Median	\$100,000
Mean	\$236,093
Standard Deviation	\$307,437
Minimum	\$3,000.00
Maximum	\$1,525,180.00
Grant term (months)	
Median	34.5
Mean	28.1
Standard Deviation	17.4
Minimum	4
Maximum	60

identified racism as an element of inquiry in the proposed studies. The studies focused primarily on street-level sex work. Over half of the grants were for research outside of Canada, with 48% being solely international projects and 9% combining international and domestic projects.

Results from the SNA illustrated that applicants were tightly networked, with these 64 grants being held by 48 people as principal or co-principal applicants, 18 of whom held these roles on a range of four to nine grants. Forty of the 48 researchers held academic appointments at a Canadian university, one international, four community organizations, and three were not identified. The SNA illustrated seven specific university clusters of strong ties and connections. Five principal applicants from four of these universities were central nodes demonstrating the significant sphere of interconnectedness and potentially influence they held within the research community. These PIs were in faculties of medicine, social work, arts and science, and health sciences. Because of the locations of this small number of funded researchers represented in these grants, the majority of funding (67%) was held in two of Canada's ten provinces and there were no funds held in any of the three territories, although co-applicants from unfunded provinces and territories were included on the grants. Not surprisingly, a small number of CSOs ($n = 19$) were involved across these 64 grants; importantly, our subsequent recruitment efforts identified that six of these were no longer operational as service organizations.

Discussion

This analysis offers a profile of the people, places, and foci of health research related to sex work in Canada. Despite the health and human rights of sex workers being acknowledged as a global public health priority, there is, to our knowledge, no empirical evidence regarding how funds provided by Canada's primary publicly funded health research granting agency are operationalized to achieve the aims of enhancing health and health care in the specific context of sex work.

Our analysis illustrates that millions of dollars in Canadian health research related to sex work is being led by a relatively small number of people with significant limitations in the breadth and depth of health issues explored, work settings included, and geographical representation across the nation. The preponderance of studies focusing on STIs and HIV is troublesome and suggests that other serious unmet health needs for sex workers are not being studied. While not discounting that HIV vulnerability is a pressing issue for sex workers working in low-and-middle-income countries with high HIV prevalence (World Health Organization, 2012), there is growing evidence that many sex workers, locally and internationally engage in activities to protect and promote their health, including HIV prevention (Handlovsky et al., 2012). There is further evidence that HIV among sex workers in Canada is associated with broader socio-structural factors that have little to do with their work activities for instance, limited harm reduction programming, poverty, and gender-based violence (Handlovsky et al., 2012; Shannon et al., 2015). As noted by numerous national and international sex worker advocacy groups the focus on HIV in sex work health contexts may reflect and contribute to the stigmatizing of sex work as 'high risk' for HIV, and sex workers as 'vectors of disease', and may suggest a disproportionate concern for people paying for sex over those doing sex work (NSWP, 2013; Sorfleet, 2018). This emphasis on behaviors with limited attention to context also illustrates that we need to question the inherent vacuum that is being created in health research and interrogate what is being accomplished through the omission of individuals or groups responsible for enacting policies and processes that can facilitate harm. As noted by Katz et al. (2020) in their critique of vulnerability discourse, it is time for public health research to attend to how research and health care can perpetuate harm when it excludes consideration of the broader inter-related factors such as misogyny, racism, and imperialism that facilitate control and harm.

Moreover, the evidence of unmet health needs, particularly in the area of mental health, continues to grow. Repeatedly, this literature shows that anxiety, depression, and isolation are of increasing concern to people engaged in sex work irrespective of setting (Benoit et al., 2018, 2016, 2019; Bungay & Guta, 2017; Jiao & Bungay, 2019; Neal et al., 2014). Evidence further illustrates that

mental health and stigma associated with sex work are interrelated (Benoit et al., 2018, 2019; Bungay & Guta, 2017; Jiao & Bungay, 2019; Sanders, 2018). Similarly, stigma has been directly associated with derogatory and discriminatory encounters with health care providers, with significant consequences for sex workers' health (Bungay & Casey, 2019; Lazarus et al., 2012). Yet, issues such as unmet health needs and strategies to improve safe, effective, and equitable health care are minimally included in how health, health care, and sex work are problematized in the current funding climate.

The disproportionate emphasis on street level work is also deeply concerning and reflects perhaps the unquestioning positioning of an elitist, classist perspective about what sex work is, illustrating instead what has been described as a middle-class normative truth concerning complex elements of society (Mykhalovskiy et al., 2019). Although the numbers of people doing sex work are difficult to estimate due to the hidden and hard to reach nature of sex work in less visible settings, there is ample evidence that many sex workers in Canada are situated in indoor venues (Benoit et al., 2019). This situation has been and is continuing to be exacerbated by urban gentrification that diminishes the availability of public working spaces (Ross & Sullivan, 2012), and the nearly ubiquitous availability of information technologies (Kille et al., 2017) that has shifted communication about sex work – and in many cases, the work itself – to virtual spaces. Research on indoor sex work and virtual sex work, along with the complexity of actors involved is largely missing (see Benoit et al., 2019; Bungay & Guta, 2017; Koken et al., 2014 for exceptions). Additionally, although the geographical concentration of sex work research is understandable given the small numbers of researchers engaged in this work, it points to a significant and important gap. The focus of Canadian research in dense urban settings misses how sex work differs across rural, remote, and small to medium sized cities which only serves to reinforce an unquestioning normative assumption about the complexity of this industry.

Limitations

There were several limitations to our analysis that are associated with the level of information and inconsistencies in data recorded through CIHR. We were for instance, unable to specifically determine the gender focus for most of the studies. Additionally, we recognize that provincial funding bodies may also fund sex work-related health research and therefore our analysis is restricted to federal funding and may not be fully representative of the extent of research occurring throughout Canada. We also did not examine the Social Science and Humanities Research Council of Canada (SSHRC) federal funding database, thereby potentially excluding some studies pertaining to sex work and health. SSHRC specifically supports research in the social sciences and humanities, and at the time of data extraction, had limited publicly available information that would allow for fulsome analysis. Moreover, during this time, SSHRC's mandate excluded health-related studies, noting that CIHR has the primary responsibility for research that must serve to 'improve or have an impact on health and/or produce more effective health services and/or strengthen the Canadian health care system' (Government of Canada, 2016), as evidenced by the range of health and social science disciplines evident in our SNA. Despite these limitations, our analysis of information available through CIHR illustrated that federal health research funding in Canada currently supports a small number of highly networked researchers, primarily located in two provinces conducting research related to sex work that is focused predominantly on epidemiology, STIs and HIV in street-level work. There is little to no attention to health services or clinical research and there is an almost even split between domestic and international research related to sex work.

Conclusions

In order to set a meaningful and inclusive public health research agenda that can better advance health and health care equity among people engaged in sex work, it is important to understand the current state of health research including how health is problematized, methods used, and who is

included and excluded as the focus of investigation. Funding bodies, inclusive of those funding studies within their local and international contexts, must prioritize projects that tackle the complexity of the industry within these contexts. Intervention studies aimed at addressing unmet health needs and fostering mental health are urgently needed. These funds must be allocated across diverse research epistemological orientations to allow for breadth and depth of issues explored. These agendas must be inclusive of all spaces (virtual, indoor and outdoor) where sex work occurs. Moreover, public health needs greater focus on the interrelated structural and social determinants of health and the systemic social and economic inequities (racism, classism, heterosexism) that influence people's experiences within these determinants. Research funding allocation suggests that a small number of people are setting a research agenda that is perhaps in direct contradiction to the evidence of what is needed to promote and protect sex workers' health in Canada, and internationally. Ultimately, the current narrow range of health issues being addressed creates conditions to perpetuate stigma and damaging stereotypes concerning sex work that relegate those involved to 'vectors' of disease transmission. Health research funding bodies, such as CIHR, need to specifically engage with sex work communities and the growing cadre of researchers to establish an evidence informed research agenda to foster the health, safety, and well-being of sex workers locally and across the globe.

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No potential conflict of interest was reported by the author(s).

Ethical Statement

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Appendix A CIHR Data Extraction Plan

Outline: CIHR Information Request

In the Ethics Project's request for a catalogue of CIHR grant-funded projects in the field of sex work and health, from 2003–2020, CIHR will be advised to use the following search terms in their database search so to gather all available projects relevant to the Ethics Study (list subject to change):

sex work, sex worker, sex workers, sex workers', sexwork, sexworker, sexworkers, sexworkers', sex industry, commercial sex, prostitution, prostitute, prostitutes, prostitutes', selling sex, street work, street worker, street workers, street workers', sex buyer, sex buyers, sex buyers', male clients, sex tourism, sex tourist, romance tourism, sex trade, sexual labour, intimate labour, erotic entertainment, exotic dancing, exotic dancer, exotic dancers, exotic dancers', escort, escorts, escorts', the girlfriend experience

Additionally, specific information will be requested to detail each of the projects extracted from CIHR's funding databased. This information is detailed below (categorical sections for display purposes only).

*Note: Not all information will be available for every project.

Application/Project Details

- Project Title
- Competition Year/Month (e.g. 201310)
- Areas of Research
 - Primary Area of Research (e.g. Ethics)
 - Secondary Area of Research (e.g. Health Research)
- Research Location
 - Country
 - Province/State/Region
 - City/Town
- Project Abstract
- Summary of Research Proposal
- Project Descriptors (key words, areas of interest, methodologies etc. . .)
- Whether Sex (biological) considerations are taken into account (YES/NO)
- Whether the research involves Aboriginal people (YES/NO)
- Whether the project involves Human Subjects (YES/NO)
- Whether the project involves a Clinical Trial (YES/NO)
- Whether the project contains a Randomized Controlled Trial (YES/NO)
- Whether the project requires exemption from Health Canada under Section 56 of the Controlled Drugs and Substances Act (YES/NO)

Applicant/Partner Information

- Research Institution
 - Name of institution carrying out project
 - Faculty of Institution (e.g. Faculty of Applied Sciences)
 - Department of Institution (e.g. School of Nursing)
- Nominated Principal Investigator
 - Name of NPI
 - NPI's Institution (e.g. UBC)
 - NPI's Faculty (e.g. Faculty of Applied Science)
 - NPI's Department (e.g. Nursing)

- Co-Principal Investigator(s) (Co-Applicant(s))
 - Name of each Co-PI
 - Institution of each Co-PI
 - Faculty of each Co-PI
 - Department of each Co-PI
- Co-Investigator(s)
 - Name of each Co-I
 - Institution of each Co-I
 - Faculty of each Co-I
 - Department of each Co-I
- Doctoral/Fellowship/New-Investigator/Training/Salary Grant Applicants (If Applicable)
 - Name
 - Organization/Institution
 - Specialization
 - Degree
- Supervisor(s)
 - Name of each Project Supervisor
 - Institution of each Project Supervisor
 - Faculty of each Project Supervisor
- Project Leader/Project Expert (If Applicable)
 - Name of each
 - Role (Leader/Expert)
 - Participant Type (e.g. Independent Researcher, Knowledge User, etc. . .)
- Collaborators/Community Partners/Knowledge Users/Partners
 - Names of each stated Collaborator, Community Partner, Knowledge User, and Partner
 - Institution of each Collaborator, Community Partner, Knowledge User, and Partner
 - Nature of Operations for each Collaborator, Community Partner, Knowledge User, and Partner

Funding/Support Details

- Funding Pool/Priority Announcement (e.g. HIV/AIDS)
- Period of Support
 - Project Duration – Term Years/Months (e.g. 5 yrs 0 mth)
- Institution Paid
 - The institution trusted to administer project funds
- CIHR Contribution
 - Amount awarded (\$CDN) by CIHR (not including Equipment amount)
 - CIHR Equipment Contribution (\$CDN)
- External Funding Partner(s)
 - Name of each External Funding Partner(s)
 - Location (Country/Region) of each External Funding Partner
 - Contribution (\$CDN) awarded by each External Funding Partner (not including Equipment amount)
 - Equipment Contribution (\$CDN) awarded by each External Funding Partner
- External In-Kind Partner(s)
 - Name of each External In-Kind Partner
 - Location (Country/Region) of each External In-Kind Partner
 - Contribution (\$CDN) awarded by each External In-Kind Partner
 - Equipment Contribution (\$CDN) awarded by each External In-Kind Partner
- Project Sponsor(s)
 - Name of each Sponsor
 - Institution of each Sponsor
 - Support provided by each Sponsor (e.g. funding, facilities, equipment, etc.)
- Other funding source(s)
 - Name of each funding source
 - Location (Country/Region) of each funding source
 - Contribution (\$CDN) awarded by each funding source
 - Equipment Contribution (\$CDN) awarded by each funding source

CIHR Classification Details

- Institute
 - Primary CIHR institute funding the project (e.g. Gender and Health)
 - Secondary CIHR institute funding the project (e.g. Aboriginal Peoples' Health)

- Classification Code(s)
 - Primary (e.g. Ethics)
 - Secondary (e.g. Population Health)
- Theme(s)
 - Primary CIHR Health Research Theme assigned to project (e.g. Biomedical Research)
 - Secondary CIHR Health Research Theme assigned to project (e.g. Health Services Research)
- Program/Funding Opportunity
 - CIHR's Specified Funding Opportunity/Grant Type (e.g. Operating, Emerging, Seed, etc.)
- CIHR Granting/Identification Number
- Assigned Peer Review Committee
 - Name of Committee (e.g. Gender, Sex & Health, etc. . .)