

Towards Equity in Health: Mobilizing and Utilizing Indigenous Knowledge in Health Research

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INTRODUCTION

Despite good intentions and decades of discussions for transformative changes to improve health outcomes, avoidable health inequalities still persist in Canada.

In response to the Truth and Reconciliation Commission of Canada's calls to action to close the gaps in Indigenous health outcomes (TRCC, 2015), a reconciliation-based paradigm shift is critical for bringing both IK (Indigenous Knowledge) and WS (Western Science) systems together in ethical and collaborative health research in Canada—a research paradigm that reflects the UN Declaration on the Rights of Indigenous Peoples (UN, 2008).

GOAL

This review aims to identify and analyze case studies, and best practices that have either successfully utilized and mobilized IK alongside WS based knowledge in health research and related decision-making, or showed some promises.

OBJECTIVE I

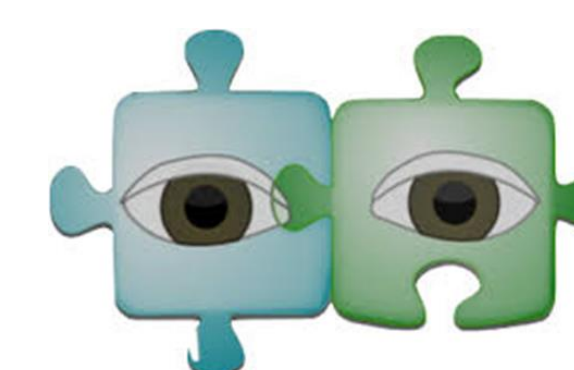
To explore the concept of IK and understand possible complementarities between two knowledge systems (IK and WS)

OBJECTIVE II

To identify facilitators/barriers in bringing these two knowledge systems together and recommend next steps

METHODS

The review method is grounded in "Two-Eyed-Seeing" (Marshall et al., 2015) approach and narrative thematic inquiry method (Crabtree and Miller, 1999)



Searching the Literature

Databases: PsychINFO, Scopus, PubMed
Websites: CIHR-IPPH, Governments of New Zealand, Australia, provincial governments in Canada

Selecting studies and assessing the relevance

Inclusion/Exclusion criteria: English, Canadian, select health research, academic and grey literature published over 2008-2018

Data extraction and analysis

Extracted and saved narratives in the forms of excerpts in an Excel database
The qualitative narrative thematic analysis method was employed
Inductive and deductive narrative codes were generated

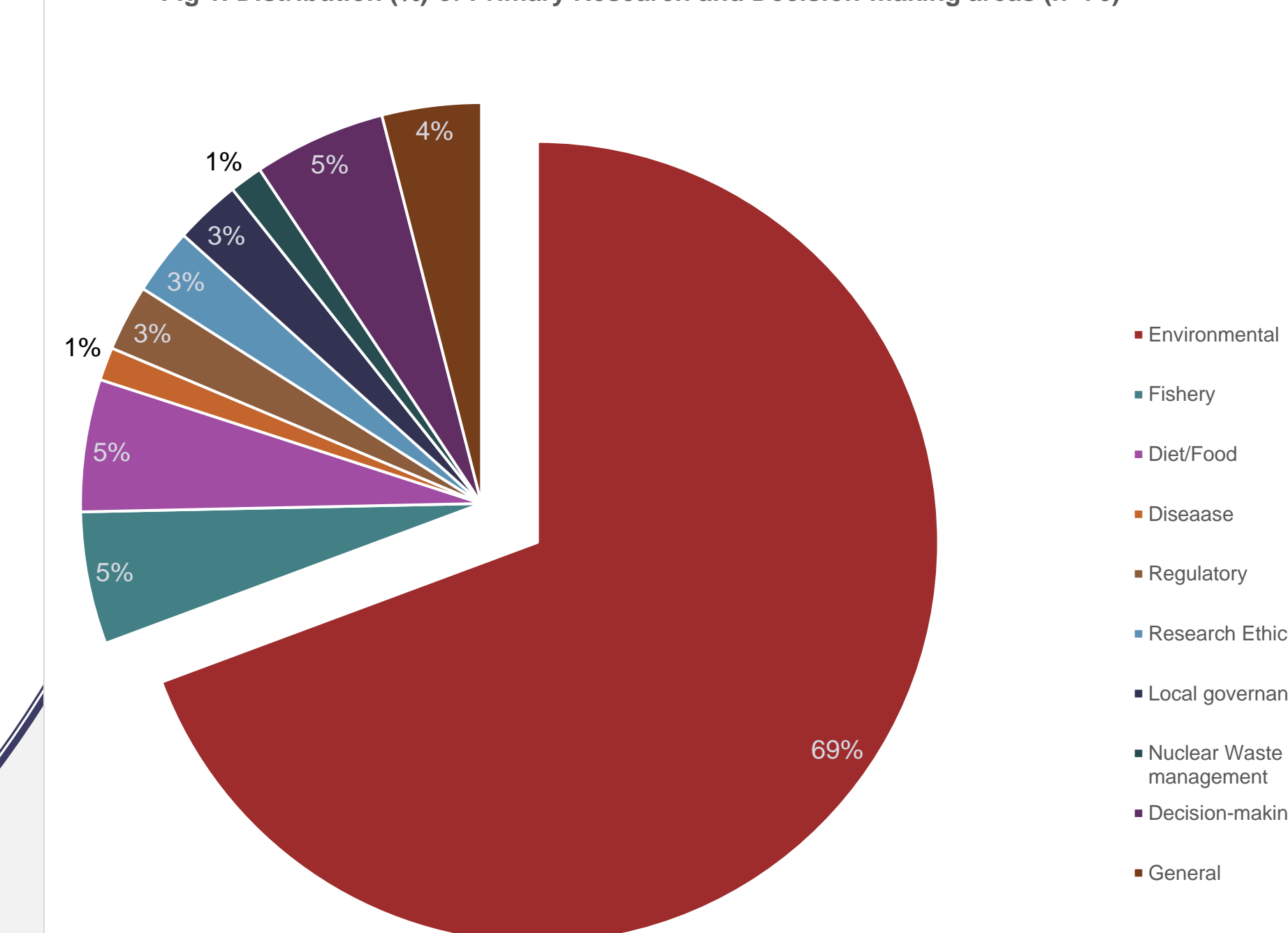
Number of articles

Initial search (n= 1404 academic and 57 grey literature)
Search refined by reviewing titles and abstracts (n=288 academic and 29 grey literature)
Further screening and a full-text review of 75 articles (n= 56 academic and 19 grey literature)

Topics

69% of literature focussed on environmental health research

Fig 1. Distribution (%) of Primary Research and Decision-making areas (n=76)



FINDINGS

In spite of epistemological and ontological differences, there are considerable complementarities between IK and WS systems (e.g. expertise, evolving nature, resource requirements, authentication process, and state of knowledge) (Tsuiji and Ho, 2002).

IK is diverse, unique and community-specific, hence not generalizable
The utilization and mobilization of IK are largely "process" oriented, and the value of land and the role of Indigenous Knowledge holders are critical in understanding and working with IK.

The co-creation and co-production of knowledge approach grounded in community-based participatory approaches could offer flexible models for sustainable engagement and equitable authorities and help eliminate the limitations of the linear process of research and decision-making.

The most critical step here is to identify the synergies/intersections between IK and WS knowledge systems.

A concerted effort is needed to create institutional-level structures and capacities for such knowledge mobilization and co-production processes.

CASE STUDY I

A community-based Environmental Monitoring project for the assessment of climate change and resource exploitation impact, which was co-initiated and led by multidisciplinary team members (i.e. local Inuit experts and academic researchers) (Gérin-Lajoie et al., 2018). This mixed-methods project co-developed community-oriented baseline data on food contamination, changing water quality and land use pattern, and interactive media map for continuous monitoring and assessment of impact. The project strengthened community capacities.

CASE STUDY II

A community-based environmental governance study blended WS and TK (Traditional Knowledge) about climate change and ecosystem health by embracing "two-eyed-seeing" approach (Mantyka-Pringle, 2017). In this study, TK provided locally-held deep and reflexive information on environmental change alongside the WS-based knowledge. All identified WS-based indicators of environmental change (e.g. bird counts, mercury in fish, and water depth, etc.) were spatial, while TK indicators were predominantly temporal (e.g. changes to water flow, fish aesthetics, and bird usage, etc.). In this case, a balanced inclusion of both WS and TK in environmental assessments and management offered a holistic understanding of environmental issues for effective and adaptive co-management governance practices.

DISCUSSION

There are significant needs to acknowledge the diversities, contextual aspects, and holistic nature of IK. A general lack of tested and applied tools results in procedural challenges in identifying a common ground between IK and WS systems. Moreover, competing demands, time restraints, capacity issues, and lack of readiness and institutional level commitment pose additional restraints. Much attention needs to be paid toward establishing equitable research governance/partnership with Indigenous counterparts. The "process" should begin with trustworthy and sustainable relationship building, while building on the concept of "co-creation" of knowledge, and ultimately resulting in community capacity development. The creation of flexible models and guidance tools with key features for collection, mobilization, and utilization of IK is highly warranted. Hence, respectful inclusion of IK alongside the WS-based knowledge in health research and decision-making can offer innovative solutions requiring multipronged approaches (Indigenous and non-Indigenous alike) to advance and promote equities in health outcome.

LIMITATIONS

The population and geographic areas covered in this review is limited in North American context. The review purely relies on secondary data available from published literature, hence lacks opportunities to incorporate pragmatic knowledge held by key informants

NEXT STEPS

- To explore potential research areas in the Department that could benefit from IK
- To identify opportunities for future intra and interdepartmental collaboration



Crabtree, B. and Miller, W. (Eds.) (1999). *Doing Qualitative Research* (2nd edition). London: Sage. Marshall, M. Marshall, A. and Bartlett, C. (2015). Two-Eyed Seeing in Medicine. In Greenwood et al. edited *Determinants of Indigenous Peoples' Health in Canada: beyond the social*, Chapter 10, pp 16-24. Tsuiji, L. J. S., and Ho, E. (2002). Traditional Environmental Knowledge and Western Science: In Search of Common Ground. *The Canadian Journal of Native Studies*, 2: 327-360. TRCC (Truth and Reconciliation Commission of Canada) (2015). Truth and Reconciliation Commission of Canada: Calls to Action. Available via http://trc.ca/assets/pdf/Calls_to_Action_English2.pdf UN (United Nations) (2008). United Nations Declaration on the Rights of Indigenous Peoples. Resolution of General Assembly, 13 September 2007. Retrieved on February 18, 2019, via file:///K:/DATA/Indigenous/Reference%20Doc/UN%20Declaration-2007_E_web.pdf Gérin-Lajoie, J. Hermann, T. M. MacMillan, G. A. Hébert-Houle, É. and Monfette, M. et. al. (2018). IMALIRJIIT: A community-based environmental monitoring program in the George River watershed, Nunavik, Canada. *Écoscience*, 25(4): 381–399. Mantyka-Pringle, C. S. Jardine, T. D. Bradford, L. Bharadwaj, L. Kythreotis, A. P. Fresque-Baxter, J. Kelly, E. Somers, G. Doig, L. E. Jones, P. D. Lindenschmidt, K-E. River, S. and Partnership, D. (2017). Bridging science and traditional knowledge to assess cumulative impacts of stressors on ecosystem health. *Environmental International*, 102: 125-137.

