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Abstract

Research licensing administered by the Nunavut Research Institute (NRI) affords Nunavummiut (people of Nunavut) an opportunity to engage in research. The NRI partnered with researchers at McMaster and Carleton Universities to investigate social sciences research licensed between 2004 and 2019. This partnership aimed to understand the scope of research trends in Nunavut. Thematic content analysis was used to (i) identify research topics in social sciences and Inuit knowledge projects; (ii) determine frequency and diversity of topics according to leadership, location, and timeframe; (iii) develop metrics to improve tracking of research; and (iv) contribute to the development of a Nunavut research portal making NRI research applications and reports public. Social sciences research increased during the 16-year study period. Projects were predominantly led by Canadian academics. The highest intensity of research occurred in Iqaluit, and the lowest intensity in Grise Fiord. Social sciences research was mainly focused on topics related to Inuit culture and knowledge. Social scientists most often conducted research using interviews and shared their work via peer-reviewed journal articles. This project is a starting point in raising awareness about research trends for Nunavummiut. This work aims to contribute to broader efforts in developing Nunavut-specific approaches to achieving Inuit self-determination in research.

Key words: Nunavut, research licensing, research trends, social sciences, Inuit Qaujimajatuqangit (Inuit knowledge), Inuit self-determination

Introduction

Throughout Inuit Nunangat (Inuit homelands in the Canadian Arctic), research licensing processes have been established to ensure northern oversight of research that is often funded through policies that favour southern-based academics (Inuit Tapiriit Kanatami (ITK) and Nunavut Research Institute (NRI) 2007; Castleden et al. 2012; Pulsifer et al. 2014; ITK 2018; Inuit Tapiriit Kanatami (ITK) 2018; Carter et al. 2019). Research licensing is highlighted by national (ITK 2018) and territorial (NTI 2013) Inuit organizations as a valuable mechanism to foster Inuit self-determination and governance over research. Research licensing has been established across the three northern territories (Yukon, Northwest Territories, and Nunavut), while Nunatsiavut and Nunavik have a research approval process (Polidoro 2022). These processes help to support and track research activities and aim to protect Inuit from exploitative research practices.

In Nunavut, a research licensing process was established under the Nunavut Scientists Act in 1995 (NRI 2021) as one way to minimize research that is harmful to the natural or social environments. The Science Advisor is responsible for administering scientific research licensing under the Act, which includes the review and approval of research in the physical and natural sciences (P), health sciences (H), and social sciences (SS) disciplines (Gearheard and Shirley 2007). The Government of Nunavut can appoint any public servant to be the Science Advisor, and since 1995, has appointed the Director, Innovation and Research at the Nunavut Research Institute (NRI). The NRI is the science division of Nunavut Arctic College, and its mandate is to ensure that research is a resource to support the wellbeing of Nunavummiut (people of Nunavut) (NRI 2021). In addition to administering scientific research licenses, the NRI is also responsible for providing logistical support to researchers, supporting research efforts that address Nunavummiut priorities, and building institutional research capacity at Nunavut Arctic College (NRI 2021). This paper will focus specifically on the research licensing role of the NRI. Research licensed under the Nunavut Scientists Act comprises approximately 60% of all research occurring in Nunavut (Polidoro et al. 2022), and this study specifically focused on the SS research within that percentage. A similar analysis was undertaken for H and P research (see Polidoro et al. 2022; Ljubicic et al. in prep) but was beyond the scope of the graduate research described in this paper. Research focused on archaeology, parks, and wildlife (including all terrestrial and aquatic animals, plants, birds, and fish) is regulated by other territorial and federal agencies and thus cannot be represented in this study because it is not
The NRI maintains a digital licensing database populated with information for each research license issued since 2004 (earlier records are held in hard copy in the NRI library in Iqaluit, Nunavut). The NRI partnered with researchers from McMaster and Carleton Universities to undertake the inaugural analysis of research trends in Nunavut from 2004 to 2019 (Polidoro et al. 2022; Ljubicic et al. in prep). This project was co-led by the Nunavut Science Advisor (JS) and McMaster/Carleton professor (GL), with primary analysis undertaken by first author (AP) and supported by co-authors (NC and AP). This paper focuses on the analysis of SS research activities undertaken in Nunavut from 2004 to 2019, including research related to Inuit knowledge and culture, anthropology, human geography, sociology, linguistics, education, law, economics, education, and political science (NRI 2021). Previously, the NRI referred to such research as “Social Science and Traditional Knowledge” but has since transitioned to refer to it as “Social Sciences” (SS). Here, when we refer to “Social Sciences” (SS) research, we include research licensed under the former “Social Science and Traditional Knowledge” category.

We sought to answer the question: what are the SS research trends in Nunavut? To address this question, we had four objectives, including to (i) identify research topics in SS projects; (ii) determine frequency and diversity of topics according to leadership, location, and timeframe; (iii) develop new metrics to improve tracking of research topics; and (iv) contribute to the development of a Nunavut research portal to make NRI research applications and reports publicly accessible. In this paper, we present our results with the intention of contributing to improved processes for research administration (Science Advisor), practice (researchers), and application (decision-makers) for the benefit of Nunavummiut. By undertaking an evaluation of licensed SS research in Nunavut, we aim to contribute to improving the management and administration of NRI-licensed research in Nunavut. These efforts support the development of a Nunavut research portal through which Nunavummiut will be able to access information about research occurring in their homeland, which is a critical first step in achieving Inuit self-determination in research (NTI 2022).

Methods

Research approach

We adopted a mixed-method approach to understand SS research trends in Nunavut. In Nunavut, when applying for a research license, applicants are encouraged to provide detailed information on their research activities, including project leadership, and team, timing, location, community engagement, methods, and data management plans, along with a plain language summary for community review (NRI 2021; Polidoro 2022).

A combination of thematic content analysis and descriptive statistics was used to evaluate and analyze who is leading research in Nunavut, where research is occurring, what kinds of research are taking place, what research methods are being used, and how research is being communicated. Thematic content analysis was conducted to enable understanding and identification of themes across project summaries (Nowell et al. 2014; Friese et al. 2018), while descriptive statistics provide the necessary tools to communicate, compile and represent these findings.

Database upgrade and review

Data used in this analysis include all project summaries submitted to the Science Advisor as part of the SS research license application process between 2004 and 2019. With support from Carleton University partners at the Geomatics and Cartographic Research Centre (GCRC), the database was imported into the open source Nunaliit Platform (Hayes et al. 2014; Anonby et al. 2018) in 2019 because the previous Microsoft Access database was no longer meeting the administrative needs of the Science Advisor (see Ljubicic et al. in prep). Each license entry was reviewed by AP (first author) for accuracy and completeness based on all available supporting materials (e.g., full license applications, licenses issued, license reports, and annual research compendia compiled by the NRI). In partnership with the GCRC, JS and GL tailored the database fields and format to develop the foundation for a future Nunavut Research Portal that will make license application and reporting information publicly available. For more details on the licensing database software, fields, and cross-checking/data cleaning process, see Ljubicic et al. (in prep) and Polidoro (2022).

In total, 871 SS licenses were issued in our time frame of interest (2004–2019), which translates to 568 projects when accounting for multiyear projects. For example, a project that lasts 5 years would receive five licenses (a new license is issued for each year renewed) but is considered one project. Project summaries submitted with the original application were considered representative of the focus for the duration of the project and were used for project classification and thematic content analysis.

Thematic content analysis

Prior to thematic coding, all project summary documents were imported into NVivo (Version 12) qualitative analysis software and were classified to categorize and associate important attributes to each summary (Polidoro 2022), including Principal Investigator (PI) affiliation, research location (community and region), and Nunavut-based PI (Principal Investigators employed by Nunavut-based organizations (see Ljubicic et al. in prep for details).

A coding framework to identify research topics, methods, and reporting was collaboratively developed by JS, GL, and AP. The existing list of sample topics in the NRI (2021) guidelines for research needed to be expanded (i.e., to focus more on topics rather than on disciplines), and there was no existing list to characterize the range of research methods and reporting techniques mentioned in research license applications. Several brainstorming sessions resulted in an initial topical coding framework, which was then shared with representatives at Aqquimavik Society (Arviat, NU) and Qaujigiartiit Health Research Centre (QHRC) (Iqaluit, NU) to get feedback. Particularly SS and H codes were refined and expanded with this additional input. AP (first author) then worked with the coding framework finalized by the NRI. As research priorities and
interests evolve over time, the NRI may continue to refine the coding framework in the future.

The coding framework was structured into six groups of parent–child code hierarchies (NVivo n.d.) (see Supplementary material), including (i) SS broad research topics; (ii) P broad research topics; (iii) H broad research topics; (iv) community-based research methods; (v) field-based research methods; and (vi) reporting techniques (see Supplementary material for the complete codebook). The parent–child coding hierarchies are separately treated in NVivo; therefore, each project summary was assigned at least one parent (broad) code plus additional relevant parent or child (detailed) codes. This means that a project pertaining to educational outcomes would be coded to the child code “Educational outcomes”, as well as the parent code “Education”. While only SS project summaries were analyzed, research topical codes were not limited to SS categories. Some projects that received an SS research license were interdisciplinary, and so all relevant social (SS), health (H), and physical (P) science codes were applied to appropriately characterize the project summary. This means that a project pertaining to educational outcomes would be coded to the child code “Educational outcomes”, as well as the parent code “Education”. While only SS project summaries were analyzed, research topical codes were not limited to SS categories. Some projects that received an SS research license were interdisciplinary, and so all relevant social (SS), health (H), and physical (P) science codes were applied to appropriately characterize the project summary. This means that a project pertaining to educational outcomes would be coded to the child code “Educational outcomes”, as well as the parent code “Education”. While only SS project summaries were analyzed, research topical codes were not limited to SS categories. Some projects that received an SS research license were interdisciplinary, and so all relevant social (SS), health (H), and physical (P) science codes were applied to appropriately characterize the project summary.

There were also circumstances where codes overlap in research topic but were not always coded together. For example, projects coded to “Inuit Qaujimajatuqangit (IQ)” was usually coded to “Culture and Society” as well; however, projects coded to culture and society were only coded to IQ if those terms were explicitly mentioned in the project summary. A limitation of the study is that there were inconsistencies in the level of detail provided in project summaries related to research methods and reporting techniques proposed. Out of 568 SS projects, 14 did not include a description of research methods and 165 project summaries did not include a description of reporting techniques. There were also two summaries where the geographic region could not be identified, and community names were absent from 10 projects. The other main limitation is that the information used in this analysis derives from the information provided by researchers as part of their scientific research applications. This means that our results only represent what researchers proposed at the time of the application and may not represent the scope of what actually occurred.

Data analyses

Nunavut SS research trends were analyzed using qualitative and quantitative approaches (Ljubicic et al. in prep). NVivo matrix queries were used to characterize research trends over time. The matrix tables created in NVivo were imported into MS Excel to compile descriptive statistics and create visualizations to help represent key characteristics of research in Nunavut that is administered under the Scientists Act (Polidoro 2022; Ljubicic et al. in prep).

Results

Social sciences research in Nunavut over time

There were 568 SS projects conducted in Nunavut between 2004 and 2019. Research intensity (as measured by the number of projects issued in 1 year) was relatively stable, ranging from 42 projects (2004 and 2006) to 76 (2018) (Fig. 1). The mean number of projects licensed annually was 57.1 ± 9.0 projects and increased over time by 1.32 project per year ($R^2 = 0.4885$) (Fig. 1).

Geographical distribution of social science research in Nunavut

Social Science research has been occurring in all communities across Nunavut, although with varying intensity (Fig. 2). In total, 69.4% (n = 394) occurred in the 13 Qikiqtaani region communities, 31.5% (n = 179) in the seven Kivalliq region communities, and 21.8% (n = 124) in five Kitikmeot region communities (which included two permanent settlements (Bathurst Inlet and Umingmaktok) that have not had full-time residents since 2006 (Feir and Thomas 2019)) (Fig. 2). From 2004 to 2019, 16 projects were conducted Nunavut-wide, five occurred outside of Nunavut hamlet boundaries (e.g., on the land or water), and one occurred outside of the Nunavut territory boundary. The number of projects in each community is greater than the total number of research projects, as one research project can involve research activities in more than one community.

Research intensity differed between the three regions of Nunavut. The Qikiqtaani region consistently experienced the highest research intensity (Fig. 3). Research intensity peaked in 2009 (n = 45) and was lowest in 2004 (n = 28). Overall, in the Qikiqtaani region, research increased between 2011 and 2019. The three communities that experienced the highest intensity of SS projects in Nunavut were also in the Qikiqtaani region, including Iqaluit, the capital of Nunavut (40.3% of all licensed SS projects), and the hamlets of Pond Inlet and Pangnirtung (15.5% and 14.4%, respectively; Fig. 2). The three communities that experienced the lowest intensity of research in the Qikiqtaani region are Grise Fiord (4.9%), Sanirajak (5.5%), and Resolute Bay (5.5%).

The Kivalliq region experienced the second highest research intensity among the three regions (except in 2005, 2006, and 2013) (Fig. 3). Overall, in the Kivalliq region, research intensity increased between 2005 and 2012. The three communities that experienced the highest intensity of SS research projects in the Kivalliq region are the hamlets of Arviat (14.3% of all licensed SS projects), Baker Lake (12.3%), and Rankin Inlet (12.0%) (Fig. 2). The three communities that experienced the lowest intensity of research in the Kivalliq region are Whale Cove (5.3%), Naujaat (6.9%), and Coral Harbour (7.0%).

The Kitikmeot region experienced the lowest research intensity (Fig. 3). Overall, in the Kitikmeot region, research intensity increased from 2008 (n = 9) to 2018 (n = 23) (Fig. 3). The three communities that experienced the highest intensity of SS research projects in the Kitikmeot region are Cambridge Bay (14.1% of all licensed SS projects), Kugluktuk (10.6%), and Gjoa Haven (9.2%). The three communities that experienced the lowest intensity of research in the Kitikmeot region are Umingmaktok (4.2%), Bathurst Inlet (4.6%), and Kuugaaruk (6.2%).

Social sciences project duration

Annual research projects (not a multiyear license) were most common (72.7% of all SS projects in the research period).
Fig. 1. Number of social sciences projects in Nunavut from 2004 to 2019.

(Fig. 4). Research project duration and intensity (the number of research projects) were inversely related. As the duration increased, the intensity decreased (e.g., 2-, 3-, 4- and 5-year projects occurred for 10.9%, 6.9%, 5.6%, and 2.1% of projects, respectively) (Fig. 4). The fewest number (1.8%) of licenses were issued for projects greater than 5 years in duration.

Social sciences research leadership

SS project leadership in Nunavut was dominated by PIs affiliated with Canadian universities (65.7%) (Fig. 5, Supplementary material). This was followed by international colleges/universities (12%). Researchers affiliated with consulting companies or industry led 7% of SS projects. A few SS projects (a combined 5.8%) were led by federal (Parks Canada), territorial (Government of Nunavut), provincial, and municipal governments (e.g., Hamlet of Arviat), as well as Inuit and non-profit organizations (Aqqiumavvik Society and Kitikmeot Heritage Society) (see supplementary material). Others (4.4%) included SS projects led by community-based researchers, small businesses, and international governments. During the study period, research leadership by Canadian academics fluctuated but was considerably higher than all other PI affiliations. Canadian academic project leadership peaked in 2009 and 2015 (45 and 46 projects, respectively), and declined in 2015, 2011, and 2017 (24, 38, and 28 projects, respectively) (Fig. 6). The number of projects led by international academics fluctuated throughout the research period and was the second most common PI affiliation in 2011 (n = 11). Research led by consultants was lowest in 2004 (n = 2), peaked in 2010 (n = 10), and then decreased. There were no projects led by the federal government in 2006, 2007, 2009, 2011, and 2012. Federally led research increased from 2015 onwards and peaked in 2018 (n = 10) (see Polidoro 2022 for trends in each affiliation).

Most Nunavut-based PIs that held SS licenses were affiliated with Canadian universities (n = 32, see Supplementary material). This was attributed to the number of Nunavummiut enrolled in Canadian university programs who maintained (and list in their license application) a Nunavut address. This was followed by Nunavut Inuit organizations (n = 15), such as the Qaujigiartiit Health Research Centre and Kugluktuk Hunters and Trappers Organization, and Nunavut-based charitable organizations (n = 6) (see Polidoro 2022 for details). No Nunavut-based PIs were affiliated with hospitals, Nunavut Arctic College, or Institutions of Public Government. Research led by Nunavut PIs peaked in 2009 (n = 17) and was the lowest in 2004 (n = 2) (Fig. 7). Over time, there was a slight increase in projects, with noticeable peaks in 2009 (n = 17) and 2018 (n = 14) (Fig. 7).

Topical focus

Research was conducted on a wide range of SS topics. The most commonly studied broad SS research topic was culture and society (48.1% of projects), followed by IQ (41.2%), land use and traditional activities (22.5%), education (16%), and policy and governance (13.9%) (Fig. 8). Less-commonly studied topics included colonization impacts (4%), reconciliation (3%), justice/law (1.5%), archaeology (1.5%), and geography (every SS project is geography in some way; therefore, we did not consider this code throughout our coding process) (0.01%). Some
Fig. 2. Distribution of community-based social sciences projects in Nunavut between 2004 and 2019. Where: the size of circle is proportional to the total number of projects that have taken place in that community. Map created by Regena Sinclair using ArcGIS Pro 2.9.0. The Kitikmeot, Kivalliq, and Qikiqtani regions of Nunavut are for illustrative purposes only. Bathurst Inlet and Umingmaktok are no longer officially recognized as communities in Nunavut. Community coordinates obtained from the Canadian Geographical Names Database (Natural Resources Canada).
Fig. 3. Number of social sciences projects conducted by region in Nunavut from 2004 to 2019.

projects spanned two categories, for example, 27 projects included both culture and society and education; thus, totals do not equal 100%. Principal investigators leading the most SS projects in Nunavut tended to focus on culture and society in their research (see Supplementary material).

The SS projects focused on culture and society peaked in 2012 (n = 36) and was the lowest in 2004 and 2008 (n = 18). Following the 2012 peak, culture and society research decreased but remained stable from 2014 to 2017 (n = 33) and decreased again in 2018 and 2019 (Fig. 9). In contrast, research focusing on IQ gradually increased from 2004 to a peak in 2007 after which, project numbers remained constant for 3 years (n = 30). Research focusing on IQ then gradually increased until 2016 and decreased from 2018 onwards (Fig. 9). Education-focused research decreased from 2004 to its lowest observed numbers in 2008 (n = 2), followed by a peak in 2013 (n = 16), and then another decrease (Fig. 9). Sovereignty and self-determination was the only broad research topic that slightly increased throughout the study period (Fig. 9).

Research methods
A broad range of SS research methods have been applied in projects across communities in Nunavut (Fig. 10). Interviews were most common (64.9%), while other methods included research/training workshops (14.6%), focus groups (13.6%), experiential learning and observation (12.8%), and literature reviews (12%) (Fig. 10). Less-commonly used research methods included sharing circles (0.01%), land camps (0.01%), and applications of grounded theory (<0.01%) (Fig. 10). Interviews were employed the least often in 2006 (n = 14), the most in 2015 (n = 55), and have decreased since 2015 (Fig. 11). The use of research and training workshops gradually increased to its maximum in 2014 (n = 17), followed by a dramatic decrease until 2017 (n = 8).

Results reporting techniques
Journal articles were the most common reporting technique (36.4%) (Fig. 12), followed by reports (28.7%), student theses (25.4%), community presentations (23.8%), and conference presentations (14.3%). In contrast, newspaper (1.2%), television (1.2%), and individual meetings/updates (0.7%) were the least common reporting techniques (Fig. 11). Creative and artistic reporting techniques (documented as film, song, and performance) were also uncommon (4.8%) (Fig. 12). Principal investigators increasingly included details about reporting techniques in project summaries over time (Fig. 13). Journal articles observed the greatest increase, from 2004 (n = 2), to 2018 (n = 38) (Fig. 13). Reports peaked in 2013 (n = 25) followed by a decrease until 2017 (n = 14). Reports increased again as the second most common reporting technique in 2019 (n = 24) (Fig. 13). Community presentations were another common reporting technique amongst five out of the ten top Nunavut-based PIs (Table 1). Community presentations peaked in 2018 (n = 27) as the second most common reporting technique in that year (Fig. 13).
Discussion

From our analysis of SS research trends, our discussion highlights 11 opportunities for refining research facilitation and management in Nunavut according to three main themes: administration (research licensing), practice (researchers), and application (community/decision-making) (Table 2). Here, we discuss the potential impacts of implementing these opportunities based on the results of this study reviewing the research licensing database, and what is situated in current literature. Developing a more comprehensive, public, and interactive licensing process has tremendous potential for increasing the positive impacts of research within and beyond the territory.

Research licensing and administration

Opportunity #1: new and refined metrics to track research

When interpreting the results showing SS research intensity at the community and regional level, we often found ourselves asking: “Why is there so much research in one community, and not in another? What are the underlying causes of the trends we see”? Currently, the licensing database does not contain the information required to answer these questions. From the review of project summaries of the most active PIs in Nunavut, we noted patterns relating to established community research relationships, funding of projects, and
Fig. 6. Social sciences research projects in Nunavut led by Canadian academics from 2004 to 2019.

Fig. 7. Nunavut-based Principal Investigators leading social sciences projects in Nunavut from 2004 to 2019.
local research infrastructure as potential key motivations for long-term research projects in particular communities. However, it is not possible to assess the degree to which these are driving factors based on the current types of information tracked in the NRI licensing process. Nevertheless, enhancing how and which key research metrics are tracked are among the national Inuit priorities for research (ITK 2018).
There have been increasing calls to improve funding alignment with Inuit research priorities (ITK 2018; Wong et al. 2020). Other authors also highlight the need for funding agencies to consider the time needed in relationship-building to optimize local relevance and engagement with Inuit (McGregor et al. 2010; Felt and Natcher 2011; Nickels...
Fig. 12. Reporting techniques proposed in social sciences projects in Nunavut from 2004 to 2019.

Fig. 13. Reporting techniques used in social sciences projects in Nunavut from 2004 to 2019. Where: only results reporting techniques are included that were used in 10 or more projects in at least 1 year.
<table>
<thead>
<tr>
<th>Principle Investigator (timeframe)</th>
<th>Number of projects</th>
<th>Number of licenses</th>
<th>Affiliation(s)</th>
<th>Proposed communities worked in</th>
<th>Social science broad topics</th>
<th>Proposed methods</th>
<th>Proposed reporting</th>
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<td>Shirley Tagalik (2014–2018)</td>
<td>5</td>
<td>5</td>
<td>• Aqiumavvik Society • Arviat Health Centre • Arviat Wellness Centre • Hamlet of Arviat</td>
<td>• Arviat</td>
<td>• Culture and society • Inuit Qaujimajatuqangit • Land use and traditional activities</td>
<td>• People and community photography • Research/ training workshops • Sharing circles</td>
<td>• Book • Community organization meetings and updates • Community presentations • Poster • Radio presentation • Social media • TV</td>
</tr>
<tr>
<td>Maryse Mahy (2015–2019)</td>
<td>4</td>
<td>12</td>
<td>• Parks Canada</td>
<td>• Arviat • Baker Lake • Chesterfield Inlet • Coral Harbour • Iqaluit • Naujaat • Pangnirtung • Pond Inlet • Qikiqtarjuaq • Rankin Inlet</td>
<td>• Inuit Qaujimajatuqangit</td>
<td>Not listed in project summary</td>
<td>Not listed in project summary</td>
</tr>
<tr>
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<td>3</td>
<td>• Kitikmeot Heritage Society</td>
<td>• Bathurst Inlet • Gjoa Haven • Kugaaruk • Taloyoak</td>
<td>• Archaeology • Culture/society • History • Inuit Qaujimajatuqangit</td>
<td>• Experiential learning and observation • Oral histories • Research/ training workshops</td>
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<td>Jason Akearok (2004–2010)</td>
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<td>3</td>
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<td>• Pangnirtung • Pond Inlet • Rankin Inlet • Resolute Bay • Whale Cove</td>
<td>• Culture and society • Inuit Qaujimajatuqangit • Land use and traditional activities</td>
<td>• Interviews • Participatory mapping</td>
<td>• Community presentation • Poster</td>
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<td>2</td>
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<td>• Clyde River • Iqaluit • Kugluktuk • Rankin Inlet</td>
<td>• Culture and society • Education • Policy and governance</td>
<td>Not listed in project summary</td>
<td>Not listed in project summary</td>
</tr>
<tr>
<td>Kim Crockatt (2006–2013)</td>
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<td>3</td>
<td>• Nunavut Literacy Council</td>
<td>• Arviat • Cambridge Bay • Kinngait • Rankin Inlet</td>
<td>• Culture and society • Education • Gender • Policy and governance</td>
<td>• Case studies • Interviews</td>
<td>• Community presentation • Conference presentation • Journal article • Report • Results summary</td>
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<td>Camilius Egeni (2005–2009)</td>
<td>2</td>
<td>3</td>
<td>• Government of Nunavut • Royal Roads University</td>
<td>• Arviat • Cambridge Bay • Iqaluit • Kugluktuk</td>
<td>• Culture and society • Inuit Qaujimajatuqangit • Policy and governance</td>
<td>• Interviews • Surveys</td>
<td>Student thesis</td>
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<td>• Arctic Bay • Cambridge Bay • Iqaluit • Iqaluit • Pond Inlet • Rankin Inlet • Sanirajak • Taloyoak</td>
<td>• Education</td>
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<td>• Creative and artistic reporting • Conference presentation • Community presentation • Journal article • Radio presentation • Report • Social media • Website</td>
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<td>• Economy • Sovereignty and self-determination</td>
<td>• Interviews • Literature review</td>
<td>Conference presentation • Community presentation • Journal article • Report</td>
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and Knotsch 2011; Castleden et al. 2012; Brunet et al. 2016; ITK 2018). Similarly, the National Inuit Strategy on Research (ITK 2018) encourages database development for tracking research investments (i.e., amounts, sources, and recipients) within Inuit Nunangat. ArcticNet, a Network of Centres of Excellence Canada, also funds projects that inform northern policy, knowledge transfer, and Inuit health in an effort to support Inuit self-determination in research (ArcticNet 2021). In recent years, funding agencies such as the Social Sciences and Humanities Research Council of Canada (SSHRC) have put an emphasis on community engagement and effective knowledge mobilization (Social Science and Humanities Research Council (SSHRC) 2023).

Implementing new metrics in the NRI scientific research license application related to funding source and proportions dedicated to expenditures in Nunavut (e.g., local hiring and purchasing services) would also improve NRI’s capacity to assess the impacts of research investments in Nunavut (Table 2). Additionally, researchers applying for federal funding based at research-related infrastructure such as the Polar Continental Shelf Logistics Hub in Resolute Bay, NU, undergo “special consideration” if “Indigenous Knowledge” is included in their proposals (NRCan 2021; para. 13). The NRI could benefit from tracking allocation of funding to inform interpretation of trends identified in this work to better understand research activities and allocation of research dollars throughout the territory.

Our results also highlight the abundance of 1-year SS research projects (Fig. 4). For the NRI, the dominance of 1-year projects has associated implications of high workload demand for the one licensing manager who processes approximately 50 SS applications each year (Polidoro et al. 2022) while also managing the administration of physical and health sciences research licenses (see Ljubicic et al. in prep). While hiring more administrative staff at the NRI to process license applications could help to distribute workload, this needs to be within the financial capacity of NRI’s parent organization Nunavut Arctic College. An additional challenge associated with the dominance of 1-year projects is the lack of continuity in tracking research projects. If a different PI (from the same research group) is applying for a new license, rather than the previous PI, it makes it more challenging to track research leadership as team member roles and responsibilities evolve. The dominance of 1-year projects may be attributed to short-term funding cycles, which results in higher administrative burden to process applications in a timely manner (Mallory et al. 2018; Henri et al. 2020).

It is important to reiterate that the NRI does not license all research in Nunavut (see Introduction; Polidoro et al. 2022); thus, it is very likely that the number of single-year research

### Table 2. Opportunities identified for future development of the research licensing database to refine research administration, practice, and policy in Nunavut.

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Research administration</strong></td>
<td></td>
</tr>
<tr>
<td>• Track research using new and refined metrics</td>
<td>• Eases administrative burden for the Science Advisor if researchers are required to include key information in a consistent format</td>
</tr>
<tr>
<td>• Improve research license review process (tracking reviewer commentary)</td>
<td>• Encourages, and provides guidance for, researchers in early engagement</td>
</tr>
<tr>
<td>• Standardize reporting</td>
<td>• Reviewers can assess whether community priorities were addressed, and can identify areas for follow-up research</td>
</tr>
<tr>
<td></td>
<td>• Improves consistency of research communication in Nunavut</td>
</tr>
<tr>
<td></td>
<td>• The Science Advisor would have necessary information to better understand reporting strategies</td>
</tr>
<tr>
<td><strong>Research practice</strong></td>
<td></td>
</tr>
<tr>
<td>• Identify the research focus before and during projects</td>
<td>• Simplifies research metrics tracking</td>
</tr>
<tr>
<td>• Track community engagement and leadership</td>
<td>• Helps identify how communities were involved and supported in a project, and in what capacity</td>
</tr>
<tr>
<td>• Facilitate opportunities for Nunavummiut-led research</td>
<td>• Naming Inuit as project co-leaders, increasing leadership and co-development of project summaries, and increasing Inuit governance in research</td>
</tr>
<tr>
<td>• Identify and promote training needs</td>
<td>• Acknowledges the need for community research involvement</td>
</tr>
<tr>
<td>• Plain language reporting</td>
<td>• Incorporates Indigenous methodologies and knowledge systems</td>
</tr>
<tr>
<td></td>
<td>• Completing a reporting template in plain language will make it easier to report on relevant research progress and community engagement</td>
</tr>
<tr>
<td></td>
<td>• Research reporting will be easier to understand and use from a community perspective</td>
</tr>
<tr>
<td><strong>Research policy and decision-making</strong></td>
<td></td>
</tr>
<tr>
<td>• Identify priority issues from community, regional, and territorial perspectives</td>
<td>• Assessing research trends helps decision-makers to identify priority areas to target in developing or funding new research projects</td>
</tr>
<tr>
<td>• Utilize research expertise</td>
<td>• Identifying key contact people based on specialization or experience in a field of interest can help to inform decision-making</td>
</tr>
<tr>
<td>• Target investments in infrastructure, personnel, and maintenance</td>
<td>• Tracking research funding, use of infrastructure, and community engagement helps to identify over- or underserved communities and target investments to support research continuity</td>
</tr>
</tbody>
</table>

and
projects occurring in Nunavut is greater than documented in this study. The high number of projects lasting 1 year may also reflect a graduate student studies/projects. However, we are unable to determine the number of graduate students, Nunavummiut, and other collaborators working on licensed projects, as the NRI research license application does not capture this information. A revised application process that includes team member roles and duration may help to elucidate the reasons for an abundance of short-term SS projects.

Our analysis highlights 84 Nunavut-based PI, with the majority being academically affiliated based on the address provided in their application (Fig. 7). A revised application would be able to better track Nunavummiut-led research, by identifying researchers (and graduate students) who are beneficiaries of the Nunavut Land Claim Agreement, and their associated roles with a project. We note that identifying Nunavummiut leadership in research is important, and the literature already highlights a critical need to improve understanding of the diversity of community engagement, team composition, and leadership within research projects (Gearheard and Shirley 2007; ITK and NRI 2007; McGrath 2018; ITK 2018; Wilson et al. 2020; Wong et al. 2020). However, in the current scientific license application, there is no consistent way of providing the names of team members, their affiliations, and their roles. The only metrics currently available relate to PIs because their full contact information is provided, and their role is clearly defined.

Related to research focus, the current scope of SS research reveals a relatively high number of Inuit culture/knowledge-based research (Fig. 8). This raises the question of whether this intensity in cultural topics reflects community-identified research priorities or researcher interests. We undertook the coding of research topics retroactively based on project summaries in license applications to identify the range of foci for SS research being undertaken in Nunavut for NRI-licensed projects. Providing a selection of topics or keywords in the application process would enable researchers to self-define their topical focus and make it easier and more consistent for the NRI to track areas of research focus over time. Some Nunavut community-based research organizations already have articulated clearly defined priorities, such as the Kitikmeot Heritage Society who are focused on language survival, knowledge transfer and renewal, and digital strategies (Pitqurimmiklut lihautiniq n.d). With enhanced tracking of research topics and priorities in the licensing process, the NRI and community-based research organizations would be able to more effectively identify what research is being done that addresses locally relevant priorities. Such metrics would also enhance the NRI’s ability to identify areas of research overlap or duplication, to better advise researchers seeking direction, as well as reduce research burden and redundancy in communities.

Inuit continue to call for researchers to consult with communities to help shape their research from initial questions through to implementation, analysis, and reporting (Gearheard and Shirley 2007; ITK and NRI 2007; McGrath 2018; ITK 2018; Wilson et al. 2020; Wong et al. 2020; QHRC 2021; Ljubicic et al. 2022). By including additional key metrics related to funding, research team composition, and infrastructure use, and research topic, the NRI database can improve tracking of various research projects (Table 2). Adding metrics to the NRI research license application form can also support the development of an NRI reporting template to streamline the continuity of research projects, and for the NRI to track these research metrics upon completion of a research project (see opportunity #3).

**Opportunity #2: improve the research license review process**

In addition to completing an internal review of each research license application received, the NRI licensing manager shares each application with community and regional organizations that could be impacted by, or engaged in, the research. This consultation allows for Nunavut organizations to identify concerns and questions about proposed research, and to recommend to the NRI whether the project should be licensed.

Reviewing organizations are asked to identify project-specific terms and conditions that they would like the NRI to attach to the research license. The research license review process can create a significant burden (both in terms of time and capacity) for organizations that receive a high number of annual review requests (Polidoro et al. 2022). This is prominent in communities such as Iqaluit where SS research is dominant. Depending on local capacity, and competing responsibilities, not all organizations are able to conduct a thorough review of a research license application within the 45-day review period. If feedback is not received during this time, the application is processed based on NRI’s internal review according to their licensing guidelines (NRI 2021). The NRI manages the license review process by sharing comments from reviewing organizations with applicants. This provides researchers with an opportunity to respond to community feedback and address any concerns or questions. More research is needed to understand the time and workload implications of research license review processes for the diversity of reviewing organizations in Nunavut. Nevertheless, we see great potential in developing licensing database functionalities that could integrate researcher applications, distribution to review committees, review committee feedback, researcher responses to feedback, and NRI communications to both researchers and reviewers.

Although we did not specifically evaluate the language used in license applications providing research guidance, we identified a high level of diversity (and inconsistency) in the level of detail, and accessibility of language, when summarizing research purpose, topics, methods, and reporting techniques. These required plain language summaries are the primary documentation circulated for community review, and the variety of detail and technical language may make it difficult for community review organizations to evaluate and compare between applications. The value of clear research communication, avoiding jargon, and ensuring language and information is tailored for diverse audiences is widely recognized by various authors (ITK and NRI 2007; ITK 2018; Carter...
et al. 2019; Henri et al. 2020). Streamlining the application through a more rigorous and comprehensive process has the potential to not only enhance the research license review, but also to improve research relationships and better address community research priorities.

Opportunity #3: standardized reporting

Data cleaning and analysis revealed a critical need for standardized application and reporting forms. Research reporting is also part of the collaborative research process and is critical in research partnerships and accountability (Gearheard and Shirley 2007; ITK and NRI 2007; Tondu et al. 2014; ITK 2018; Henri et al. 2020; Ljubicic et al. 2022). Researchers are called upon to create meaningful and relevant dissemination strategies (Henri et al. 2020); however, 165 SS project summaries did not include details about intended reporting techniques (see Methods). Those who do include reporting, most often identify academic reporting techniques such as journal articles and conference presentations. This omission limits the transparency between researchers and communities involved in the project (Gearheard and Shirley 2007; ITK 2018) and means that any interpretations about reporting in this study are incomplete. Other research has also revealed that reporting techniques are not always identified at the outset and are often developed as a project evolves with community input (Henri et al. 2020; Wong et al. 2020). Therefore, means of research reporting could be more effectively documented in a license reporting requirement, rather than in the application stage. In addition to how research reporting is addressed in license applications, the NRI currently has no required standardized format for annual license reporting, thus cannot track project results and deliverables. The NRI requires researchers to submit an annual report as part of the licensing process (NRI 2021), but the format and length of reports is highly variable, as it is up to the researcher to report as they see fit. Furthermore, the NRI lacks the capability to follow up with all researchers who do not complete an annual report. The NRI files reports for their reference and distributes them to all organizations involved in the original license review process; however, the onus is on the researcher to share their reports with community partners and other relevant Nunavut organizations. Having a more streamlined process with standardized application summary and annual/final report requirements could ease the administrative burden for the NRI, as well as ensure that important metrics are recorded and tracked for evaluation over time. A standardized format would also be easier for researchers to complete and would provide more consistent information to license reviewers, community members, and decision-makers to interpret and use (Table 2). Making license application summaries and reports widely available (and with appropriate translations) is an important step in promoting research transparency and knowledge-sharing (Wong et al. 2020; NRI 2021). The need for research to be communicated effectively with community-based audiences has been well documented (Gearheard and Shirley 2007; ITK and NRI 2007; Carter et al. 2019; Wong et al. 2020). Adding reporting technique metrics (e.g., community presentations, social media, policy briefs, web content, etc.) could improve tracking of the variety of ways researchers are trying to reach Nunavummiut as well as diverse public and decision-making audiences (Table 2).

Research practice

Opportunity #4: identify the research focus before and during projects

Inuit organizations continue to express concern about the lack of community input and consultation by researchers in developing and implementing projects (ITK and NRI 2007; ITK 2018; Pedersen et al. 2020). The results of our licensing database analysis can be used by researchers to help identify potentially under- and overstudied communities and (or) research topics before engaging with community leaders about project proposals (Table 2). Shirley (2005) identified the potential negative impacts that can result from high research intensity, highlighting the need to diversify community engagement and focus. If there is local interest, underserved communities could become a focus for enhanced consultation initiatives such as research scoping visits, hosting research priority identification workshops, and facilitating collaborative planning meetings as documented in other areas of research (Gearheard and Shirley 2007; ITK and NRI 2007). By exploring collaborations in underserved areas, researchers could be contributing to increased opportunities for employment, training, local economic stimulation, and educational outreach. These opportunities are also emphasized in separate studies (Shirley 2005; Gearheard and Shirley 2007; Sadowsky et al. 2022). Our analysis can be used to spark researcher and community reflection as to why some communities experience lower research intensity, and the roles researchers (community-based and visiting) can play in changing the geographies of SS research in Nunavut (Table 2).

Opportunity #5: track community engagement and leadership

Our results indicate the range of PI affiliations for each research project (Fig. 5), but the diversity of team members and their roles cannot be adequately captured in our study due both to inconsistencies in how these details are provided in license applications and limitations with the scope of research topics licensed by the NRI (see Introduction; Polidoro 2022). This highlights an important point of reflection for researchers to consider their accountability and transparency in documenting team member roles and involvement in their research projects. We have identified the need for research administration to improve tracking of team member metrics (Table 2); however, researchers must also be prepared to provide the relevant information to contribute to the process. ITK (2018) acknowledges the need to improve the usefulness and impact of research outcomes, a key element that is grounded in community engagement. The research licensing process could be one way to track and assess community engagement by requiring researchers to describe team member roles, affiliations, residency, and how these changed
Throughout the duration of a project (i.e., in annual and final reports). Other researchers claim that community involvement must be considered throughout all phases of the research and not limited to early stages of planning and data collection (Gearheard and Shirley 2007; ITK and NRI 2007; McGrath 2018; Wilson et al. 2020; Wong et al. 2020). Nickels and Knotsch (2011) emphasize the need for Inuit involvement in research ethics evaluation at the community level, which is also something to consider in the development of licensing metrics. Community involvement can also be incorporated in the analysis stages of research, as seen in Ljubicic et al. (2022) who facilitated collaborative analysis workshops in their study to better understand caribou health and habitat. A standardized template for reporting could contribute to more meaningful tracking of community engagement (and in what capacities) in a project. This tracking could also lead to more effective evaluations around knowledge co-production claims (Gearheard and Shirley 2007; ITK and NRI 2007; Carter et al. 2019; Wong et al. 2020).

Opportunity #6: support Nunavut research leadership

The dominance of academic leadership, and lack of representation in Nunavut-led SS projects, is striking in our results (Fig. 7). Researchers are consistently called upon to consider appropriate leadership roles and approaches to partnered research that follow Inuit governance (ITK 2018). The National Inuit Strategy on Research (NISR) emphasizes Inuit rights to self-determination in research (ITK 2018), and so far this is not reflected in SS research trends. This may be due in part to eligibility requirements for academic research funding and institutional structures, which typically limit research leadership to university-affiliated PIs (McGregor et al. 2010; Castleden et al. 2012; Wong et al. 2020). Newer initiatives are paving the way to change these structures, including, for example, new funding policies in the Inuit Qaujjisarnirmut Pilirijuttit, which is the first Inuit-led and directed research program in the world (ArcticNet 2021). The Canada–Inuit Nunangat–United Kingdom Arctic Research Programme calls for proposals in Inuktitut and focused on three Inuit-identified priorities: (i) economics of Arctic change, (ii) resilience and sustainability, and (iii) Inuit community health and wellbeing (Fonds de recherche du Québec 2023). It is also an opportunity for academic researchers to advocate for community leadership to be meaningfully recognized and supported within existing funding structures (Table 2). Co-leadership in research is critical for advancing the quality and diversity of collaborative research in Inuit Nunangat (Gearheard and Shirley 2007; Brunet et al. 2016; ITK 2018; Wilson et al. 2020).

Opportunity #7: identify and promote training needs

As the amount of SS research in Nunavut increases (Fig. 1), the interest in—and reliance on—Inuit research partnerships will continue to rise (Ferrazzi et al. 2018; ITK 2018). Part of reciprocity and capacity-sharing in SS research is providing training opportunities for community-based researchers and reconsidering the role of visiting researchers (Ferrazzi et al. 2018; Carter et al. 2019; Wilson et al. 2020; Ljubicic et al. 2022). Identifying training initiatives undertaken through research projects directly responds to calls for enhanced community participation in research (ITK and NRI 2007) and Inuit self-determination in research (ITK 2018). Tracking such training initiatives undertaken by NRI-licensed researchers would also enable the identification of research leadership in innovative programs that others can learn from (Table 2). This also relates to SS research methods, whereby the dominance of interviews highlights a lack of diversity in Inuit-centred methodologies (e.g., land-based learning, performance, song, and oral histories; Fig. 10). Thus, any training initiatives must respond to community priorities, involve Inuit Elders and knowledge holders, draw on Inuit research methodologies, and relate to the local context, as documented in other studies (Pedersen et al. 2020; Wilson et al. 2020; Ljubicic et al. 2022). Research frameworks grounded in Inuit values are emerging, and increasingly applied to guide Inuit-led and cross-cultural research partnerships, such as the Qaggiq Model (McGrath 2018; Ljubicic et al. 2022), Pilirligatiginniq Model (Healey and Tagak 2014), Aajiiqatiginniq Research Model (Ferrazzi et al. 2018; Aqqiumavvik Society 2020), and the Sikumiit Model (Wilson et al. 2020). There is no one-size-fits-all model or approach to training, just as there is no one approach to developing research relationships. However, developing, and refining training opportunities that enhance existing community strengths, and follow community protocols is a critical consideration for all researchers (Brunet et al. 2016; Ferrazzi et al. 2018).

Opportunity #8: plain language reporting

Canadian academics comprise the majority of SS research leadership in Nunavut (Polidoro et al. 2022) (Fig. 5). The dominance of academics is also reflected in the intensity of academic-based reporting techniques and related increases over time (Figs. 12 and 13). Despite the importance of peer-reviewed outputs with respect to academic rigour, there needs to be an accompanying increased proportion of community-based reporting to address the needs and interests of Inuit. Academic researchers must foster accountability for their research, and part of this can occur through effective communication that contributes to mutual benefit of research outcomes (ITK and NRI 2007; ITK 2018; Wilson et al. 2020; Wong et al. 2020; Ljubicic et al. 2022). Tracking the diversity of research reporting and making these outputs widely available through the Nunavut research licensing database has tremendous potential to improve research communications and knowledge mobilization within and beyond the territory (Table 2).

Research application (decision-making)

Opportunity #9: identify priority issues from community, regional, and territorial perspectives

Our results indicate that certain research topics seem to attract a disproportionate amount of interest from SS re-
searchers in Nunavut (Fig. 8). For example, we see a high intensity of research about Inuit culture and knowledge, and less emphasis placed on topics such as justice/law and language. More precisely and consistently associating research topics with research licenses would enable decision-makers to query the database to identify all relevant research related to a particular topic of interest, and in relation to specific communities and researchers. Such tracking can also be an asset for evaluating the impacts of funding decisions or policy implementation. In addition, our results can aid in targeting priority issues identified by Inuit (Table 2). For example, despite the Truth and Reconciliation Commission (2015) calls to action, and the recognition of reconciliation and decolonization as critical in addressing inequities and exploitation of Inuit in research (ITK 2018; Wilson et al. 2020), SS research in Nunavut has limited focus on reconciliation (Fig. 8). Wong et al. (2020) states that the first step in understanding research impacts is to determine community research interests. Improved tracking of research topics in the licensing database can thus provide a powerful tool for decision-makers to seek relevant evidence needed to support decisions. Trends identified through the licensing analysis can be used by Nunavummiut to advocate for researchers to increase efforts to address Inuit priorities (Gearheard and Shirley 2007; ITK and NRI 2007; Carter et al. 2019; Wong et al. 2020).

Opportunity #10: utilize research expertise

Decision-makers often rely on expert knowledge to inform the development of policy on a variety of topics, including research funding (ITK 2018; Wong et al. 2020), infrastructure (ITK 2018), and community priorities (Ferrazzi et al. 2018; Wilson et al. 2020). Key stakeholders and rightsholders can use the research licensing database to query who is leading research, and in what topic area, to identify relevant expertise to provide key evidence or support for decision-making in the territory. While our results indicate that SS research in Nunavut is predominantly led by Canadian academics (Fig. 5), Nunavut-led research has the potential to inform policy at a number of scales. For example, Table 1 illustrates the variety of research topics being studied by the top Nunavut-based SS license holders such as IQ, education, policy and governance, amongst others. Identification of community and external research expertise can also aid in identifying potential candidates to support research mentorship initiatives in Nunavut, and to work with Nunavut research leaders (Pedersen et al. 2020; Wilson et al. 2020; Sadowsky et al. 2022).

Opportunity #11: target investments in infrastructure, personnel, and maintenance

Inuit are increasingly calling on academic institutions and funding agencies to provide multiyear funding opportunities to better support researchers—especially northern and Inuit researchers—who are working to address community priorities (ITK 2018; Pfiefer 2018). It is an ongoing challenge in Nunavut to allocate research investments and funding to infrastructure and personnel that support community-relevant research (Ferrazzi et al. 2018; ITK 2018; Wong et al. 2020). The federal government and academic institutions have built research infrastructure in northern communities (ITK 2018; Ljubicic et al. in prep), but Inuit continue to struggle to obtain access to these facilities (ITK 2018; NTI 2020). Community organizations have also been successful in funding their own research infrastructure and equipment, but commonly express the challenges of securing accompanying funding for personnel and maintenance costs (e.g., local hiring and infrastructure) (ITK 2018; NTI 2020). If enhanced funding, infrastructure use, and team member metrics are implemented in the NRI licensing database, there is great potential for community, regional, and territorial decision-makers to use this information to advocate for the critical need for specific infrastructure, training, personnel, and operating costs to ensure continuity in community-led research (Table 2).

Conclusions

This study identified SS research trends across Nunavut communities using thematic content analysis of NRI research license application summaries. Findings help to characterize the scope of research topics, leadership, location, research methods, and reporting techniques in Nunavut between 2004 and 2019. From our analysis, we learned that SS research in Nunavut is dominated by annual projects, led by Canadian academics, is mostly concentrated in Iqaluit, and has a predominant focus on topics related to Inuit culture and knowledge. Interviews are the primary method of research, and journal articles are the most common reporting technique.

Cross-checking the database for accuracy and completeness, and discussing the SS licensing trends analysis, served to identify a number of opportunities for improved tracking of research metrics that could enhance research administration, practice, and application. Refining some aspects of the licensing process has great potential to contribute to enhanced data ownership, governance, and accessibility for the NRI staff who administer the licensing process, and for Nunavummiut broadly. Developing a publicly accessible database with interactive functionality can increase research transparency, foster enhanced community engagement and leadership in research, and provide valuable evidence to support decision-making. Enabling Nunavummiut to identify what research is taking place in and around their home communities, and to use this information to address community-specific research priorities, is an important initial step in the process of self-determination in research (ITK 2018).

Based on NRI priorities in making research licensing information more publicly accessible, we are already working on some of the opportunities identified as critical to developing an online, public, and interactive Nunavut Research Portal. Some important next steps towards developing this research portal include:

- Adding searchable features to the database, including discipline, methods, research topic, and PI.
- Creating a mapping interface as part of the current database to show spatial location of research occurring in communities and in remote field sites.
Developing a portal interface that will allow researchers to apply to and report on their research license directly in the system, while reviewers will be able to access and comment on license applications and view reports.

One of the long-term goals of this work is to improve coordination of research licensing amongst all regulatory and permitting agencies in Nunavut (Polidoro et al. 2022). Refining the research licensing process is just one of the many ways to improve how research can contribute to benefiting Nunavummiut. Researchers (visiting and Nunavut-based) have a critical role to play in ensuring they are informed of—and working with community partners to define and address—the diversity of research priorities across Nunavut communities. Funders, Inuit organizations, decision-makers, regulatory boards, and rightsholders also have important roles to play in improving the way research is reviewed, conducted, managed, and shared to enhance Inuit self-determination in research.

We are not the first to highlight limitations of the Nunavut research licensing process. However, we are the first to undertake a systematic review of the NRI licensing database to identify a number of valuable opportunities to improve, and make publicly accessible, research licensing information. Enhanced tracking and access of key research metrics in the licensing process will complement ongoing initiatives to expand the capacity of the NRI, reviewing agencies, and community organizations to better undertake and apply research for the benefit of Nunavummiut.

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Data availability
All relevant data are within the paper, and some additional details are available in Polidoro’s (2022) MA thesis. The NRI now has their research licensing information publicly available in the Isirvik Research Portal (https://isirvik.ca/index.html), so then anyone interested in accessing the original licensing information will be able to do so. If anyone wishes to access license details before then they can consult public NRI licensing compendia (https://www.nri.nu.ca/research-compendiums) or can contact the NRI directly to request licensing database access.

This study received research ethics approval (for secondary use of data) at Carleton University (protocol #111068), secondary research ethics clearance from McMaster University (MREB #5550), and was issued a social sciences research license from the NRI (license # 01 030 19N-M).

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