

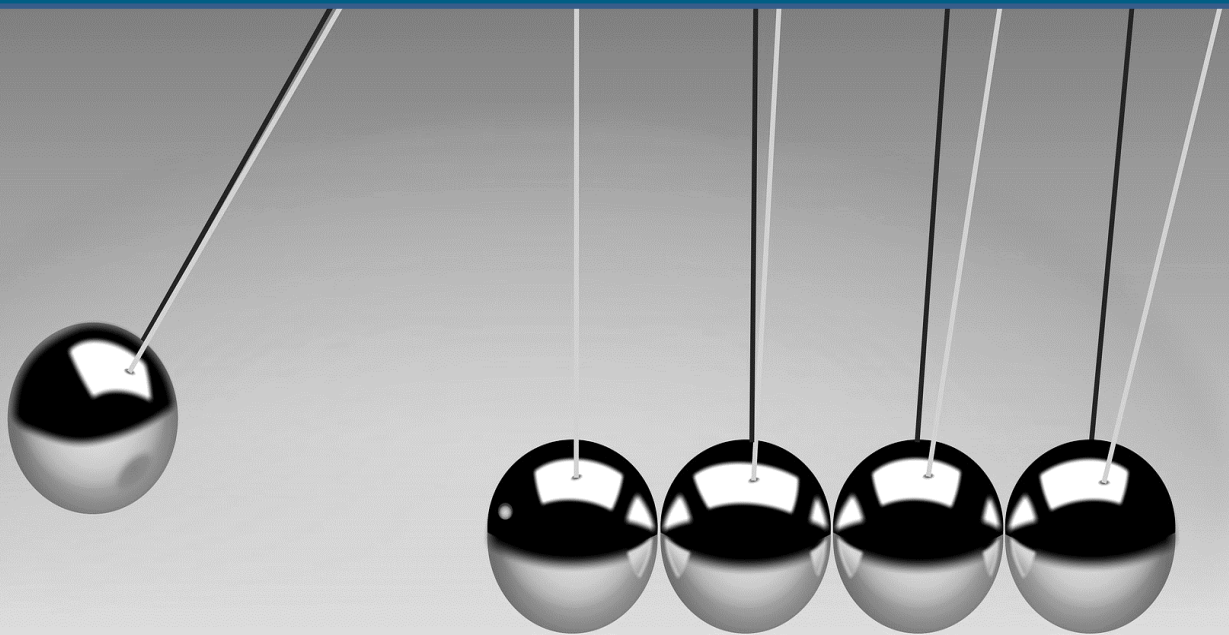
| Strategic Clinical Networks™

Momentum

Transforming evidence and knowledge into action

2019-2020 Impact Report

April 1, 2019 to March 31, 2020



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Primary author and project lead: Allison Strilchuk, SCN Scientific Writer

Contributing authors and reviewers: Assistant Scientific Directors and Scientific Directors for each SCN and the Pan-SCN leadership team.

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Contact

For more information, please contact:

Braden Manns
Associate Chief Medical Officer
Strategic Clinical Networks
Braden.Manns@albertahealthservices.ca

Tracy Wasylak
Chief Program Officer
Strategic Clinical Networks
Tracy.Wasylak@albertahealthservices.ca

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Executive summary

Alberta's Strategic Clinical Networks™ (SCNs™) and their Scientific Offices work closely with patients, researchers, universities, clinicians, operational leaders, communities and other stakeholders to improve health and care, apply new knowledge and get evidence into practice.

Collectively, and individually, their efforts to support health research and innovation provincially continue to have a positive impact on health and health care for the people of Alberta and support a learning, integrated and high-performing health system.

This report highlights outcomes and key areas of impact for the SCNs and their Scientific Offices for the 2019-2020 fiscal year.

Annual Impact Report

at-a-glance

Collaboration
is central
to our
success

3,200
core committee &
working group
members

150+
patient and
family advisors

450+
clinicians, operational
leaders and
community partners

25+
primary care
physicians

1,954
active research
network members

60
university faculty
active in SCN
leadership roles

200+ additional university
researchers, faculty & trainees
currently supporting SCN priority
areas and core committees

50+
active collaborations with
industry partners, local
and national organizations

Together, we advance, generate and share new knowledge

80
successfully
funded grant
applications*

\$70.2M
in grant
funding

195
letters of
support

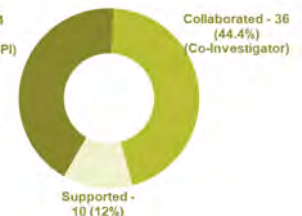
300
Peer-
reviewed
publications*

65% (195) with UC faculty as a co-author
50% (149) with UA faculty as a co-author

Federal -
44.4%
(e.g., CIHR,
Health
Canada)

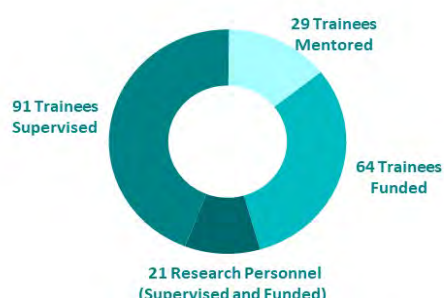


Led - 34
(42%)
PI or Co-PI)

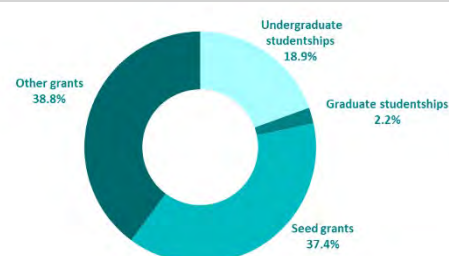


*Grant and publication totals only include work SCNs are leading, collaborating on, or supporting. They do not include project funding or publications for work conducted as part of members' other roles, responsibilities or affiliations.

We create opportunities to build capacity and capability that supports practice change, health research and innovation



\$459,600
funds awarded*



*includes grant funding from AHS/SCN budgets and network partners (CIHR, W21C)

16+ Summer studentships
14+ Seed grants
5+ Other grants /
commissioned
research

59 Scholarly presentations
(local, national and
international)
90 Workshops, research
forums and similar
outreach activities



More than \$100,000 in grant funding from AHS/SCN Scientific Offices awarded to students, researchers and trainees at **each** of Alberta's largest universities in 2019-2020.

Together, we
translate knowledge
into action using
evidence to
inform decisions

18+ care pathways & clinical practice guidelines

Supported development of the
Alberta Pain Strategy and Indigenous Health Strategy

Supported implementation planning for the
Alberta Surgical Initiative, AHS Review & Covid-19 response

Development and rollout of
strategic action plans, quality indicators & measures

Expanded programs focused on
wellness, disease prevention, early screening & diagnosis,
and enhanced care in the community

These efforts, innovations and practice changes are positively impacting health and care

- | | |
|----------------------------|--|
| ✓ Improved health outcomes | ✓ Reduced stress |
| ✓ Reduced wait times | ✓ Improved patient and family experience |
| ✓ Reduced disability | ✓ Reduced complications, emergency visits, and hospital readmissions |
| ✓ Expanded access to care | ✓ Improved patient and population health outcomes |

And creating economic and social benefits for all Albertans – the quadruple aim



Early screening and detection, disease and injury prevention



Length of stay, treatment costs, and wait times for consultation and treatment



Safety, access and patient supports, self-management, patient and provider satisfaction



Cost avoidance and improved value, efficiency and health system sustainability

Leadership message

Tracy Wasylak, Chief Program Officer and
Braden Manns, Associate Chief Medical Officer
Strategic Clinical Networks
Alberta Health Services



Year in Review

Over the past year, our province and our health system have faced considerable clinical and financial pressures. With these challenges, we've seen tremendous resilience and effort to come together, align our efforts and focus on solutions to system-wide pressures. The Strategic Clinical Networks™ (SCNs™) have continued to support Alberta Health Services (AHS) and our partners across the province in advancing knowledge, applying evidence and taking action to address complex health issues.

As an organization, we've taken some bold steps forward in transforming healthcare using digital tools and implementing strategies that support better health and care for the people of Alberta. The *launch of Connect Care (Wave 1)* in 2019 was a major step forward that will strengthen our ability to measure and improve performance while supporting integrated, patient-centred care. We've also seen *rapid uptake and expansion of virtual care*, accelerated in part by the COVID-19 pandemic.

We know that health innovation takes many forms and requires coordination and collaboration to bring evidence into practice on a provincial scale. To this end, the SCNs have *helped gather data, synthesize evidence and combine this with the local knowledge and experience of patients, families, clinicians and community partners*. Together, we've used this information to *develop provincial strategies* to manage pain and support in-home rehabilitation, improve access to surgical care, accelerate cancer diagnosis, and support Albertans experiencing addiction and other mental health needs.

The 2019 AHS Review was a catalyst to identify further opportunities to reexamine current practices and consider new ways to optimize resources while continuing to ensure appropriate, high-value care. To support this work, the SCN Scientific Offices have *provided evidence reviews and recommendations that draw on best practices from around the world*. This information has been shared with clinical operations leaders across AHS to inform implementation plans at a system and site level.

In all of this work, the networks have *engaged patients, families, AHS and community leaders and members of clinical, academic and research communities* to ensure our priorities remain patient-centred and our actions reflect areas of greatest need. Our commitment to building strong connections helps ensure accountability, positive outcomes and strong relationships with all partners.

A year in review would be incomplete without mentioning the profound impact of COVID-19. In early 2020, the SCNs joined others in *quickly pivoting to support AHS operations and frontline providers in responding to this global pandemic*. Our primary focus shifted to support a coordinated, rigorous and rapid response to emerging needs as well as continued capacity to care for people with other medical conditions. The SCNs and their Scientific Offices have been an important resource during this time, *reviewing and synthesizing emerging data and evidence and providing guidance and recommendations* to support clinicians, decision makers and Alberta families.

Outlook for 2020-21

As we look ahead to 2020-2021, we expect to build on the rapid growth of virtual care while continuing to focus on integrated solutions that deliver better care and better value. Given the continued and unprecedented demands of the COVID-19 pandemic, we recognize that we may need to pause some projects and accelerate others as we adapt and reprioritize. However, we know our teams are ready and capable of taking on whatever challenges lie ahead and will rely on strong science and strong partnerships to build momentum for future health system innovation.

Overview

This report summarizes the collective achievements, outcomes and impact Alberta's Strategic Clinical Networks™ (SCNs™) and their Scientific Offices have contributed during the 2019-2020 fiscal year (April 1, 2019 to March 31, 2020). It recognizes important collaborations and the many contributions of patients and families, university partners and Alberta's research community, clinical, operational and community partners, and many others, and it highlights the mutual benefits of these partnerships.

In evaluating impact, the report uses a framework developed by the Canadian Academy of Health Sciences (CAHS) and performance indicators common to all SCNs ([Appendix A](#)). It considers the *collective impact* of this work as well as the accomplishments and areas of focus of each network in *specific areas of health* ([Appendix B](#)).

Changes to this year's report reflect feedback from academic partners and SCN leaders in early 2020. Generally, this year's report takes a broader, more integrated approach. It still reports outcomes by SCN ([Appendix B](#)), but also emphasizes the connections among network stakeholders and the impact of interdisciplinary efforts. Given this, the report extends beyond the SCN Scientific Offices and acknowledges the interdependencies of this work and the value of scientific, evidence-based approaches in supporting a learning health system.

As described in the *2019-2024 SCN Roadmap*, the SCNs are committed to advancing health research and innovation while building and strengthening connections with all partners and stakeholders. This includes improved communication and reporting. We hope this report provides information of value in an accessible format. To share your feedback or suggestions for future impact reports, please contact us at StrategicClinicalNetworks@ahs.ca.

Impact through science

Alberta Health Services (AHS) is a leader in health system integration and supports continuous improvement in health outcomes and health service delivery on a provincial scale. As a learning health system, it recognizes the importance of research and innovation and is working to embed it in all areas of practice. The SCNs are an important part of this work and a resource that is helping propel Alberta's health system forward.

Collectively and individually, the SCNs support health innovation by gathering data, rigorously evaluating outcomes, advancing knowledge, and translating evidence into practice. Each network has a Scientific Office that *leads and supports evidence-based practice change* through rigorous data collection and evaluation. These small but high-performing teams serve as engines of innovation, driving health system improvements forward, supporting provincial coordination and standardization, and moving evidence into practice as rapidly as possible to maximize impact and value for Albertans.

momentum noun [u]

1. the force that keeps an object moving; 2. the quality that keeps an event developing or making progress after it has started.

Cambridge Dictionary
dictionary.cambridge.org

Building momentum for health research and innovation.

For the past eight years, Alberta's SCNs have helped build momentum for health research and innovation on a provincial scale. But we have not done this alone. This momentum, this driving force for progress is *the product of thousands of interactions, a shared commitment, and sustained effort by people across the province coming together to share ideas, solutions, priorities and opportunities* to improve outcomes, care, safety and efficiency.

The networks are a vehicle to enable these synergies. They serve as a bridge between university researchers, patients, and the health system and they create capacity and opportunities to engage, and facilitate those connections and actions. By consciously aligning and integrating the work of university partners, research institutes, and the clinical community, we're able to successfully pilot and test health innovations, gather evidence and then scale, spread and sustain those that deliver the best value and best outcomes. This approach reflects the AHS Innovation Pipeline and is grounded in strong science.

Good data enables good decisions.

The COVID-19 pandemic has illustrated the importance of health research and innovation and the need for agile, evidence-informed decision making. AHS has demonstrated leadership in these areas through its rapid development of online screening tools, provincial testing, rapid evidence reviews, and partnerships to address ventilator and critical equipment shortages. These actions directly impact individuals, care providers, and communities across our province—and all have been grounded in science and our shared vision, mission and values.

Science is a compass that helps decision makers solve problems and find the best path forward. When paired with input from patients, care providers, community leaders, and others with diverse perspectives, knowledge and experience, it creates momentum for positive change. These interactions help us challenge assumptions, discover solutions, seize opportunities and take action to positively impact health and care.

Our shared mission:

***Improving the health of Albertans by
bringing together people, research, and innovation.***

SCN Scientific Offices

The SCN Scientific Offices lead and support research and innovation in areas that align with AHS' mission, vision and values, its *Health and Business Plan* and the *2019-2024 SCN Roadmap*. We work with partners across the province to address complex health issues and achieve clinical excellence.

The Scientific Offices play a key role in rigorously evaluating data and evidence, mobilizing and translating knowledge into practice, and working alongside operational leaders to implement changes in practice that improve health outcomes and health service delivery in areas of high priority. Our work helps:

- **advance knowledge** and generate new evidence about patient and population health, clinical best practice, barriers to care, integrated care models, patient- and family-centred care, process and system improvements, implementation science, quality and safety
- **build capacity and capability** within Alberta to continuously improve health and care and support future health research and innovation
- **inform decisions and policies** that improve health and wellness, support disease and injury prevention, ensure equitable access and safe, appropriate delivery of health services, and contribute to a sustainable, high-performing health system
- **improve health outcomes, experiences and quality of life** for the people of Alberta

- **contribute to positive socio-economic outcomes** for the province, including improved value and efficiency, cost reductions and reinvestment in specific areas of health (e.g., virtual care, enhanced care in the community)

Measurement and reporting

Although there are many approaches for measuring and reporting the impact and benefits of research, the list above is part of an impact framework developed by the Canadian Academy of Health Sciences (CAHS). This framework is widely used by government, funding agencies, and research institutions to assess the impact of health research using a systems approach.

The SCNs and their Scientific Offices have prepared this report using the CAHS framework and data for the 2019-2020 AHS fiscal year (April 1, 2019 to March 31, 2020). Contributions since March 2020 will be captured in next year's report. This is the fourth consecutive year SCNs have compiled an annual Scientific Office report, and we are grateful to the scientific directors and assistant scientific directors for providing detailed information for this report and reviewing it for accuracy.

As mentioned, the report summarizes collective achievements using performance indicators common to all SCNs ([Appendix A](#)). Links are provided for readers interested in additional detail on grants, publications, university faculty involvement, research collaborations and outreach activities. [Appendix B](#) highlights accomplishments and areas of focus in specific areas of health.

Creating the future of health and care together

Strong relationships are central to the success of the networks and it's these partnerships that enable the progress and achievements highlighted in this report. Together, we identify opportunities and synergies and focus on identifying, evaluating and implementing solutions that address urgent needs, complex challenges and patient-identified priorities. It's a structure that encourages teamwork and enables all stakeholders to collectively channel our knowledge and resources to advance practice change and achieve maximum impact.

Health systems are living, breathing ecosystems that must continually adapt and evolve. Our roles intersect in a complex web of interactions, and each of these interactions provides an opportunity to impact patient care and health outcomes.

The SCNs are designed to be disruptive, to shine a light on variation in care and create opportunities to address health needs and inequities. Achieving these objectives requires that diverse stakeholders and voices be engaged and actively participate in designing solutions. We thrive when we're able to work together across geographic, institutional and industry boundaries to enable creative collaboration and innovation.

Engaging patients, families and caregivers with lived experience

SCNs support meaningful patient and family engagement in the research they undertake, fund and support. Over the past year, SCNs have engaged patient and family advisors, Patient and Community Engagement Researchers (PaCERs) and Alberta's Strategy for Patient-Oriented Research Support Units (AbSPORU) to ensure our efforts are focused on patient-identified priorities and improve patient outcomes.

Over the past year, the networks have worked alongside:

150+

patient and family
advisors

Maternal, Newborn, Child and Youth SCN launched a
Patient and Family Advisory Council
in September 2019 to support all network activities

3,200

core committee and
working group
members

In June 2019, the Primary Health Care Integration Network and
Primary Health Care Program created a joint
Virtual Patient Engagement Network
to embed the patient voice in all of its activities.
It currently includes 115+ patient and family advisors and
supported 24 different projects in 2019.

Collaboration with clinician leaders and frontline care providers

SCNs work with operational leaders across all zones as well as physicians, nurses and allied health professionals, provincial programs, primary care providers, clinician specialists and community partners across the province. Together, we align our efforts and support key priorities and operational pressures.

Practicing clinicians and community partners are active members of SCN core committees, working groups and project teams as well as local and site champions for quality improvement and health innovation. Their support and participation extends across all networks and includes representation from urban, rural and remote sites. This input is essential to advance priority initiatives, coordinate efforts and successfully implement practice changes on a provincial scale.

In 2019-2020, the networks core committees included:

450+

clinicians, operational leaders
and community partners

25+

primary care
physicians

Members from:

- all 5 health zones
- AHS and Covenant Health
- Indigenous wellness centres
- all major hospitals & care facilities

Medical Officers of Health, Practice Leads, First Nations' Elders, Provincial Program Directors and others

Partnering with leading researchers, programs and institutions

SCN Scientific Offices play an important role in brokering partnerships and collaborations with other researchers, programs and organizations. These partnerships support collaborative research on a provincial scale and provide an important avenue for SCNs to build, strengthen and broaden local research capacity.

Partnerships with universities, health organizations and research institutes provide reciprocal value through shared access to data, knowledge and evidence, support for grant applications and capacity to mobilize knowledge into action. Likewise, research collaborations with Alberta Innovates, Alberta Health, and Alberta's Strategy for Patient-Oriented Research Support Units (AbSPORU) help to provincial spread and scale, health policy harmonization, and evidence-informed decision making.

Both during and prior to the COVID-19 pandemic, we've also seen many examples of creative collaborations with industry partners. These partnerships create opportunities for problem solving, synergy, technology incubation and acceleration, and strengthening our capabilities within Alberta.

In 2019-2020, the SCNs and Scientific Offices included:

60

faculty from the University of Calgary and University of Alberta active in SCN leadership roles

[See list by University and Faculty](#)

200+

additional university researchers, faculty and trainees involved in health research in SCN priority areas & core committees

Active collaborations with

50+






industry partners, local and national organizations (e.g., Canadian Mental Health Association, CNIB, Diabetes Canada, Arthritis Society, The Lung Association)

Research collaborations with:



Collective achievements, impact and value

The collective achievements and contributions of Alberta's SCNs and their Scientific Offices for the 2019-2020 fiscal year are described using the CAHS impact framework. The impact of this work on health and care in Alberta is discussed in the context of five CAHS domains. Indicators and common definitions used by all networks are listed in [Appendix A](#).

	Advancing Knowledge		Informing Decisions		Economic & Social Benefits
	Building Capacity		Health Impacts		

As this report details, these domains intersect and reflect a system view of health research and innovation. Activities in one domain fuel and impact the next by providing *knowledge resources*, *capacity*, *investment* and *momentum* to advance health system improvements that benefit Albertans, keep pace with emerging evidence and support AHS' 10-year vision.

These domains and the activities associated with them (i.e., systematic inquiry, measurement and evaluation; knowledge generation, management and translation; and implementation and sustainment of practice changes) are reflected in the [AHS Innovation Pipeline](#).

The Innovation Pipeline is driven by priority health system challenges and provides a progressive, integrated and system-level approach to health research and innovation. The model identifies the type of evidence needed to inform value-based decision making. Among these are evidence of improved outcomes, quality, and health equity; health and operational impacts; and economic value. The model illustrates how clinicians and researchers support this process and provide the inputs needed to drive quality improvement, health system innovation and transformation.

At each stage, research and academic partners provide expertise and capacity to support scientific inquiry, knowledge generation, rigorous data collection and analysis. The SCNs provide a bridge to connect researchers with patients and clinical partners and support pragmatic trials within operational settings. Trials are initially piloted on a small scale to test, gather feedback and refine strategies. As work moves along the pipeline, evidence and knowledge is gathered that is directly applicable to Alberta's health system. If evidence supports provincial implementation (i.e., positive health, economic or social impacts), initiatives are prioritized for further action and operationalization. For details on this process, see the [AHS Innovation Pipeline Primer](#).



Advancing knowledge

The SCN Scientific Offices identify knowledge gaps, generate and share new knowledge, and support knowledge generation and translation by other researchers.

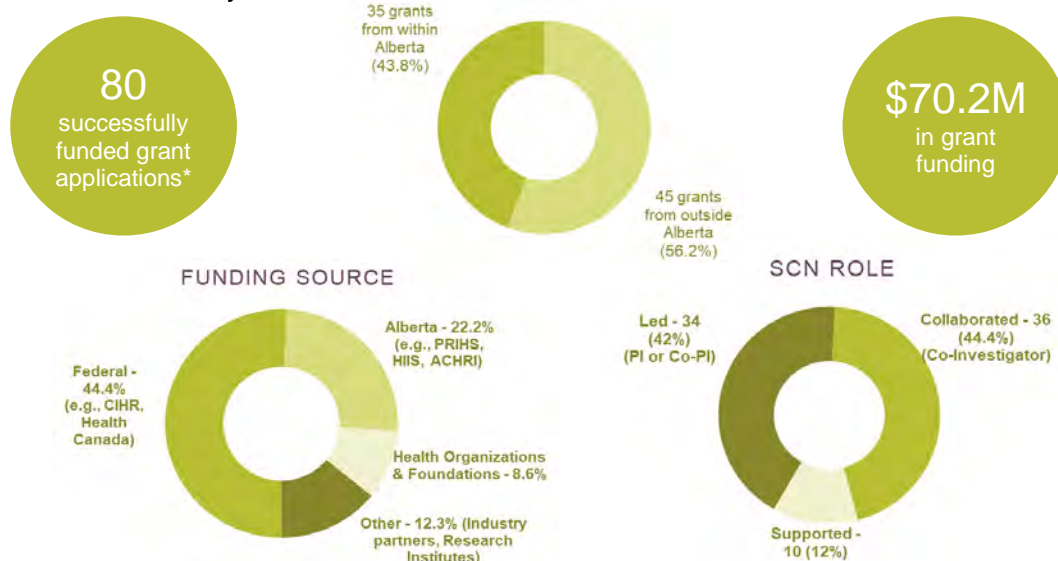
In the face of limited resources (personnel and funding), SCNs establish priorities that address critical knowledge gaps and balance emerging needs, patient, operational and provincial priorities. Their work advances knowledge in specific areas of health, across disciplines and in fields such as health economics, implementation science and health policy.

Partnerships and collaborations with interdisciplinary teams, universities, research institutes and Alberta's research community create synergies and build capacity for health research in Alberta. The networks benefit from the expertise these individuals and organizations provide. In turn, SCN engagement can help clinical and academic researchers access grant funding by enhancing the feasibility and potential impact of projects and enabling pragmatic trials within a provincially integrated health system. As shown below, 46 projects received grant funding in 2019-2020 in which SCNs were named as collaborators or supporters.

Together, these efforts support a culture of research and innovation that enables AHS and others to close the evidence to care gap and more rapidly implement evidence-informed practice changes that improve health and care.

Grant funding for health research in Alberta

For the 2019-2020 fiscal year:



*Total includes work SCNs are leading, collaborating on, or supporting. It does not include funding for work done part of members' other roles, responsibilities or affiliations.

64%

Success rate for grant applications in FY 2019-2020*
67% in 2018-2019 | 51% in 2017-2018

*52 competitions pending at FY End

Further details on grants (including areas of research) are provided in the [2019-2020 Grant Summary](#).

Research endorsement, facilitation and support

In addition to serving as principal investigators and co-investigators, the SCN Scientific Offices support health research and innovation through collaborations, letters of support, data sharing agreements, access to personnel and funding, and by brokering support with operational areas and service units. SCNs and the wider research community benefit from knowledge generated through national research networks and initiatives others are leading, and they provide reciprocal value through leadership, research and funding opportunities for Alberta researchers in health sciences as well as business, operational management, computing and data science, and biomedical engineering.

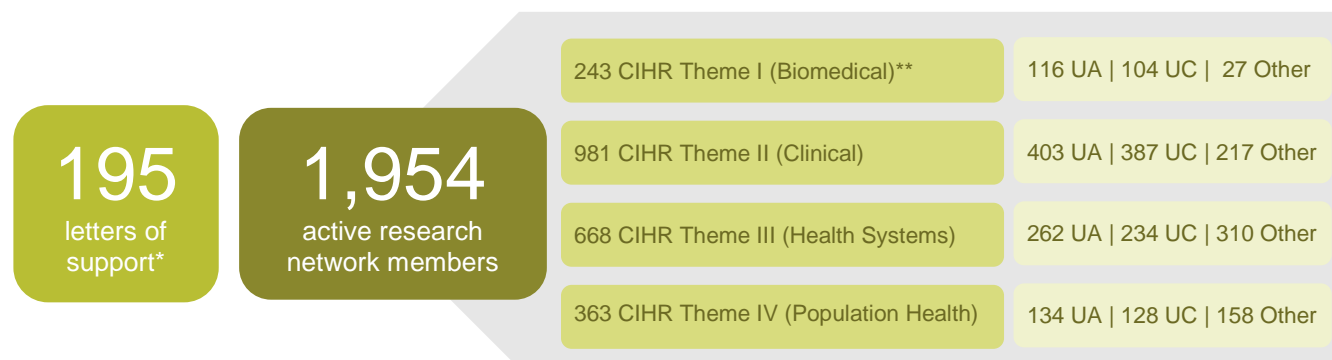
Supporting the work of Alberta's research institutes creates opportunities to align our work and come together to advance knowledge and apply it in a health setting. The type and level of SCN involvement and collaboration varies and ranges from:

- endorsing projects and funding proposals through letters of support (e.g., CIHR, PRIHS)
- providing opportunities for patient and clinician engagement
- providing a conduit to access active clinical environments for pragmatic clinical trials
- collaborating as co-investigators
- facilitating access to health system data, clinical participation and interdisciplinary learning
- providing other funding or in-kind support

Over the past year, SCNs provided 195 letters of support to Alberta researchers and have benefited from the expertise and involvement of nearly 2,000 active research network members. These researchers bring diverse skills and experience, particularly in the areas of clinical and health systems research. The illustration below shows the breadth and depth of this expertise.

The Canadian Institutes of Health Research (CIHR) identify four health research themes that reflect strategic areas of importance. CIHR funds projects that advance knowledge in these areas with the goal of improving health systems and/or health outcomes. Network members contribute expertise that spans all four research themes.

For the 2019-2020 fiscal year:



*for provincial, national and international grant competitions

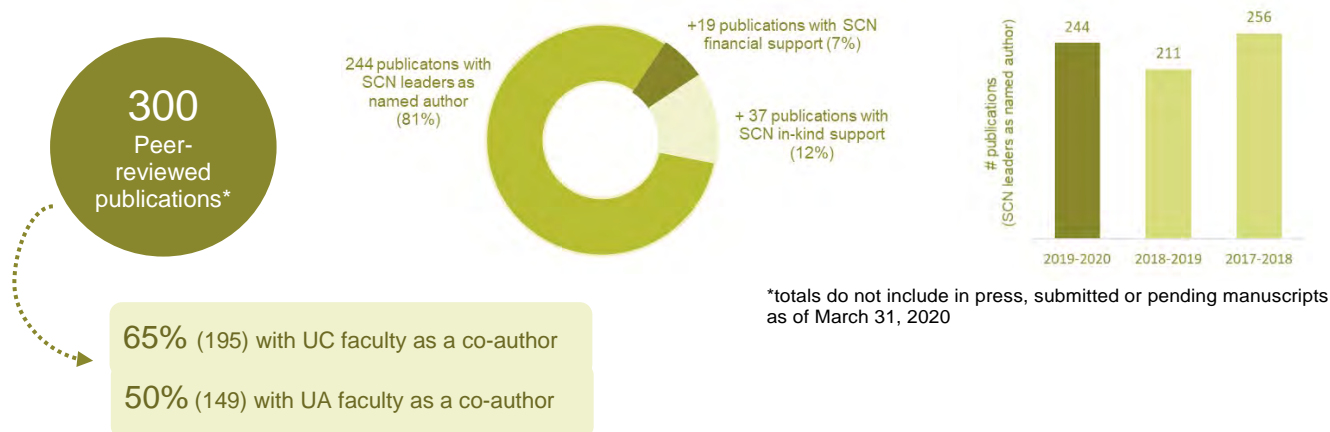
**CIHR themes are self-identified by research network members. Researchers may select >1 theme relevant to their work.

Abbreviations: UA = University of Alberta; UC=University of Calgary

Peer-reviewed publications

SCN Scientific Offices contribute to the shared knowledge base by authoring scholarly articles that share research findings, evidence, and synthesizing knowledge through literature and evidence reviews. More than half of these publications include faculty from the University of Alberta or the University of Calgary as co-authors.

In the 2019-2020 fiscal year, SCNs authored and contributed to:



Additional publications include those generated with (i) financial support from SCNs (e.g. seed grants, commissioned work) or (ii) with significant in-kind contributions from SCN (e.g. data pull, data analysis).

For a full list of publications, see the [2019-2020 SCN Publications Summary](#).



Building capacity

The SCN Scientific Offices provide funding and learning opportunities that build capacity to test, measure and pilot solutions, drive innovation and facilitate current and future health research

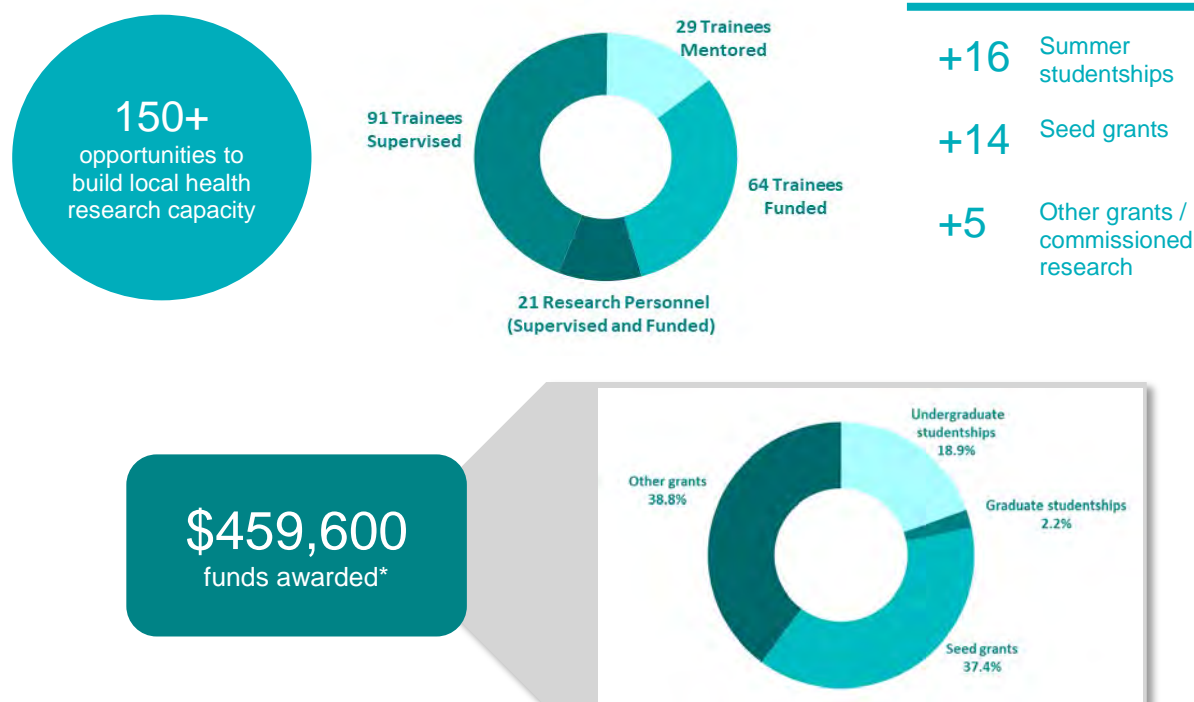
Capacity-building is another area of impact within the CAHS framework, and many SCNs identify research capacity-building as a key priority for their network. Seed grants and funding for summer students, research fellows and clinicians are a strategic investment to increase the number of researchers addressing knowledge gaps relevant to AHS and areas of priority for the people of Alberta. Knowledge and evidence generated through these activities support a high performing health system and are used to inform decision making, improve health outcomes and system performance.

Learning and training opportunities

SCN leaders supervise students as part of formal academic programs and mentor and engage trainees and early-career researchers on a variety of priority projects. They also provide funding through seed grants, studentships as well as opportunities for patient-led research and other research collaborations with academic partners, research institutes, communities and organizations.

Details on student projects and research collaborations for the 2019-2020 fiscal year, including outcomes, are profiled in the [2019-2020 Research Collaborations Summary](#). Other capacity-building activities within specific areas of health are highlighted in [Appendix B](#).

For the 2019-2020 fiscal year:



*includes grant funding from AHS/SCN budgets and network partners (CIHR, W21C)

Grants awarded through the SCN Scientific Offices

Studentships

	N	Funds Awarded
University of Alberta	8	\$61,500
University of Calgary	5	\$30,000
Other	3	\$18,000
TOTAL	16	\$109,500

Seed Grants

	N	Funds Awarded
	8	\$92,000
	6	\$82,000
	—	—
	14	\$172,000

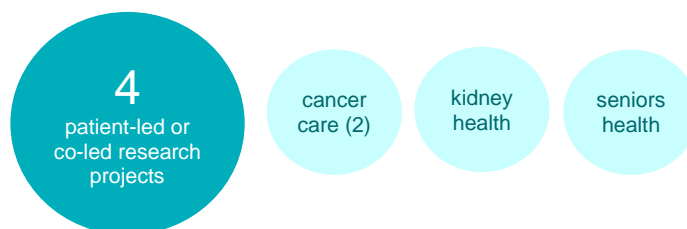
More than \$100,000 in grant funding awarded to students, researchers and trainees at each of Alberta's largest universities to build health research capacity and support health innovation in our province.

Patient-led research

The SCN Scientific Offices actively support patient-led research and partner with Patient and Community Engagement Researchers (PaCERs). These efforts also build capacity and advance knowledge while reflecting patient-defined priorities. All work is done by patients, with patients and for patients. Generally, these projects focus on quality improvements, patient and family experiences and patient-reported outcome measures. The SCNs also partner with Alberta's Strategy for Patient-Oriented Research Support Units (AbSPORU) to fund PaCER training and support these initiatives.

In 2019-2020, the SCNs supported:

For project profiles and outcomes, see the [2019-2020 Patient Research Summary](#).



Workshops and presentations

SCN Scientific Offices engage the research, patient and clinical community through a variety of workshops and outreach activities on a local, provincial and national level. Scientific directors, assistant scientific directors and trainees participate in research and quality improvement forums, conferences and related knowledge-sharing and capacity-building activities. These efforts build awareness, expand participants' capabilities, and create opportunities for further research collaboration and alignment.

In the 2019-2020 fiscal year, SCN leaders contributed to:

For details, see the [2019-2020 SCN Outreach Summary](#).

59 Scholarly presentations (local, national and international)

90 Workshops, research forums and similar outreach activities





Informing decisions

The SCN Scientific Offices convert knowledge and evidence into action to inform health policy and decision making. Together with operational partners and provincial programs, we implement practice changes to improve health outcomes and care on a local and provincial scale.

The SCN Scientific Offices play an important role in mobilizing evidence and integrating it into daily practice. They ensure scientific integrity throughout this process and support a variety of knowledge dissemination and knowledge translation activities. Knowledge translation is a core function of the SCN Scientific Offices and is pivotal in moving research knowledge from “evidence” to “impact” to ultimately realize its benefits in terms of health service delivery, quality of care, and improved outcomes for patient and population health.

Mobilizing knowledge and evidence into practice

The SCNs and their partners achieve these objectives by:

- supporting **clinical pathway and guideline development**
- identifying strategic priorities and **developing action plans** that prioritize stakeholder engagement and communication through reports, research events, workshops and presentations
- **enhancing coordination** across sites and zones (e.g., COVID-19 response)
- helping develop and implement provincial strategies (e.g., Alberta Surgical Initiative) and harmonize health policy (e.g., Alberta Pain Strategy)
- **synthesizing evidence and providing recommendations, input and advice** to inform provincial discussions and clinical, policy and administrative decisions (e.g., the Scientific Advisory Group)
- drawing a line of sight between knowledge generation activities and clinical practice change, advocating and sharing its potential impact and benefits
- working with academic researchers who generate new knowledge to help them **test innovations within the health system** (front-end of the innovation pipeline) and advance them through the pipeline, and then **spread and scale successful innovations** provincially
- leveraging connections with provincial programs, operational partners and other network members and engaging stakeholders to **maximize the impact** and relevance of this work



Because decision-making inputs, roles of various contributors, and the way evidence informs decisions are difficult to measure, impacts in this domain cannot be readily quantified. Although no specific indicators are defined, collectively the SCNs have informed important health policy decisions and provincial initiatives in partnership with Alberta Health, AHS and other stakeholders.

An important example is the SCNs' involvement in helping implement policy recommendations and Calls to Action related to health and healthcare delivery in the Truth and Reconciliation Commission report. This work requires interdisciplinary involvement and integrated approaches, which the SCNs are well positioned to support.

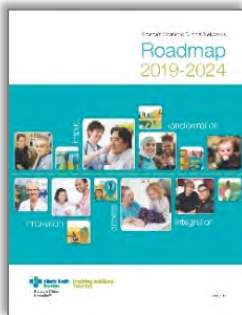
Other recent examples are highlighted below and include development of an Indigenous Health Strategy, provincial Pain Strategy and extensive involvement in the Scientific Advisory Group, a committee that has provided evidence-informed guidance and recommendations to the province's Emergency Coordination Centre during the COVID-19 pandemic.

These examples all have crossover impact in the two remaining CAHS categories ([Health Impacts](#) and [Economic and Social Benefits](#)) as they support improvements in health status, disease prevention and determinants of health, and access and quality of care across the province. Further, these contributions add significant organizational value by enabling and advancing work that might otherwise not progress without additional investment and resources.

Strategic priorities and action plans for health system improvement

The SCNs work is helping fulfill AHS' 10-year vision for healthcare in Alberta. Many of the priority areas are complex and require diverse input and creative, multi-stakeholder collaborations. Clearly identifying strategic priorities supports success, and the SCNs are working with network partners to improve two-way communication with its members to advance shared objectives.

In 2019-2020:



- The SCNs developed its *2019-2024 SCN Roadmap* (June 2019). This action plan identifies seven shared areas of focus that reflect system-wide challenges, priorities and accountabilities.
- These areas of focus align with the Health and Business Plans for Alberta Health Services (2017-2020) and Alberta Health (2019-2023) and will serve as an important tool in moving forward as a learning and high-performing health system

4

SCNs* updated their Transformational Roadmap, which identify key priorities for the next five years

*Cancer, Emergency, Kidney Health, Population and Public Health

+ 5

other SCNs* initiated this process, with updates at various stages of completion

*Bone and Joint Health; Cardiovascular Health and Stroke; Critical Care; Maternal, Newborn, Child and Youth; Neurosciences, Rehabilitation and Vision

Pathway and guideline development that supports integrated, patient-centred care

In 2019-2020, SCNs have contributed to development & implementation of

18+

care pathways and clinical practice guidelines

Together with clinicians, and operational leaders from across the province, SCNs have contributed to the development and implementation of clinical pathways and practice guidelines that support consistent, integrated, team-based care in many areas of health, including:

Provincial colorectal cancer and lymphoma diagnosis pathways

Heart failure and COPD (chronic obstructive pulmonary disease)

Critical care (mechanical ventilation for patients in intensive care)

Chronic conditions

- diabetic eye care (prevention, early detection and treatment)
- digestive health (gastrointestinal primary care pathway)
- acute kidney injury (risk assessment and prevention)
- continuous renal replacement therapy for critically ill patients
- sleep-disordered breathing and standards for sleep testing

Diagnostic procedures and assessment

- appropriate use of blood tests, transfusions and other tests
- testing pulmonary function
- respiratory management, assessment and treatment of COVID-positive patients

Prevention and screening

- preventing tobacco and alcohol misuse
- screening and referrals for patients experiencing financial strain

Pediatrics

- Alberta Family Integrated Care (FICare)
- assessing and treating children and infants with bronchiolitis

Integrated care during transitions

- supporting transitions in care (Home to Hospital to Home [H2H2H])
- elder-friendly care

These pathways and guidelines are making a difference to patients, families, clinicians and care providers. Early evaluations show that pathway and guideline implementation can reduce unwarranted variation, healthcare costs, and hospital readmissions and improve patient outcomes.

For more, see the sections on [Health Impacts](#) and [Economic and Social Benefits](#).

As the SCNs look forward to 2021, work has begun to bundle and integrate clinical pathways to support system-level transformation and priorities, including transitions in care, enhanced care in the community, and improved measurement and analytics.

Wellness, health promotion and prevention

The SCNs continue to support transformational change—including expanding our focus from illness to proactive health strategies that support wellness, self-management, early diagnosis and interventions to *prevent* chronic illness, pain, injury and disease.

In 2019-2020, the SCNs contributed to a number of provincial strategies, tools and efforts that focus on improved health and wellness, including:



- **The Alberta Pain Strategy**, for which the SCNs led extensive engagement with patients and stakeholders.
- Expanding programs that **support bone and joint health, preventative care and self-management strategies** for frail and elderly Albertans and those living with osteoarthritis. Programs and resources such as GLA:D, the BoneFit app and Best Knee Project support physical activity and mobility without surgical intervention.
- Research and programs that support **prevention, early screening and detection of cancer, digestive disease, COPD and chronic kidney disease**
- Health coaching, workshops and supports through the **Virtual Diabetes Prevention Program**
- Efforts to identify and reduce the risk of **malnutrition in seniors**
- Online resources such as the **Healthier Together** website and **Alberta Community Health Dashboard**

Quality indicators and performance measures

All SCNs have been identifying quality indicators to measure impact and track performance in specific areas of health. These metrics align with the networks' strategic plan and support evidence-informed decision making and continuous improvement. They also serve as accountability metrics to ensure that SCNs are accomplishing the objectives outlined in their Transformational Roadmap and held to the same standard of measurement as its projects and other areas of health.



As indicators are identified, networks will begin implementing them on a provincial scale, and where appropriate, enable audit and feedback at a facility or physician level to promote continued quality improvement. The SCNs are also working with AHS analytics and the Connect Care implementation team to optimize data capture and reporting.

Patient and provider safety

AHS works to continuously improve patient and provider safety in all areas of health. The SCN Scientific Offices engage patients and clinical partners, review evidence and implement best practices that reduce variation and ensure safe, appropriate care.



In 2019-2020, these efforts have resulted in:

- Expanded implementation of the National Surgical Quality Improvement Program at surgical sites across Alberta
- “Don’t Misuse My Blood” guidelines to reduce adverse events, avoidable tests and transfusions
- Changes in clinical practice to endoscopic removal of non-malignant colorectal polyps (previously a surgical procedure)
- Optimized use of oxygen therapy (in hospital and during patient transfers) to reduce patient risk
- Strategies to reduce violence toward clinicians, staff and patients in emergency settings

Population and Indigenous health

The Population, Public and Indigenous Health SCN has partnered with other networks and engaged stakeholders, Elders, First Nations, Indigenous people and communities across Alberta to improve Indigenous health and work together toward healing, reconciliation, shared decision-making and health equity for Indigenous populations. These efforts have contributed to:



- Co-development of an **Indigenous Health Strategy** to guide future engagement, decision making and actions to improve Indigenous health
- Launch of the **ECHO+ Program**, an extension of community health services to improve care in Indigenous communities, prevent infectious disease, and improve patient outcomes and experiences
- **Enhanced screening for diabetes, blood pressure, kidney health and modifiable risk factors** for Indigenous and vulnerable populations (e.g., tobacco and alcohol use, malnutrition, obesity, financial strain, homelessness, and limited access to health services), provide active outreach and supports, and enhance cancer and disease prevention.
- Expanded understanding of **barriers** faced by Indigenous populations and **strategies to overcome these** (e.g., Indigenous patient navigators, culturally sensitive emergency care).

These partnerships and efforts are contributing to clinical excellence and quality improvements across the province. The impact of this work extend to all zones, communities and facilities across the province. For details on its impact for patient populations or specific areas of health, see [Appendix B](#).



Health impacts

The work of the SCNs and Scientific Offices is grounded in the Quadruple Aim and a commitment to positively impact health outcomes, patient and provider experiences, value and sustainability. Our work in all domains has potential to impact the health of Albertans, now and in the future.

The SCN mission is to improve the health of Albertans by bringing together people, research and innovation. The networks work collectively to advance improvements that impact complex health needs and conditions as well as in specific areas of health. Unfortunately, the CAHS framework does not define health impact measures that are common across all areas of health. Many are network or project-dependent and may include short- or long-term impacts on individuals or patient populations, wellness, disease and injury prevention and patient experience.

For example, indicators may include changes in:

- **health status** (e.g., mortality, morbidity, mobility, disability, pain, recovery rate, advanced illness, disease or injury incidence or progression)
- **modifiable risk factors** (e.g., obesity, exercise, alcohol or tobacco use)
- **other measureable outcomes** (e.g., reduced complications, emergency visits, hospital readmissions)
- **patient-reported outcome measures** (e.g., stress, patient confidence or satisfaction)



In randomized controlled trials, these type of outcomes measures can be rigorously evaluated. However, it becomes more difficult to attribute impact and causation in dynamic clinical settings. The work of the SCNs and their Scientific Offices span many areas of health and their impact extends to individual outcomes as well as population and public health.

The examples below highlight a few of the impact measures and outcomes evaluated for specific initiatives. For additional information related to specific areas of health, see [Appendix B](#).

Impact of clinical pathways, guidelines and programs on health outcomes



Alberta FICare

- ✓ **Reduced psychosocial distress** for parents [Read full publication](#)
- ✓ Improved family experience and improved confidence in the care of their infant
- ✓ **Reduced infant length of stay** in hospital (by 2.55 days) **with no increase in emergency visits or readmissions**
- ✓ Preliminary analyses suggest that positive early relationships may translate into improved infant development after hospital discharge



Provincial Colorectal Cancer & Lymphoma Diagnosis Pathways

- ✓ Reduced stress and anxiety for patients and families
- ✓ Improved patient and provider experience
- ✓ **Reduced in-hospital diagnosis (associated with higher mortality)**
- ✓ **Reduced wait times for diagnosis**
- ✓ Improved biopsy reporting and access to patient supports



Heart Failure Care Path

- ✓ **Improved health outcomes**
- ✓ **Reduced readmissions** within 7 days of discharge and 30 days overall



National Surgical Quality Improvement Program (NSQIP)

- ✓ NSQIP data supports decision making and quality improvement at a site level. Quality and safety teams collect and use clinical data (e.g., pre-existing risk factors, complications and post-operative outcomes) to identify opportunities for improvement. Surgical teams and medical, nursing, and administrative partners design improvement plans that lead to better outcomes for patients, reduce surgical complications, and improve the quality and safety of care.
- ✓ **Reduction in adverse events** since NSQIP implementation:
 - Hundreds of surgical site infections & urinary tract infections prevented.
 - Reduced number of blood transfusions & readmissions and hospital length of stay.



Provincial ICU Delirium Initiative

- ✓ Over the past year, this work has moved toward sustainability. The Critical Care SCN has continued to support provincial adoption/operationalization of clinical best practices for delirium screening, early mobilization, improved pain management and sedation for critically ill patients across Alberta.
- ✓ Improved standards have helped care providers identify ICU delirium and provide ICU care that prevents or reduces delirium. Results show a **10% decrease in the number of days ICU patients experience delirium** since guidelines were introduced.
- ✓ Improved quality and consistency of ICU delirium care, improved outcomes and patient experience. Reducing ICU delirium helps **improve recovery & reduces risk of long-term impacts on patients' function & quality of life**.
- ✓ This work has also contributed to reduced length-of-stay in ICU and hospital. To date, it is estimated to have resulted in 1,306 hospital bed days avoided (\$5.2M gross savings).

Other actions and quality improvements leading to positive health impacts



Stroke Care Alberta

- ✓ Rapid clinical evaluation and treatment and integrated care ensures all patients – including those in rural areas - have access to comprehensive stroke care and rehabilitation services
- ✓ **Door-to-needle times reduced by almost 50%** (from 70 minutes to 39 minutes). Wait times also reduced for inpatient stroke rehabilitation. Faster response reduces mortality risk and disability following a stroke.
- ✓ **Reduced disability; 28% fewer patients requiring long-term care**
- ✓ **Increased number of patients achieving 'very good' to 'excellent' outcomes 90 days post-discharge.**



Improved Endoscopy Procedures

- ✓ Endoscopy is an important procedure for diagnosing and treating digestive diseases and gastrointestinal cancers. A partnership between the Digestive Health SCN and Alberta Colorectal Cancer Screening Program focused on targeted areas of improvement using the Canada-Global Rating Scale (C-GRS) to evaluate and improve endoscopy screenings and standardize care.
- ✓ 44 out of 50 sites in Alberta have completed the C-GRS screening. One site (the Forzani & MacPhail Colon Cancer Screening Centre in Calgary) performs more than 17,000 endoscopies each year and has made improvements in 114/116 areas.
- ✓ **Improved quality of endoscopy screenings and patient experience.**



Care for Treatment-Resistant Depression

- ✓ **Expanded access to repetitive transcranial magnetic stimulation (rTMS)** at five clinics in Alberta
- ✓ rTMS has been shown to **reduce depression and improve functioning** in individuals who have not responded to pharmacological treatments



Enhanced Support for Patients with Opioid Use Disorder

- ✓ The Emergency SCN has led the evaluation of a quality improvement project that engages clinicians to identify opioid use disorder among patients, initiate evidence-based treatment and provide rapid referrals to community mental health and addiction services.
- ✓ Currently, **all emergency care sites across Alberta are participating** in the opioid program.
- ✓ From May 2018-Mar 2020, buprenorphine/naloxone was prescribed during 1,644 visits and 57% of discharged patients continued to fill opioid agonist treatment prescriptions 6 months later, showing **continuity in treatment.**



Provincial Breast Health Initiative

- ✓ The Cancer SCN worked with stakeholders across the province to streamline processes patient referrals, imaging, reporting and communication between care providers to provide more integrated care from diagnosis to surgical treatment. The effort focused on improving patient experience and was informed by patient stories and recommendations.
- ✓ **Reduced wait times by 60% (19 days to 6 days)** from suspicious imagine to surgical consult.
- ✓ **Increased the number of mastectomies performed as day surgeries from 5% (2014/15) to 46% (2018/19) with no increase in complications.**
- ✓ Supported sustained practice changes



Economic and social benefits

The SCNs and their Scientific Offices work with stakeholders across the province to advance health system improvements that improve health and care while ensuring value, efficiency, fiscal stewardship and accountability.

Health care spending and sustainability are considerations for all health systems, and quality improvements typically lead to better care, improved clinical utilization, better access and value. Business cases and rigorous evaluation, including return on investment (ROI), are part of all AHS projects, and the SCNs strive to monitor cumulative costs and savings resulting from practice changes as well as their impact on health system resources, health service utilization, patients and families.

In September 2019, the SCNs released [An interim analysis of SCN return on investment, impact and value \(2012-2019\)](#) which evaluated cost impacts in terms of:

- **direct health system savings** ('dark green dollars') - e.g., cost avoidance, disinvestment or discontinuation of ineffective health services and technologies
- **savings resulting from enhanced health service utilization** - e.g., reduced length of stay (LOS), hospital readmissions, cases prevented
- **project costs** – e.g., implementation, training and SCN costs

The analysis was based on 15 projects (FY 2012/13 to 2018/19), which contributed an **estimated total gross savings of \$178.74M**. These reflect **\$16.41M in direct cost savings** for AHS as well as cost avoidance through improvements in health service utilization (e.g., reduced LOS and readmissions). Total cumulative costs of the SCNs, including these projects, over this period were estimated at \$116.26M, for a **net savings of \$62.47M**.

Although other (non-monetary) benefits were excluded from this analysis, economic and social benefits extend beyond ROI and include long-term impacts on health system capacity, deferred capital investment, community and social supports, health equity and access, as well as broad impacts related to patient and provider experience, continuity of care and quality of life.

As with health impacts, it can be difficult to quantify and definitively attribute economic and social benefits. The examples below include a variety of impact measures and outcomes. The list also includes projects the SCNs and Scientific Offices have led as well as provincial initiatives they have supported. For additional information, see [Appendix B](#) or contact the SCN.

Economic and social benefits of clinical pathways, guidelines and programs



Alberta FiCare

- ✓ Reduced infant LOS in hospital (by 2.55 days) with no increase in emergency visits or readmissions. [Read full publication](#)
- ✓ This translates to **an annual cost avoidance of \$17 million** in Alberta* (*based on 2018 AHS LOS data and 2018 CIHI per diem costs).
- ✓ In the short term, reduced hospital LOS may result in a **reduction in over-capacity bed days**
- ✓ Over the longer term, shorter NICU LOS may **reduce the need for capital expenditures for additional NICU beds** to align with population growth.



Patient-Centred Hemodialysis Pathway

- ✓ Co-designed with patients, clinicians and operations managers
- ✓ Reduced number of hemodialysis sessions based on individual patient needs
- ✓ Personalized care model could result in a **30% decrease in treatment costs for patients in their first year of hemodialysis**



Alberta Surgical Initiative

- ✓ Plan aims to improve access to surgical care across the province and reduce wait times to within clinically recommended guidelines
- ✓ Data from the Fraser Institute suggests the economic cost of waiting for surgery is approximately \$2000 per patient per year in lost time and productivity. Plans to implement a central access and triage system for all surgical consultation in Alberta by 2023 could produce significant savings (**up to \$500 million per year**) for the Alberta economy.
- ✓ Better utilization of specialist time (by ensuring that only patients who are suitable for surgery receive a specialist consultation) is expected to reduce wait times and increase efficiency, resulting in tangible improvements in health service utilization, and will produce both cost avoidance and direct savings to the system of up to **\$57 million**.



National Surgical Quality Improvement Program

- ✓ Since 2015, NSQIP implementation in Alberta has resulted in an estimated **16,426 hospital bed days avoided**. This corresponds to a cumulative gross savings of almost **\$20 million**.
- ✓ Nearly **40,000 patients** have benefited from fewer infections following surgery and earlier discharge from hospital.

Improved access, value, clinical utilization and efficiency

SCNs have also actively contributed to access and clinical service utilization improvements. These efforts include extensive collaboration with primary care, patient and family advisors, clinical specialists, operational leaders and community partners and an expanded focus on community-based care, virtual care and enhanced supports for rehabilitation services and Indigenous communities.



AHS Review / Clinical Utilization Planning

- ✓ SCN leaders contributed to a detailed evidence review and series of site reports that synthesized evidence, identified leading practices and highlighted opportunities to improve clinical service utilization and quality of care at Alberta's 14 largest acute care facilities.
- ✓ By validating and sharing evidence-based practices with AHS operational leaders, SCNs helped operations identify and prioritize opportunities to achieve quality improvement and efficiency objectives. Together, this work informed the AHS review implementation plan, which outlines actions expected to yield **up to \$600M in annual savings**.
- ✓ The work SCNs supported focused on (1) Reducing avoidable admissions at acute care sites, (2) Reducing acute care length of stay (LOS), (3) Reducing the actual LOS (ALOS): expected LOS (ELOS) ratio for mental health patients; (4) Reducing alternate level of care (ALC) rates at acute care sites, and (5) Improving the ambulatory care operating model with a focus on clinical efficiency.

Over the past 12 months, stakeholders have worked to develop actions and strategies to:

- expand access and service offerings to patients using virtual models of care and evaluate these approaches for specific patient needs and populations
- enable care at home or in the community
- understand and reduce barriers to care and ensure equitable access to health services

Examples include:



Virtual care

- ✓ Virtual visits and/or group sessions for Albertans living with diabetes and other chronic conditions, as well as those requiring rehabilitation services, specialized vision care, nutritional support and mental health services
- ✓ Evaluating and expanding **virtual hospital** services (where appropriate), including remote monitoring to decentralize care
- ✓ Support for all Albertans by contributing to development of a provincial **Virtual Health Strategy** and evaluations of virtual health models piloted before and during COVID-19
- ✓ Expanded access to specialist care through primary care pathway and specialist advice lines (ConnectMD, Specialist Link)



Enhanced supports for:

Indigenous people and communities

- ✓ Partnerships with First Nation communities to provide nutritional interventions, enhanced screening and prevention for communicable and chronic diseases, and improve population health and emergency care for Indigenous people

Albertans in need of an organ transplant

- ✓ Expanded supports and information to reduce barriers for living kidney donors (goal is to increase living donor rates by 30%)

These efforts are expected to



wait times for
consultation
and treatment



patient and
population
health
outcomes



patient
and provider
satisfaction



improve value and
health system
sustainability

Conclusions

This report provides a high-level summary of the contributions SCNs, their Scientific Offices, research networks, and patient, clinical, operational and university partners have made over the past year and the impact of this work. It also demonstrates the benefits and reciprocal value these partnerships provide.

Together, we are making a difference. Data from the past year highlights many ways our work creates value for Albertans and contributes to a strong, sustainable, learning health system. Despite the complex challenges our system and our province have faced in recent years—and especially in 2020—the breadth, quality and impact of this work is something we are very proud to be a part of.

Research and innovation are essential to a learning health system, but they must be grounded in strong science and supported by people with diverse skills, experiences and perspectives. Patients, clinicians,

operational leaders, researchers and university partners are vital to successfully advance work along the Innovation Pipeline. The SCNs provide a mechanism to support this work by connecting and engaging stakeholders and facilitating integrated approaches. As a conduit to a provincial health system, the networks support rapid evaluation and uptake of new evidence. Together, our efforts enable continuous improvement in priority areas and create capacity to look beyond current operational pressures, inform decisions and advance strategic priorities, practice changes and health innovation on a provincial scale.

Our plan for the coming year is simple: Continue to work together, apply what we've learned and do more of the same to maximize our collective impact, improve health and support clinical excellence in every part of the province.

Links and Resources

Companion documents for the 2019-2020 SCN Impact Report are embedded as linked files in this report. These documents include additional detail for the 2019-2020 fiscal year.

- [SCN Leaders and Key Contacts](#)
- [Faculty involvement by institution](#)
- [SCN Publications](#)
- [SCN Grants](#)
- [SCN Honours and awards](#)
- [SCN Outreach activities \(workshops, presentations\)](#)
- [Trainees, students and research collaborations](#)
- [Patient research](#)
- [AHS Innovation Pipeline](#)

Get involved

Help us keep the momentum going and make a difference in the health of Albertans.

Alberta's SCNs and Scientific Offices invite ongoing collaboration, input and participation from individuals who are passionate about improving health and care. Visit our web site to learn more about opportunities to get involved, or contact us at StrategicClinicalNetworks@ahs.ca.

Appendices

- [Appendix A – Methods and metrics](#)
- [Appendix B – 2019-2020 Highlights by SCN / Area of Health](#)

Appendix A Methods and metrics

Measuring our performance

The SCN Scientific Offices use a research performance measurement framework to assess the impact of their work. There are many approaches for measuring research outcomes, their benefits and direct and indirect impact. We acknowledge there is no universal approach to understanding research achievement and all methods have strengths and limitations.

The SCNs have chosen to use a framework that builds on the Canadian Academy of Health Sciences (CAHS) impact framework. The CAHS framework is well-established and widely used by government, policymakers, funding agencies, academic and research institutions across Canada. It uses a 'systems approach' to assess how research activities inform decision making, advance in understanding, and contribute to changes in health, economic and social prosperity. The CAHS framework considers health research impacts in five categories: 1) advancing knowledge, 2) capacity-building, 3) informing decision-making, 4) health impacts, and 5) broad socio-economic impacts.

This report summarizes the SCNs' contributions in each of these domains. Where possible, common indicators are used to ensure consistent measurement across SCNs and time. Health impacts are characterized for the appropriate population and scale (e.g., local/provincial) and vary depending on the nature of the project and population focus. Impacts on health policy, and broad economic and social benefits can be challenging to quantify and attribute specific contributions. This report highlights collective achievements and describes the broad impact of this work.

Reporting period

Data in this report is for the 2019-2020 AHS fiscal year (April 1, 2019 to March 31, 2020).

Data sources

Information provided in this report was compiled by the SCN Assistant Scientific Directors, with support from other SCN leaders, staff and the pan-SCN team. All submissions were peer reviewed for completeness and accuracy prior to publication.

Data used to characterize health and social/economic impacts was obtained from Alberta Health Services administrative databases, provincial costing information, project reports and published studies from Alberta.

Performance indicators

Tables identifying performance indicators the SCN Scientific Offices use to report on impact in each CAHS domain are linked below. These indicators include quantitative and qualitative measures that reflect the broad health context SCNs operate within and their contributions on a local and provincial scale.



Advancing Knowledge



Informing Decisions



Economic & Social Benefits



Building Capacity



Health Impacts



Advancing knowledge

Indicator	Definition
Grants ^{1,2,3}	# of grant proposals led, collaborated or supported by the SCN and submitted to a single competition, and value (CAN\$) of grants awarded
Letters of support ^{3,4}	# of letters of support provided by SCN Leaders
Research network membership ⁵	# of researchers who self-identify as members of the SCN research community
CIHR themes representation ⁶	# of researchers across the CIHR themes (Biomedical, Clinical, Health Services, and Public, Population, and Community Health Research)
Peer-reviewed publications ^{3,7}	# of peer-reviewed publications aligned with SCN subject matter, projects and/or priorities

Notes: These indicators include measures of research activity, quality and scholarly output.

1. Includes any grant proposals supported by the SCN and submitted to a single competition. Funding calls that have a letter of interest (LOI) stage and full application stage are only counted once. If an LOI comes with funding, this is considered a separate grant (i.e., LOI is rated as unsuccessful, pending or successful AND full application is rated as unsuccessful, pending or successful).
2. Includes a final count for any grants (successful, unsuccessful, and pending) as well as sub-counts for those in which a) the SD/ASD/Leadership have been named role on the grant application, and b) any grants for which the SD/ASD/Leadership is not a named team member but has provided support (funds or in-kind support such as data liberation, content expertise, methods support). Letters of Support (LOS) are not included as in-kind support. "Led" refers to grants in which SCN leaders are the primary investigator (PI) or Co-PI, and "Collaborated" refers to grants in which SCN leaders are named as a co-investigator (Co-I). In the case of multi-SCN collaborations, shared grants are listed under each SCN but only counted once in Grant indicators.
3. SCN Leadership includes the Scientific Director and Assistant Scientific Director as well as Senior Medical Director, Senior Program Director, Executive Director and Manager.
4. Includes letters of support written by any member of the SCN Leadership team. Letters of support are mutually exclusive from in-kind support in Grant Application Indicators (i.e., the count is not included as in-kind support in Grant indicators).
5. SCN research network members can include researchers on working groups, SCN projects, or part of the core committee; co-investigators of external competitions; and those who self-identify as members of the SCN research community. Knowledge users on research grants are not included as the focus is on researchers and not the broader network community. Unless researchers request to be removed from the database, they continue to be counted as members of the SCN research network even if the grant, project or working group is over.
6. CIHR research themes are self-identified by the researcher. Researchers are free to select as many themes as they feel are applicable to their work. If researchers do not self-identify themes, the ASD will assign. Note: the number of reported pillars will be higher than the number of research members because researchers can select more than one theme. Total counts for each pillar are included as well as sub-counts based on the researcher's primary affiliation.
7. Publication status (published, in-press/accepted, and submitted) is assigned based on status at the end of the fiscal year. Counts includes totals as well as sub-counts of publications a) with the SD, ASD, or Leadership on the author line, b) those generated with financial support from SCN (e.g. seed grants, commissioned work, workshops), and c) with significant in-kind contributions from SCN (e.g. data pull, data analysis).



Building capacity

Indicator	Definition
Trainees – supervised ^{1,2}	# of trainees supervised by SCN Leader(s) and related to an SCN priority project. Supervision refers to trainees that are supervised as part of a formal academic program
Trainee – mentored ^{1,2}	# of trainees mentored by the SD, ASD or Leadership related to an SCN priority project. Mentoring refers to trainees that are <u>not supervised</u> as part of a formal academic program
Trainees – funded ^{1,2}	# of trainees funded by the SCN but <u>not supervised</u> by SCN Leadership (e.g., SCN Studentship Competitions, SD Budget, PRIHS, other SCN-related funding mechanisms) and related to an SCN priority project
Research personnel – supervised and funded	# of research personnel funded by the SCN, by grant dollars or other SCN funding mechanisms <u>and</u> supervised by the SD, ASD or SCN Leadership
Additional funding	
<ul style="list-style-type: none"> Summer studentships³ 	# summer studentships awarded (not launched) and total dollar amount in this fiscal year. Matching funds listed in brackets.
<ul style="list-style-type: none"> Seed grants³ 	# of seed grants awarded (not launched) and total dollar amount in this fiscal year
<ul style="list-style-type: none"> Other grants³ 	# of other grants (such as commissioned research) awarded (not launched) and total dollar amount in this fiscal year
<p>Notes:</p> <ol style="list-style-type: none"> 1. SCN Leadership includes SD and ASD as well as Senior Medical Director, Senior Program Director, Executive Director and Manager. 2. Includes total count as well as a sub-count for trainees at each level: a) Undergraduate – Summer Student Project Only, b) Undergraduate, c) Master's, d) PhD, e) Resident Research Project, f) Post-Doctoral (PhD) Fellowship, g) Post-Doctoral (MD) Fellowship, and h) Clinicians. 3. Includes total count as well as a sub-count (# and dollars) by university affiliation to which funds were awarded (University of Alberta, University of Calgary, and Other). 	



Informing decisions

Indicator ¹	Definition
Health policy contributions	List of significant contributions to health policy harmonization, practice standardization, access and quality improvement, with release and/or implementation on a provincial scale.
Provincial initiatives	Includes SCN-led activities, collaboration with other health, community and industry partners, and support for other organizations on work that supports clinical operations, pathway development, administration, and decision making on a provincial scale. The work involves mobilizing research evidence and translating knowledge into action to improve quality of care (clinical effectiveness, safety, acceptability, access, appropriateness, efficiency), equity, health outcomes, and patient/provider experiences.

Note:

1. No specific indicators defined but significant contributions are highlighted over past fiscal year. The report considers how SCN contributions are helping advance care (prevention, diagnosis, treatment), facilitate knowledge transfer and evidence-informed change, and inform health policy, operational and administrative decisions on a provincial scale.

Work relates to all areas of health-related decision making (e.g., health care, public health, prevention, health-related education/training, etc.). Because decision making inputs, roles of various contributors, and the way research informs decisions are difficult to measure, impacts are described qualitatively. The report highlights major milestones and collective achievements over the past fiscal year.



Health impacts

Indicator ¹	Definition
Health outcome measures	Include impacts on patient and population health, wellness, disease and injury prevention, patient experience. These may include short-term or long-term impacts on individuals or patient populations.

Note:

1. No specific indicators defined as outcome measures are network or project-dependent. Indicators may include changes in health status (mortality, morbidity, mobility, disability, well-being) and other outcomes (e.g., reduced complications, emergency department visits or hospital readmissions). They may include quantitative or qualitative measures, patient and population-level impacts, patient-reported experiences or outcome measures. Impact is considered for specific patient populations and on a local, community and provincial scale.



Economic and social benefits

Indicator ¹	Definition
Economic and social benefits	Includes impacts on health system capacity, value and sustainability. Measures include return on investment, cost savings, cost avoidance, improvements in health system utilization, access and patient, provider and community supports.

Note:

1. No specific indicators defined but significant contributions are highlighted over past fiscal year. Benefits can be broad and are considered on a patient-, system and provincial level (e.g., LOS, wait times, care in the community, health equity). The report considers monetary and non-monetary benefits.

Appendix B

2019-2020 Highlights by SCN / Area of Health

- [Addiction and Mental Health](#)
- [Bone and Joint Health](#)
- [Cancer](#)
- [Cardiovascular Health and Stroke](#)
- [Critical Care](#)
- [Diabetes, Obesity and Nutrition](#)
- [Digestive Health](#)
- [Emergency](#)
- [Kidney Health](#)
- [Maternal, Newborn, Child and Youth](#)
- [Neurosciences, Rehabilitation and Vision](#)
- [Population, Public and Indigenous Health](#)
- [Primary Health Care Integration Network](#)
- [Respiratory Health](#)
- [Seniors Health](#)
- [Surgery](#)

Note: Summary indicators at the end of each profile link to further detail specific to the SCN.

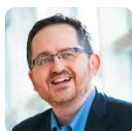
ADDICTION AND MENTAL HEALTH



Senior Provincial Director
Dr. Allison Bichel [PhD, MPH,
MBA, BScN]



Senior Medical Director
Dr. Nicholas Mitchell [MD, MSc,
University of Alberta]



Scientific Director
Dr. Frank MacMaster [PhD,
University of Calgary]



Assistant Scientific Director
Dr. Katherine (Kay) Rittenbach
[PhD, University of Alberta,
University of Calgary]



Executive Director
Marni Bercov [MA, BSW]



SCN Manager
Dr. Victoria Suen [BA, PhD,
University of Alberta]

Note: The AMH SCN is in transition as part of an amalgamation with the Provincial Addiction and Mental Health team, effective fall 2020.

Major initiatives and achievements, 2019-2020



PILOTING A VIRTUAL OVERDOSE RESPONSE SERVICE TO CARE FOR VULNERABLE ALBERTANS

The Virtual Overdose Response (VOR) project provides a telephone-based overdose response service that aims to reduce barriers associated with accessing medical services. The service is staffed by people with lived experience and focuses on vulnerable substance users. Barriers associated with stigma and access to services in rural or disadvantaged communities are particularly difficult for physical services to overcome. Telephone-based services can increase access and reduce the number of overdose-related deaths. By increasing the ability to dispatch emergency medical services to overdose events occurring in isolation, the VOR project aims to reduce the prevalence of opioid-related deaths in Alberta.

The initial phase of the project began in spring 2020. Phase 1 investigates potential barriers and facilitators in using this service and how the service is used (i.e., time, length and outcome of calls). The service will be refined based on early learnings and expanded to a larger, anonymous group. This work is an example of an innovative and patient-centered care that improves access by enabling care in the community.

EXPANDING ACCESS TO rTMS TREATMENT FOR PEOPLE WITH TREATMENT-RESISTANT DEPRESSION

The AMH SCN continues to support implementation and expansion of Repetitive Transcranial Magnetic Stimulation (rTMS) as an option for treatment-resistant depression. rTMS is a non-invasive procedure that stimulates areas of the brain associated with depression and has been shown to reduce depression and improve functioning in individuals who have not responded to pharmacological treatments.

Through the combined effort of the SCN, the TMS working group and operational stakeholders, 128 new patients and 16 maintenance patients received rTMS treatment in Alberta in 2019. rTMS is now offered at five clinics throughout the province on an outpatient basis. This is a significant increase over the previous availability of this effective treatment.

BUILDING CAPACITY FOR ADDICTION AND MENTAL HEALTH RESEARCH

2019 saw the launch of the Addiction and Mental Health Research Hub, which brings together researchers, clinical staff, community organizations, government ministries, patient advocates and other stakeholders. The hub is jointly led by the AMH SCN and provincial AMH team and facilitates connections between researchers and the healthcare system to promote evidence-based practice. It also provides knowledge translation support for researchers to communicate findings to a wide audience and maximize impact.



Numerous grants have been funded through the hub, including the Depression Research Priority Grant, publication grants and a team-building grant. Most recently a seed grant to support data collection on the impact of COVID-19 on AMH in Alberta was announced. These collaborations will support effective translation of evidence to practice and bring practice-based questions to the research community to investigate.

Other highlights

IMPROVING PEDIATRIC MENTAL HEALTH & ADDICTION CARE

The AMH SCN has received provincial and federal funding to support improvements in pediatric mental health care.

► The CanREACH project provides training in child and youth mental health to general practitioners and pediatricians, enabling them to treat pediatric mental health conditions in the patient's medical home. This program is helping build capacity for mental health care and has shown favorable outcomes for primary care providers, patients and families in the Calgary Zone. Work is currently underway to expand the project to other zones and train over 200 primary care physicians in child and youth mental health across Alberta.

► A provincial study, co-led by Dr. Mandi Newton and Dr. Stephen Freedman, to evaluate and redesign pediatric emergency department mental health care has expanded to a pan-Canadian innovative clinical trial. The team has collected baseline data at both major pediatric emergency departments in Alberta, and was awarded a \$6 million CIHR SPOR grant to expand the study to include other Canadian hospitals.

Impact on health and care

The AMH SCN are supporting many facets of addition and mental health care and working to positively impact health outcomes, access to addition and mental health services and address capacity through innovation and collaboration with health and community partners. Anticipated impacts focus on:

- Improved access to child and youth mental health services in emergency departments and through patient's primary care practitioner or pediatrician.
- Improved access to treatment and health outcomes for patients with treatment-resistant depression.
- Reducing the risk of opioid-related deaths by providing opportunities to access virtual care
- Improving coordination and capacity for further addiction and mental health research



Actions and areas of focus

- Enhance patient and public experience with the health system through peer support and alternate models of emergency care
- Improve access and equity of access to core AMH services and treatment and reduce variability in AMH care across the province
- Increase capacity for AMH care in the community
- Improve mental health outcomes and clinical best practice, including reducing the prevalence of opioid-related deaths in Alberta
- Expand addiction and mental health research capacity in care settings

ADDICTION AND MENTAL HEALTH



17

Peer-reviewed Publications

4

Research Grants



Value of Grants

\$2.9M

15

Workshops & Presentations



161

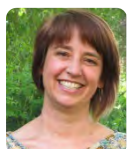
Research Members

\$40K

in Grants Awarded by the
AMH Research Hub to Incent
Research & Innovation

www.ahs.ca/amhscn

BONE AND JOINT HEALTH



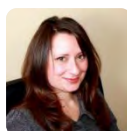
Senior Provincial Director
Jill Robert [BScN, AHS]



Senior Medical Director
Dr. Jason Werle [MD, FRCSC,
University of Calgary, AHS]



Scientific Director
Dr. David Hart [PhD, University
of Calgary, McCaig Institute for
Bone and Joint Health]



Assistant Scientific Director
Dr. Ania Kania-Richmond [PhD,
University of Calgary]



Executive Director
Mel Slomp



SCN Manager
Sheila Kelly [RN, BN, MN,
ONC(C)]

Key Partners

- Alberta Bone and Joint Health Institute
- McCaig Institute for Bone and Joint Health

Major initiatives and achievements, 2019-2020

The Bone and Joint Health (BJH) SCN continues to partner with the research community to advance care and improve outcomes for patients with conditions impacting their bones and joints. The SCN Scientific Office has collaborated with academic partners to support research activities and evaluate programs that focus on preventative, conservative care (e.g., GLA:D, Kinetisense), self-management strategies (e.g., BoneFit app) and motivate physical activity to improve post-surgical outcomes.



STRATEGIC PLANNING AND PERFORMANCE MEASURES

Over the past year, the BJH SCN leadership team worked with patient advisors, Core Committee members, key health partners and stakeholders such as the Alberta Bone and Joint Health Institute (ABJHI) and the McCaig Institute for Bone and Joint Health to identify strategic goals and priorities for the next five years. These key areas of focus, targeting specific areas of impact, are outlined in the SCN's Transformational Roadmap, 2020-2025, which describes how the SCN will continue to drive innovation and change in important and new areas (e.g. prevention and conservative management of musculoskeletal [MSK] conditions).

The SCN also developed a set of quality indicators to measure and track areas of impact. These metrics are aligned with the strategic plan and are a blend of current indicators and available measurement tools and also a "wish list" of metrics that reflect new strategic areas that currently lack data. The SCN is working closely with its partners, in particular the ABJHI and AHS analytics department, to identify possible ways to capture this data.

SUPPORTING HIP FRACTURE PATIENTS ALONG THE CONTINUUM OF CARE

Hip fractures are associated with long-term rehabilitation and high mortality. Between 30-50% of patients do not return to their pre-fracture functional level within two years and up to 10% of patients die within one month of the fracture. In Alberta, 3.3% of patients are readmitted to hospital within 30 days. Approximately 3,000 hip fractures are expected this year in Alberta, at a cost of \$62M in acute care costs.



The BJH SCN hosted a workshop in partnership with the Seniors Health SCN that brought together diverse stakeholders including patients, researchers and health professionals from urban and rural settings. The discussion focused on current evidence, gaps in knowledge and care, treatment interventions and recommendations to optimize rehabilitation and care pathways after patients leave hospital to improve patient recovery and outcomes. Flexible strategies, personalized intensive rehabilitation and/or exercise in conjunction with multi-disciplinary teams appear most effective in creating positive outcomes. Key findings from the workshop are shared in a [white paper](#) (May 2019).

"The BJH SCN has been an important collaborator in our ongoing work to improve care pathways and treatment options for people living with obesity and arthritis. Their leadership team excels in connecting researchers with clinical stakeholders and patient advocates to answer relevant questions and share new knowledge. Albertans are fortunate to have the BJH SCN bridging the gap between research innovation and clinical practice changes that can positively influence health outcomes."

Dr. Kristine Godziuk, Postdoctoral Research Fellow, University of Alberta

Other highlights

PROVINCIAL GUIDANCE ON ARTHROPLASTY FOR PATIENTS WITH OSTEOARTHRITIS AND OBESITY

Obesity is a significant co-morbidity in patients with osteoarthritis (OA) of the hip or knee. Approximately 2/3 of patients undergoing hip or knee arthroplasty in Alberta are overweight or live with obesity. In response to a request from orthopedic surgeons from across Alberta and a key action item from the OA-Obesity Workshop (co-hosted by the BJH SCN Scientific Office and DON SCN in 2018), the BJH SCN set out to provide provincial level guidance to support surgeons in making decisions regarding surgical interventions for individuals living with OA and obesity.

The result was the creation and publication of an evidence-based [position statement](#) on obesity and arthroplasty that considered potential risks, patient outcomes patient satisfaction and experience and limitations of using BMI as a surrogate for surgical risks. The statement includes several recommendations to support clinicians in guiding treatment decisions.

Impact on health and care

The BJH SCN is focused on 'Keeping Albertans Moving' by promoting good bone and joint health, preventing injuries and conditions from developing, empowering Albertans to self-manage their conditions, and providing the highest quality health care. Anticipated impacts focus on:

- ▶ Improved care pathways and patient outcomes for patients following hip fracture.
- ▶ Improved measurement and evaluation of key metrics for patients with MSK conditions.
- ▶ Access to self-management tools, programs and strategies that support patients and help maximize mobility, mitigate injuries and risk, and minimize loss of function.
- ▶ Leveraging partnerships and expanding capacity for further research



Actions and areas of focus

- ▶ Collaborate with patients, health and community partners to create a person-centred, integrated system of care that optimizes bone and joint health and improves mobility and function
- ▶ Support Albertans across the full continuum of care from prevention and wellness strategies to acute-care and rehabilitation
- ▶ Support health promotion strategies and programs that increase physical activity, promote wellness and enable and empower active living
- ▶ Support research and implementation of joint injury prevention
- ▶ Further spread and scale secondary 'fragility' fracture prevention program

BONE AND JOINT HEALTH



21

Peer-reviewed Publications

3

Research Grants



Value of Grants

\$700K

3

Workshops & Presentations



13

Letters of Support

4

Trainees / Research Personnel



www.ahs.ca/bjhscn



Senior Provincial Director
Barbara O'Neill [MBA, RN,
COHN(C)]



Senior Medical Director
Dr. Douglas Stewart [MD, FRCSC,
University of Calgary]



Scientific Director
Dr. Paula Robson [PhD,
RNutr(UK), University of Alberta]



Assistant Scientific Director
Dr. Anna Pujadas Botey [PhD,
MSc, University of Alberta]



Executive Director
Angela Estey [MA (HEd), RN]



SCN Manager
Tara Bond [MA, CHE]

Key Partners

- Cancer Care Alberta
- Alberta Cancer Foundation
- Cancer Research Institute of Northern Alberta (University of Alberta)
- Arnie Charbonneau Cancer Research Institute (University of Calgary)

Major initiatives and achievements, 2019-2020

The Cancer SCN's research mandate is to lead and support evidence-informed improvements and innovation to enhance care across the cancer continuum in Alberta. The Scientific Office generates and builds on available evidence to support improved outcomes and care experiences for people with cancer and their families. It focuses on building research capacity in Alberta and engaging key stakeholders to identify and nurture strategic research-practice partnerships.

ACCELERATING THE DIAGNOSIS OF CANCER IN ALBERTA



The SCN and its partners have been working on a provincial initiative to design and implement a provincial cancer diagnosis program to expedite diagnosis, improve patient experiences and create system efficiencies. Over the past year, the Scientific Office gathered the evidence required to build a foundation for this project. It surveyed cancer patients across the province to understand perceptions of wait times and overall experiences during the cancer diagnosis period. In addition, the Scientific Office conducted a qualitative study to understand the perspectives of primary care physicians and specialists, their experiences and ways to improve cancer diagnosis in Alberta.

These two pieces of work identified specific areas of focus for the accelerated cancer diagnosis project and provided recommendations for coordinating patient care during the diagnostic period. The SCN and its Scientific Office are currently working to design and implement two clinical pathways to expedite and support lymphoma and colorectal cancer diagnosis across the province. In addition, work is underway to design a single point of access for primary care to optimize referral and patient care between presentation with symptoms and confirmed cancer diagnosis.

ADVANCING KNOWLEDGE ON CANCER CARE & PATIENT EDUCATION NEEDS

The SCN is making important contributions to the academic literature related to improvements in cancer care. Since 2015, SCN leaders have co-authored 53 manuscripts and supported the publication of more than 15 other manuscripts by funding projects.



A notable recent example includes a publication¹ led by Dr. Romita Choudhury, a member of the Patient and Community Engagement Research (PaCER) program. Romita collaborated with the SCN, facilitating focus groups and interviews to understand the perspectives of breast cancer patients regarding patient education needs. The publication describes lessons learned and discusses the importance of patient autonomy and empowerment for effective communication. These findings provide important insights that will be used to improve education materials, patient experiences and better support patients through their cancer trajectory. Next steps will be to engage with the patient education team at Cancer Care Alberta to share findings.

¹ Choudhury R, Pujadas-Botey A, Wheeler L, Marlett N and Estey A. 2020. The Standardised Cancer Booklet and Beyond: Patient Perspectives on Patient Education for Breast Cancer Care. Health Education Journal. doi: [10.1177/0017896920911690](https://doi.org/10.1177/0017896920911690)

RESEARCH PARTNERSHIPS THAT ALIGN EFFORTS AND MAXIMIZE IMPACT

The Scientific Office has supported multiple research teams contributing to improved cancer care in Alberta. For example, we have supported several cancer-related funding applications to Partnership for Research and Innovation in the Health System (PRIHS) competitions. Research teams at the University of Alberta and the University of Calgary submitted proposals in 2019 and 2020 focusing on important topics to improve cancer care, decrease hospitalizations and emergency visits associated with side effects of cancer treatment, and access community-based health services.



Other examples include collaborations with:

- Research teams that have been awarded Cancer SCN seed grants in the past. For instance, the team of Drs. Kopciuk and Yang (University of Calgary) working to **optimize cervical cancer screening** using human papillomavirus testing has been supported as it moves into province-wide implementation and sustainment. This research is expected to result in more cost-effective pathways for optimal patient care following colposcopy treatment.
- Cancer Epidemiology and Prevention Research, Cancer Care Alberta, the Alberta Cancer Prevention Legacy Fund, and other groups within Population, Public and Indigenous Health to **identify research priorities and partnership opportunities** to advance knowledge and improve cancer prevention and screening.

Impact on health and care

The Cancer SCN has developed strong relationships with patients, families, research institutes, clinicians and operational partners to leverage available resources and expertise and work together to:

- ▶ **Improve care experiences** for patients with cancer and their families
- ▶ **Enhance health outcomes** for patients with cancer
- ▶ **Improve efficiencies in the delivery of cancer care**
- ▶ **Ensure patient voices and experiences remain at the centre of all our efforts**



Actions and areas of focus

- ▶ Build a community that strategically transforms cancer care and maximizes community supports closer to home
- ▶ Translate evidence and data to inform priorities, practice, policy and planning
- ▶ Build capacity to analyze and interpret cancer-related data
- ▶ Advance knowledge from problem identification to adoption of innovations into the healthcare system
- ▶ Enhance experiences and outcomes for patients and families and improve efficiencies across the health system
- ▶ Advance new models of care and pathways in targeted areas, and improve cancer diagnosis

CANCER



24

Peer-reviewed Publications

4

Research Grants



Value of Grants

\$3.0M

5

Workshops & Presentations



198

Research Members

5

Trainees / Research Personnel



www.ahs.ca/cancerscn



Senior Provincial Director
Shelley Valaire [MA]



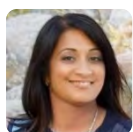
Senior Medical Director
Dr. James Stone [MD, PhD,
University of Calgary]



Scientific Director
Dr. Colleen Norris [PhD,
MSc, BScN, RN, University of
Alberta]



Assistant Scientific Director
Dr. Danijela Piskulic [PhD,
University of Calgary]



Executive Director
Balraj Mann [MS/MBA, RN]



SCN Manager
Agnes Lehman [BScOT,
MScHP]

Major initiatives and achievements, 2019-2020

The Cardiovascular Health and Stroke (CvHS) SCN continues to advance care for stroke patients and people with cardiovascular conditions. Thanks to collaborative efforts between teams of clinicians, researchers and operational leaders, stroke outcomes continue to improve across Alberta. The SCN is actively engaged in strategic partnerships to prioritize research, optimize stroke care and mobilize knowledge from clinical trials into practice.



IMPROVING STROKE OUTCOMES WHILE OPTIMIZING CARE

The SCN has joined forces with stakeholders across Alberta to improve stroke system efficiencies and outcomes for patients who receive endovascular therapy (EVT) following stroke. EVT utilization rates have increased in all zones in 2019/20 compared to the previous fiscal year.

Evidence shows:

- ✓ improved emergency department time-to-treat,
- ✓ reduced length of stay,
- ✓ reduced wait times for inpatient stroke rehabilitation, and
- ✓ increased number of patients achieving 'very good' to 'excellent' outcomes 90-days post-discharge.

Results of randomized clinical trials and Canadian Stroke Best Practices reflect an expanded time window for EVT from 6 to 24 hours. In response, the SCN has contributed to a broad feasibility assessment to understand the operational impact of expanding this time window within Alberta.

The highly successful work of the **Quality Improvement and Clinical Research (QulCR) Alberta Stroke Program** continues to expand locally and on a national level. This work continues to improve stroke care and outcomes and the program will soon be spread and scaled across hospitals in Nova Scotia as a result of interprovincial collaboration by the SCN and teams of clinicians, researchers and operational leaders in Alberta and Nova Scotia. This project is supported by CIHR funding and will further our understanding of implementation science by studying the impact of QulCR implementation on practice change and hospitals' ability to mobilize knowledge into action. [Read full publication](#)



SUPPORTING TRANSITIONS IN CARE FOR HEART FAILURE PATIENTS

Over the past 12 months, the SCN has continued to implement evidence-based admission order sets and a transition bundle for patients experiencing heart failure. These screening and assessment tools have been spread to 17 sites and will help reduce unwarranted variation in care.

A working group has begun developing a **Heart Failure Care Path** that will be integrated into Connect Care, the province's integrated clinical information system. The care pathway will include all activities relating to treatment of patients with heart failure and will support the patients' journey across the full continuum of care, including transitions in care, supportive care and end-of-life care.

The SCN is also supporting a partnership through the University Hospital Foundation, to pilot an early assessment clinic for heart failure in both Calgary and Edmonton Zones. Evidence suggests improve patient outcomes and reduced readmissions for heart failure patients post-discharge from hospital when followed up within 7 days. The project will address a potential gap in care (i.e., patients are unable to see their primary care physician within 7 days of discharge) and evaluate its merits. This project will also test an app to assist with self-management and an artificial intelligence (AI) algorithm to predict readmission.

Other highlights



HEALTH EVIDENCE REVIEWS

Over the past year, the SCN has collaborated with Alberta Health, the Institute of Health Economics and the University of Calgary's Health Technology Assessment Unit to complete a series of health evidence reviews. These reviews evaluate and synthesize current evidence and to inform decision making. The reviews focused on:

- **Vascular risk reduction** – Critically reviewed clinical strategies, initiatives and their costs/benefits to inform their prioritization in Alberta.
- **Stroke rehabilitation services** – Evidence synthesis, economic evaluation and recommendations to ensure the highest quality, most cost-effective stroke rehab care.
- **Myocardial perfusion imaging** – Addressed health policy questions and appropriate use.

These reviews provide healthcare providers and policy makers with concise, evidence-based clinical and costing data to inform decisions and health policy in our province.

Impact on health and care

The success of Alberta's Stroke Program is due in large part to collaborative, multi-stakeholder approaches and an integrated network of care from the pre-hospital stage to the emergency room and beyond. The level of integration is unprecedented in Canada and has helped:

- ▶ Improve health outcomes for stroke patients
- ▶ Ensure timely, equitable access to best-in-class stroke care for all residents, including those in rural and remote areas
- ▶ Improve patients' and families' experiences
- ▶ Reduce wait times for stroke rehabilitation



To learn more about the impact of Alberta's Stroke Program and its impact on patients and families, including those in rural Alberta, listen to André and Diane Therriault's story on the AHS [YouTube](#) channel or [Soundcloud Podcast](#).



Actions and areas of focus

- ▶ Optimizing care throughout the patient journey
- ▶ Reducing inequities in care and outcomes
- ▶ Enhancing prevention and integration of health promotion and wellness
- ▶ Collaborative partnerships, research and innovation to inform decision making
- ▶ Development of clinical pathways, guidelines and dashboards
- ▶ Vascular risk reduction policies and sustainability
- ▶ Surveillance and monitoring of risk factors and health system utilization

CARDIOVASCULAR HEALTH AND STROKE



17

Peer-reviewed Publications

7

Research Grants



Value of Grants

\$4.7M

5

Workshops & Presentations



184

Research Members

15

Letters of Support





Senior Provincial Director
Nancy Fraser [MSc]



Senior Medical Director
Dr. Dan Zuege [MD, MSc, FRCPC,
University of Calgary]



Scientific Director
Dr. Sean Bagshaw [MD, MSc,
FRCPC, University of Alberta]



Assistant Scientific Director
Dr. Samantha Bowker [PhD,
University of Alberta]



Executive Director
Sherri Kashuba [B.Comm, MHSA]



SCN Manager
Jeanna Morrissey [RN, MN]

Major initiatives and achievements, 2019-2020

The Critical Care SCN was awarded several multi-year research grants to continue advancing research focused on appropriate, high-quality care for critically ill patients. This work is enabled thanks to the ongoing support of Alberta Innovates, Alberta Health, CIHR, Baxter Funding and Alberta's SPOR Support Units.



SUPPORTING PATIENTS AND CAREGIVERS THROUGH TRANSITIONS IN CARE

The SCN received a CIHR team grant to co-design a tool with families and caregivers to help them understand and become more involved in a patient's care while they're in the ICU, teach them about ongoing needs patients will have during their recovery, and support and prepare them to navigate the medical challenges they may encounter once the patient returns home.

The tool is designed to improve communication between patients, families, and the health care team, and support caregivers and patients as they transition from the ICU to home and community-based care. This work is an example of system transformation that puts patients and families at the centre of their care, improves supports during transitions in care, and ensures care is integrated and coordinated during the ICU patient's journey.



IMPLEMENTING CLINICAL BEST PRACTICES

The SCN continues to apply clinical best practices that improve patient safety and health outcomes while reducing unnecessary procedures. Our goal is to ensure Albertans receive safe, high-quality and high-value care at ICUs across the province. The SCN secured grant funding for several projects that align with this strategic priority:

Don't misuse by blood – focuses on appropriateness of blood tests and blood transfusions in patients admitted to ICUs and high-risk surgical units. Reducing avoidable tests and blood transfusions is expected to improve the patient experience, reduce avoidable adverse events attributed to blood, enhance the security of our blood supply, and result in substantial cost savings for the health system.

Venting wisely – Aims to improve outcomes for critically ill patients with respiratory failure by optimizing and standardizing mechanical ventilation strategies and practices. Work has begun to implement and evaluate an evidence-based care pathway for patients treated with mechanical ventilation in Alberta ICUs.

Continuous renal replacement therapy (CRRT) – Work has begun to standardize practices for prescribing and delivering CRRT to critically ill patients (adult and pediatric) in Alberta and align these with evidence-based best practices. The project will involve establishing site-specific and provincial benchmarks and developing a quality dashboard to monitor and report on KPIs with the goal of improving the quality, safety, efficiency and delivery of CRRT.

"A question I ask myself anytime I am involved on any panel or committee in health care is 'what would the patient want?' Working with the Critical Care SCN allows a patient perspective to be included during discussions and concept development. Being involved also gives me the opportunity to give a patient's view of procedures that might seem beneficial to the medical staff, but with a few suggestions it can be beneficial both patients and medical staff. As we work through the system creating positive change, I know that we can provide safe and quality care for all Albertans".

D'Arcy Duquette, Patient Advisor, Critical Care SCN

Other highlights

PRAGMATIC TRIALS TO OPTIMIZE OXYGEN USE IN MECHANICALLY VENTILATED PATIENTS

Dr. Sean Bagshaw is leading a cluster-randomized implementation trial of oxygen targets in patients receiving mechanical ventilation across adult ICUs in Alberta. This work is in response to emerging evidence that excess oxygen exposure (i.e., hyperoxia) may be associated with harm.



The project involves identifying clinical best practices and optimal use of oxygen therapy and implementing these on a provincial scale. The goal is to improve the quality of care and reduce practice variation around oxygen use in mechanically ventilated patients.

Impact on health and care in Alberta

ICU Transitions in Care and clinical best practices aim to positively impact patient care in Alberta ICUs and areas upstream and downstream from critical care. Anticipated impacts focus on:



- ▶ **Reduced length of stay** by minimizing avoidable delays in ICU discharge when patients are ready for clinically appropriate lower-intensity levels of care.
- ▶ **Reduction in avoidable ICU re-admissions and long-term complications** of critical illness and injury.
- ▶ **Increased efficiency**, leading to **increased capacity and reduced healthcare costs**.
- ▶ **Improved patient and family experience and satisfaction**, particularly regarding continuity of care.



Actions and areas of focus

- ▶ Optimizing care for critically ill patients
- ▶ Working with patients and caregivers to support transitions in care
- ▶ Implementing clinical best practices to improve patient safety & outcomes
- ▶ Ensuring appropriate care and use of health resources
- ▶ Conducting applied research in response to emerging evidence
- ▶ Advancing knowledge and supporting decision-making
- ▶ Supporting emerging and partnered initiatives

CRITICAL CARE



38

Peer-reviewed Publications

12

Research Grants



Value of Grants

\$8.2M

3

Workshops & Presentations



20

Abstracts and Contributions to Scientific Meetings

11

Trainees / Research Personnel



DIABETES, OBESITY & NUTRITION



Senior Provincial Director

Petra O'Connell [BSc, MPH]



Senior Medical Director

Dr. Peter Sargious [MD, MPH, University of Calgary]



Scientific Director

Dr. Catherine Chan [PhD, Professor, Nutrition and Physiology, University of Alberta]



Assistant Scientific Director

Dr. Naomi Popeski [PhD, Adjunct Professor, Community Health Sciences, University of Calgary]



Executive Director

Lene Jorgensen [B.Kin]



SCN Manager

Catherine Joseph [MSc]

Major initiatives and achievements, 2019-2020

The Diabetes, Obesity & Nutrition (DON) SCN advanced a number of projects focused on improving and community supports, preventative care and interventions for people living with (or at risk of) with diabetes as well as screening and hospital-to-home transitions for vulnerable populations.

IMPROVING CARE FOR PATIENTS WITH DIABETES AND PRE-DIABETES

Diabetic retinopathy can cause vision loss and blindness for people with diabetes. Of those newly diagnosed with Type 2 diabetes, approximately 20% have some sign of diabetes-related eye disease, and many will require treatment to avoid vision loss. Less than half (47%) of people with diabetes in Alberta are seen annually by an ophthalmologist or optometrist, so diabetic retinopathy is often not detected until patients develop symptoms.



The DON SCN has partnered with the Neuroscience Rehabilitation and Vision (NRV) SCN to develop a Diabetic Eye Care Clinical Pathway to support prevention, early detection, and timely treatment of diabetic retinopathy and reduce vision loss. The pathway aims to standardize care and improve coordination and communication between patients' primary care doctor, optometrist and ophthalmologist. Patients will benefit through earlier detection, treatment and management of diabetic retinopathy, improved outcomes, and improved patient and provider experience.

PREVENTATIVE PROGRAMS FOR ALBERTANS AT RISK OF TYPE 2 DIABETES

Most cases of Type 2 diabetes, and associated complications, can be prevented through targeted lifestyle changes (e.g., dietary modifications, physical activity, and weight loss). The Centers for Disease Control (CDC) developed a National Diabetes Prevention Program in 2010 and found that people who participated in this year-long structured lifestyle-change program were able to reduce their risk of developing Type 2 diabetes by 58% and sustain this decreased risk long term. AHS and the DON SCN, have partnered with Alberta Blue Cross and several primary care clinics to implement similar program in Alberta that can be delivered virtually.

The CDC-approved Virtual Diabetes Prevention Program (VDPP) addresses the urgent need for a diabetes prevention program in Alberta that is effective, evidence-based, and available to people living in rural, remote and urban communities. This program will provide individualized 1:1 health coaching and support while eliminating the need (and costs) for patients to travel to attend in-person classes. This program will be the first of its kind in Albert and will provide valuable insights into the viability of similar programs.



PREVENTING, IDENTIFYING AND TREATING MALNUTRITION IN SENIORS

Malnutrition is an issue for many elderly Canadians and estimates suggest that about one-third (34%) of seniors are malnourished or at risk of malnutrition. Risk factors include lack of transportation, poverty, having chronic conditions, or living alone. A lack of awareness of, or access to, community resources may be contributing factors. Malnutrition can cause or exacerbate frailty in seniors, increase hospital length of stay, and increase the risk of hospital readmissions.

In February, the DON SCN hosted a two-day **Malnutrition in Seniors Symposium and Workshop** in partnership with the Canadian Malnutrition Task Force and AHS Nutrition and Food Services. The event brought together patients, primary care and long-term care physicians, community organizations, allied health professionals, researchers, clinicians, and other stakeholders to focus on (i) hospital-to-home transitions; (ii) screening for malnutrition in primary care settings and (iii) incorporating malnutrition into patients' electronic medical record. Participants worked together to identify opportunities and develop solutions that incorporate a system-wide perspective.

Other highlights

UNDERSTANDING BARRIERS TO CARE & DEVELOPING NUTRITIONAL STRATEGIES WITH INDIGINOUS PARTNERS



Health Initiatives for Indigenous Communities of Alberta (HIICA) is a research program developed by Dr. Fatheema Subhan that identified important barriers to healthcare that Indigenous people experience in Canada and focused on shared decision-

making and community engagement to improve health outcomes. Strategies to mitigate these barriers are being implemented as part of the Truth and Reconciliation Process and will provide Indigenous people more autonomy to direct their own health services, promote cultural sensitivity in health service delivery, and increase education opportunities and funding for health facilities.

The program involved co-developing a nutritional intervention for Indigenous people with diabetes. This work was done in partnership with the Enoch Cree First Nation (ECFN) and involved adapting the Pure Prairie Living Program (previously developed for the general population of Alberta) for delivery to the ECFN. This work was supported by a one-year CIHR Health System Impact Fellowship and jointly supervised by Dr. Catherine Chan (SD) and Petra O'Connell (SPD) for the DON SCN. Results of this work have been shared in publications, abstracts and presentations.

Impact on health and care

The DON SCN focuses on empowering patients, families and care providers to manage diabetes, obesity and malnutrition, and is working to enhance care in hospital and in the community for Albertans with these conditions. Potential impacts of this work include:

- ▶ Helping people with diabetes and their primary care providers learn the importance (and practice) of foot screening to ultimately **reduce lower limb amputations**.
- ▶ Improving and standardizing how patients with diabetes are cared for in Alberta's hospitals to **improve glycemic control and decrease healthcare costs**.
- ▶ Developing guidelines, educational modules and promoting the spread and scale of a **bariatric friendly hospital** through engagement with key stakeholders including patients and operation personnel at AHS.
- ▶ Expanding understanding of the impact of **malnutrition** in the lives of seniors and capitalizing on opportunities to **reduce the burden of malnutrition in community**.



Actions and areas of focus

- ▶ Preventing the onset and progression of diabetes, obesity and malnutrition
- ▶ Empowering patients & providers to better manage diabetes, obesity and malnutrition to live well and long
- ▶ Transforming the healthcare system through surveillance, evaluation & partnerships
- ▶ Understanding the impact of malnutrition on patients' lives & barriers to a healthy diet
- ▶ Creating a malnutrition strategy for screening, assessment and treatment
- ▶ Building capacity for innovation, research and data analy

DIABETES, OBESITY & NUTRITION



Peer-reviewed Publications

5

Research Grants



Value of Grants

\$2.1M

4

Workshops & Presentations



10

Abstracts and Contributions to Scientific Meetings

7

Trainees / Research Personnel



www.ahs.ca/donscn



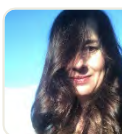
Senior Provincial Director
Louise Morrin [BSc (PT), MBA]



Senior Medical Director
Dr. Sander Veldhuyzen van Zanten [MD, FRCPC, MSc, MPH, PhD, University of Alberta]



Scientific Director
Dr. Gilaad Kaplan [MD, MPH, FRCPC, University of Calgary]



Assistant Scientific Director
Dr. Susan Jelinski [BSc, MSc, PhD, DVM, University of Alberta]



Executive Director
Leanne Reeb [BSW, MBA]



SCN Manager
Malanie Greenaway [BScOT]

Major initiatives and achievements, 2019-2020

The Digestive Health (DH) SCN and its Scientific Office secured funding and advanced several initiatives focused on improving access to specialty care for people with digestive health conditions and improving diagnostic techniques and treatment of digestive diseases. The SCN has partnered with a variety of provincial stakeholders to analyze clinical data and implement tools to optimize care for gastrointestinal (GI) conditions on a provincial scale.

REDUCING WAIT TIMES BY EXPANDING PRIMARY CARE SUPPORTS FOR DIGESTIVE HEALTH CARE

Access to specialty care is a significant issue for Albertans with digestive health conditions. Many patients experience long wait times for diagnosis and treatment, negatively impacting their quality of life and outcomes. In many cases, those waiting for specialist care have conditions that can be optimally managed within the patient's medical home with access to specialist support when required.

Primary care physicians and gastroenterologists from the Calgary Zone worked together to develop a series of tools to optimize care for these patients and reduce wait times to see a gastroenterologist for patients with higher-risk needs. These tools included:

- primary care pathways for low-risk, high-demand indications;
- a telephone advice system for same-day phone consultation with a GI specialist; and
- an electronic advice system for non-urgent, secure electronic consultation with a GI specialist.

Following successful implementation in the Calgary Zone, these tools were spread to other Alberta health zones with funding from the Health Innovation Implementation and Spread Fund (HIIS).



The DH Scientific Office led the design and analysis of a rigorous and comprehensive evaluation of this project using Alberta health administrative data. Outcome measures included clinical utilization and costing analysis for patients with GI conditions who received care in primary versus specialist clinics. On average, \$540 in healthcare costs were avoided for each patient who received care in a primary care setting using the GI primary care pathway (compared to those who saw a gastroenterologist). Since July 2018, there have been 3,435 cases in which primary care pathways were used, resulting in more than \$1.8M in cost savings.

IMPROVING THE QUALITY OF ENDOSCOPY PROCEDURES ACROSS ALBERTA



Endoscopy plays an important role in the diagnosis and treatment of digestive diseases, including inflammatory bowel disease, celiac disease, peptic ulcers and the detection and prevention of gastrointestinal cancers. A key priority for the DH SCN is addressing unwarranted clinical variation and improving the quality of endoscopy procedures in Alberta.

To this end, the DH SCN partnered with multiple provincial stakeholders to endorse the use of the Canada-Global Rating Scale (C-GRS) as a way to consistently evaluate the quality of endoscopy procedures in Alberta and support continuous improvement at local endoscopy units. The C-GRS is an evidence- and web-based tool that provides a comprehensive and systematic way of measuring the quality of endoscopy practices as well as guidance to ensure high quality, patient-centred care.

The DH Scientific Office supports clinic, zonal and provincial reporting of C-GRS results by collating and analyzing C-GRS data from individual clinics. These reports highlight key areas of improvement and areas for increased focus as it relates to endoscopy quality. The DH SCN also compiles and reports on results of the provincial endoscopy patient satisfaction survey. With these two key activities, the DH SCN Scientific Office is supporting a data-driven approach to improving quality of endoscopy for Albertans.

Other highlights

SHIFTING FROM SURGERY TO ENDOSCOPIC REMOVAL OF NON-MALIGNANT POLYPS

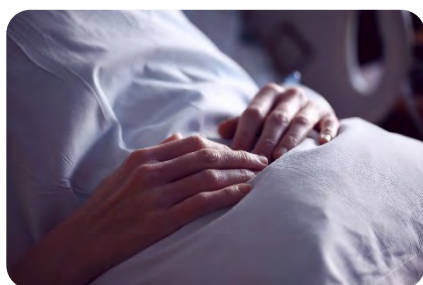
Dr. Steve Heitman, a Calgary-based gastroenterologist, Medical Director for the Forzani & MacPhail Colon Cancer Screening Centre, and DH SCN Core Committee member was recently awarded a \$632K PRIHS grant to study improvements for removal of non-malignant colorectal polyps (NMPs).

Removal of NMPs is an important step in the prevention of colorectal cancer and most NMPs can be removed during an endoscopic procedure. However, data analysis by the DH SCN Scientific Office determined that surgeries to remove NMPs are common in Alberta, and without intervention, are projected to increase over the next 10 years. Endoscopic removal has several advantages including lower morbidity, greater patient safety and substantially lower healthcare costs. Dr. Heitman's research will identify barriers and facilitators of endoscopic NMP removal and implement strategies to encourage the switch from surgical to endoscopic procedures.

Impact on health and care

The DH SCN has developed strong relationships with clinicians, operational partners and others and is using data to:

- Improve wait times, outcomes and patient experiences for people with digestive health conditions
- Improve patient safety and reduce unwarranted variation in care
- Inform and implement practice changes that improve efficiency, clinical utilization and deliver cost savings



Actions and areas of focus

- Integrate primary and specialty care approaches for digestive diseases and improve access to advice, care and endoscopy procedures
- Reduce unwarranted variation and improve clinical appropriateness and efficiency of testing and therapies for digestive conditions
- Develop and implement clinical pathways to improve disease prevention, management, and continuity of care
- Implement policies to prevent digestive disease and improve the screening, diagnosis and treatment of liver disease

DIGESTIVE HEALTH



27

Peer-reviewed Publications

5

Research Grants



Value of Grants

\$6.5M

16

Workshops & Presentations



7

Letters of Support



6

Trainees / Research Personnel



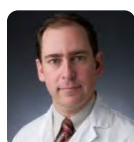
EMERGENCY



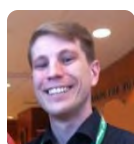
Senior Provincial Director
Scott Fielding [RN, MBA, AHS]



Senior Medical Director
Dr. Brian Holroyd [MD, MBA, FACEP, FRCPC, University of Alberta, AHS]



Scientific Director
Dr. Eddy Lang [MD, University of Calgary, AHS]



Assistant Scientific Director
Dr. Patrick McLane [PhD, AHS, University of Alberta]



Executive Director
Heather Hair [RN, MBA, AHS]



SCN Manager
Andrew Fisher [BTh, ACP]

Major initiatives and achievements, 2019-2020

The Emergency SCN (ESCN) continues to partner with key stakeholders to improve care and health outcomes for Albertans requiring emergency care. For example, the ESCN Scientific Office has collaborated with the Alberta First Nations Information Governance Centre and other First Nations organizations to address systemic barriers to care and is currently working to support rapid knowledge translation and quality improvements in emergency departments (EDs) and urgent care centres (UCCs).

IMPROVING FIRST NATIONS EMERGENCY CARE AND PATIENT EXPERIENCES

Alberta statistics show First Nations people visit EDs at twice the rates of non-First Nations people, yet are more likely to leave without being treated. Research shows a clear need to address the concerns of First Nations patients about negative stereotyping and racism.

To understand and address these concerns, the ESCN has partnered with the Alberta First Nations Information Governance Centre and several other First Nations organizations on CIHR funded work to examine the quality of care, equity and racism experienced by First Nations patients in Alberta's emergency care system. The study looks at Alberta data and involves interviews with First Nations patients and clinicians from remote, rural and urban centres. Interim results and practical recommendations for improving care interactions for First Nations members have been presented to the ESCN Core Committee and elsewhere. [Read more](#)



Bonnie Healy, Health Director of the Blackfoot Confederacy, and Patrick McLane, Assistant Scientific Director, ESCN

ENHANCED SUPPORT FOR PATIENTS WITH OPIOID USE DISORDER



The number of opioid-related accidental overdose deaths continues to increase in Alberta. The ESCN Scientific Office has led the evaluation of a quality improvement project, funded by Alberta Health, that engages clinicians to identify opioid use disorder among emergency department patients, initiate evidence-based treatment with buprenorphine/naloxone for eligible patients and provide rapid, next business day walk-in referrals to addiction clinics in the community.

Currently, all emergency care sites across Alberta are participating in the opioid program. From May 2018-Marh 2020, buprenorphine/naloxone was prescribed during 1,644 visits* and 57% of discharged patients continued to fill opioid agonist treatment prescriptions 6 months later, showing continuity in treatment. A manuscript detailing pilot phase results has been accepted to the Canadian Journal of Emergency Medicine.

* based on reported data from 24 emergency care sites

CLOSING GAPS IN EMERGENCY MEDICINE KNOWLEDGE TRANSLATION

Rapid translation of knowledge into practice continues to be a priority for the ESCN Scientific Office. McMaster Premium Literature services (PLUS) is a division of their Health Information Research Unit. Dr. Lang, Scientific Director for the ESCN is leading development of Emergency Medicine Plus (EM+), a novel resource to address an existing gap in the McMaster PLUS literature coverage. This resource will enable emergency medicine clinicians to quickly access the latest literature to support emergency care.

Other highlights

ADDRESSING OVERCROWDING, ACCESS BLOCK AND VIOLENCE TOWARD EMERGENCY PROVIDERS

The ESCN Scientific Office has led local and international initiatives to address challenges in emergency care. For example:

- Dr. Eddy Lang co-chaired an international panel focused on overcrowding and access block in emergency settings. This work culminated in a white paper that will be published on behalf of the International Federation of Emergency Medicine (IFEM) in five international emergency medicine journals. The paper will serve as a critical resource for clinicians and EDs around the world. Dr. Brian Holroyd participated in the task force and authored one of the chapters. He also serves as the North American representative on the IFEM Board of Directors.
- The ESCN engaged the provincial Health Systems Evaluation and Evidence (HSEE) team to evaluate violence against staff in EDs and UCCs and identify strategies and recommendations to improve safety of clinicians, staff and patients at EDs and UCCs across Alberta.

Impact on health and care

Through its partnerships with key stakeholders and commitment to embed research into clinical practice, the ESCN is improving emergency care in Alberta, patient experiences and working to address gaps and issues facing emergency patients and providers. Over the past year, these efforts have focused on:

- ▶ Removing barriers, addressing racism and stereotyping, and improving care interactions for First Nations patients
- ▶ Enhanced support for Albertans experiencing opioid use disorder
- ▶ Addressing gaps in knowledge resources, overcrowding, and violence in emergency settings



Actions and areas of focus

- ▶ Improve patients' and families' experience in EDs/UCCs through enhanced communication, timely patient access and quality patient care
- ▶ Support care of patients with opioid use disorder, reduce overdose deaths and align initiatives with the opioid crisis across Alberta
- ▶ Build emergency research capacity, advance and disseminate knowledge
- ▶ Support clinical research projects and implementation of Connect Care and Choosing Wisely™ guidelines
- ▶ Improve patient and provider safety in emergency settings

EMERGENCY



24

Peer-reviewed Publications

4

Research Grants



Value of Grants

\$1.6M

17

Letters of Support



\$69K

in Grants & Studentships
Awarded to Incent Research in
Emergency Medicine

8

Trainees /
Research Personnel

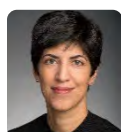




Senior Provincial Director
Louise Morrin [BSc (PT), MBA]



Senior Medical Director
Dr. Nairne Scott-Douglas
[MD, PhD, FRCPC, University
of Calgary]



Scientific Co-Director
Dr. Neesh Pannu [MD, SM,
FRCPC, University of Alberta]



Scientific Co-Director
Dr. Scott Klarenbach [MD,
MSc (Health Econ), FRCPC,
University of Alberta]



**Interim Assistant
Scientific Director**
Dr. Loreen Gilmour [MBA,
PhD, University of Calgary]



Executive Director
Anita Kozinski [MHA]



SCN Manager
Terry Smith [BSc, BSCN, MN]

Note: Kidney Health will be part of the Medicine SCN, effective fall 2020.

Major initiatives and achievements, 2019-2020

The prevalence of chronic kidney disease (CKD) in Alberta continues to grow, increasing the care burden for both primary care and nephrology specialist care.¹ Over the past 12 months, the Kidney Health SCN has actively engaged patients, Alberta Kidney Care and partners in the Alberta kidney clinical and research communities to identify critical research needs, align priorities and achieve the best kidney health for all Albertans. In April 2019, the SCN released its [2019-2023 Transformational Roadmap](#), which outlines its plans to address gaps in care and outcomes for Albertans living with CKD.

Together with network clinical, operational and research partners, the SCN has also advanced several initiatives focused on individualized care for hemodialysis patients, expanding supports for living kidney donors, and identifying quality indicators and feedback mechanisms for health care practitioners to ensure high value care.



PATIENT-CENTRED APPROACH TO HEMODIALYSIS CARE

Dr. Neesh Pannu is leading research efforts and implementation planning to study the effects of individualizing the number of hemodialysis treatments for patients starting dialysis. Currently, the standard treatment is four hours, three times a week regardless of kidney function or life circumstance. However, tailored dialysis is a priority for patients who want to maximize their time off treatment and is a high priority for operations and clinical leaders who strive for more efficient use of limited health care system resources.

In this study, qualifying patients are offered the choice to proceed with a 'gentler' approach to hemodialysis care that involves less frequent, shorter dialysis sessions (two sessions per week at the onset). Patients are closely monitored and their dialysis time increased only as their kidney function indicates. This initiative has been co-designed with patients, clinicians and operations managers and could result in a 30% decrease in treatment costs for these patients in their first year of hemodialysis.

USING EVIDENCE TO INCREASE AND SUPPORT LIVING DONOR KIDNEY TRANSPLANTS



Kidney transplantation offers longer survival and better quality of life than dialysis; however, there are not enough deceased donor organs available, and 20% of patients die waiting for an organ donation. Living donation remains the largest opportunity to meet the demand.

Patients indicate that they find it difficult to approach potential living donors due to lack of skills, support and resources. This work aims to bridge these gaps and is adapted to the Alberta context with input from kidney operational experts, patients, and the Living Donor Kidney Transplant Working Group. It is an exemplar of the SCN philosophy where broad stakeholder consultation identified key gaps, solutions were identified through an evidence-informed process, and implementation issues were addressed with input from operational and patient partners.

The project addresses the need for more living kidney donations by providing patients and families with personalized support, resources and education to help them reach out through their social networks and overcome barriers associated with organ donation. The study will evaluate the impact on patient health outcomes and health system cost savings.

¹ Alberta Health Services and the Kidney Health SCN. [Prevalence and Quality of Care in Chronic Kidney Disease \(CKD\)](#). Alberta Kidney Care Report. February 2019.

Other highlights



CAPACITY BUILDING, QUALITY INDICATORS AND OPPORTUNITIES TO IMPROVE KIDNEY CARE

In 2019, the Kidney Health SCN in collaboration with the UA and UC Nephrology Research Groups, hosted a provincial research meeting. The focus of the meeting was to plan and develop upcoming research projects as well as to learn about how to leverage the capabilities of Connect Care for future research.

The SCN has also collaborated with the Alberta Medical Association (Nephrology Section) to develop provincial indicators and an audit and feedback mechanism for Alberta Nephrologists. All nephrologists caring for patients on dialysis received an individualized, confidential data report comparing their performance to targets that reflect best evidence and clinical guidelines and to regional and provincial benchmarks. This data supports assessment, accountability and enables continuous quality improvement.

Impact on health and care in Alberta

The Kidney Health SCN continues to collaborate with clinical and research partners and positively impact patient care for people living with CKD in Alberta. Over the past year, this work has contributed to:

- ▶ Improved understanding of care gaps
- ▶ Patient choice and improved patient experience for patients requiring hemodialysis
- ▶ Expanded resources and supports for patients and families hoping to find a living kidney donor
- ▶ Improved accountability and quality of care through use of key performance indicators and physician audit and feedback mechanisms

"As a patient advisor, I have seen the development of research that puts patients first. The inclusion of the patient, family and support system's voice has created a better balance of basic science to patient-oriented research. It has been exciting to have my voice (and those I represent) heard and respected. I feel that the Kidney Health SCN has created a level playing field for health care providers, patients, and family."

Nancy Verdin, Patient Advisor, Kidney Health SCN



Actions and areas of focus

- ▶ Reduce risk of acute kidney injury and chronic kidney disease through prevention, early identification and appropriate management of kidney disease
- ▶ Improve management, coordination of care, and patient outcomes
- ▶ Optimize informed choice and outcomes for those with end-stage kidney disease

KIDNEY HEALTH



23

Peer-reviewed Publications

7

Research Grants



Value of Grants

\$10.7M



4

Workshops & Presentations

Hosted **Alberta Kidney Days**,
a conference for frontline healthcare
providers. The event averages

370 participants per year

12

Letters of Support



MATERNAL, NEWBORN, CHILD & YOUTH



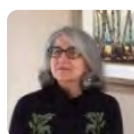
Senior Provincial Director

Shelley Valaire [MA]



Senior Medical Director

Dr. David Johnson [MD,
University of Calgary, ACHRI,
O'Brien Institute of Public
Health]



Scientific Director

Dr. Deborah McNeil [MN,
PhD, University of Calgary,
ACHRI, O'Brien Institute of
Public Health]



Assistant Scientific Director

Dr. Seija Kromm [MA, PhD,
University of Calgary]



Executive Director

Debbie Leitch [MN]



SCN Manager

Stacey Nyl [RN, BScN, MN]

"The patient and family voice have been an important contributor to the PRIHS 6 competition, and it has been an honour to be a part of the MNCY SCN PRIHS review process. The goal of PRIHS is to strengthen health research capacity in Alberta through collaborations and partnerships, and when patients and families are considered partners, there is a powerful and wide-ranging impact."

*Christine Johns,
Patient Advisor, MNCY SCN*

Major initiatives and achievements, 2019-2020

The Maternal, Newborn, Child and Youth (MNCY) SCN has advanced work on several important research initiatives focused on improving health outcomes and health services for mothers and children. Collaboration with patients, families, researchers and health partners across Alberta has been an important part of this work.

ACCELERATING PROVINCIAL IMPLEMENTATION OF ALBERTA FAMILY INTEGRATED CARE (FICare)

Alberta FICare is an evidence- and practice-informed approach to integrating families into the care of their infant in the neonatal intensive care unit (NICU). FICare incorporates lessons learned from research in tertiary-level NICUs in Ontario as well as meaningful input and experiences of families, hospital administrators, clinicians and researchers who were invested in improving already high-quality care.



Alberta FICare involves three bundled components that centre on communication, education and parental support and systematically driving a culture shift to better integrate parents as partners in their infant's care. Health care providers educate and support parents as they gain knowledge, skills, and confidence in the care of their infant. This integrated approach supports early parent-infant relationships, further enhances the high quality of care already delivered in NICUs, while increasing capacity and avoiding costs to the health care system.

- Results of a randomized controlled trial (RCT) (2018) involving Level II NICUs in Alberta showed promising outcomes. With Alberta FICare, parents were more skilled and confident, with less psychosocial distress and improved family experience. In addition, Alberta FICare reduced infant hospital length of stay by 2.55 days without associated increases in emergency department visits or hospital readmissions. This translates to an annual cost avoidance of \$17 million (based on 2018 costs).

[Read full publication](#)

- Based on these results, Alberta Health and AHS have made scale and spread of Alberta FICare a priority. The MNCY SCN has collaborated with the Alberta FICare team to support this work. Together, the team was successful in obtaining funding to scale and spread Alberta FICare to all 14 NICUs in the province, including Level III and surgical NICUs. As each site comes on board, the SCN is continuing to support the implementation cycle and evaluate outcomes.

Alberta FICare is an example of the AHS Innovation Pipeline in action. The initial (RCT) study received PRIHS funding to test proof of concept. With evidence of positive outcomes, the project received HHS funding to scale and spread it to all sites.

GUIDELINE ENSURES CONSISTENT, APPROPRIATE CARE FOR CHILDREN AND INFANTS WITH BRONCHIOLITIS



Bronchiolitis is a lower respiratory tract infection that affects more than one third of children <2 years old and is the leading cause of hospitalization in infants <12 months old. Across Alberta there are variations in approaches to diagnosis, monitoring and management of bronchiolitis in hospitals.

The MNCY SCN partnered with a group of clinicians (Drs. Shawn Dowling, Lindsay Long, and Michelle Bailey, all affiliated with the University of Calgary) to lead the implementation of a clinical practice guideline (CPG) in Alberta hospitals. The CPG outlines conservative and consistent practices for diagnosis, monitoring, and management of bronchiolitis. The SCN Scientific Office is helping evaluate the impact of the CPG on patient outcomes and cost avoidance.

This work revealed that at sites following the CPG:

- 38% of emergency department costs were averted per bronchiolitis season
- 35% of costs were averted per bronchiolitis season for patients admitted to hospital
- these savings were achieved **while maintaining desired patient outcomes**

Other highlights

SUPPORT FOR REGIONAL PEDIATRICS: DATA, RECRUITMENT AND RETENTION



In response to the needs of Alberta's regional centres for greater recruitment and retention of pediatricians in Fort McMurray, Grande Prairie, Red Deer, Medicine Hat, and Lethbridge, the MNCY SCN has surveyed current and past regional pediatricians, and medical residents in pediatrics about their experiences and future plans.

This work will provide important data about what is needed, what is working, and what can be improved to increase recruitment and retention of pediatricians in Alberta's regional centres. This data will be used to inform planning, recommendations, and decision making going forward.

Impact on health and care in Alberta

The MNCY SCN's commitment to align health services research and develop partnerships and build research capacity are positively impacting patient care for children, youth and mothers in Alberta. Over the past year, this work has contributed to:



- Improved understanding of care needs and coordination of care for children with complex medical conditions and families with infants in the Alberta NICUs.
- Consistent, high quality care that reflects best practices for patients with bronchiolitis while averting healthcare costs
- Evidence-informed decision making to support patients, families and providers in regional centres.



Actions and areas of focus

- Healthy mothers, newborns, children, youth and families
- Quality and sustainability
- Access to obstetrical care for rural, Indigenous, and marginalized women
- Optimized pediatric capacity
- Metrics that matter – NICU dashboard, MyCHILD, performance indicators
- Integrated and facilitated care transitions for children with complex needs

MATERNAL, NEWBORN, CHILD & YOUTH



29

Peer-reviewed Publications

7

Research Grants



Value of Grants

\$10.7M



293

Research Members

12

Member
Patient and
Family Advisory
Council



\$47K

Awarded to Build
Capacity and Fund
Targeted Research



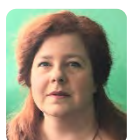
NEUROSCIENCES, REHABILITATION & VISION



Senior Provincial Director
Petra O'Connell [BSc, MPH]



Senior Medical Director
Dr. Chester Ho [University of Alberta]



Scientific Director
Dr. Elisavet Papathanassoglou [PhD, MSc, RN, University of Alberta]



Assistant Scientific Director
Dr. Kiran Pohar Manhas [PhD, JD, MSc, BSc (Pharm), University of Alberta]



Executive Director
Selvi Sinnadurai



SCN Manager
Nicole McKenzie [BSc, MSc]

"One in five Canadians lives with a disability, I am one of them. I have been legally blind for thirteen years now, so I was excited to learn about the Neuroscience Rehabilitation & Vision SCN and thought I need to be part of this. I hope to bring my voice as a blind patient advisor experiencing the health care system to improve the care experience for 60,000 plus Albertans living with vision loss. Being blind in a sighted designed world is challenging enough, health care needs to be an inclusive and safe environment."

*Phil Bobawsky, Patient and Family
Advisor & Core Committee Member,
NRV SCN*

Major initiatives and achievements, 2019-2020

Following its launch in November 2018, the Neurosciences, Rehabilitation and Vision (NRV) SCN focused on building connections with key partners and stakeholders. Over the past year, the SCN as filled key roles and appointments and began identifying strategic priorities, developing a transformational roadmap and building capacity to advance health research in targeted areas. Key accomplishments include community building, grant applications and successes, knowledge translation through publications, national and international conference presentations and workshops.

BUILDING AN ACTIVE AND COLLABORATIVE RESEARCH NETWORK



The NRV SCN Scientific Office has made great strides in building partnerships with patients, caregivers, the research community and community organizations who work with NRV patient populations, including the Alberta Neurological Network, the Canadian Hard of Hearing Association, the Canadian National Institute of the Blind, the Parkinson's Society, the Multiple Sclerosis Society, Spinal Cord Injury (SCI) Alberta, and Vision Loss Rehabilitation Alberta.

Critical research partners include Campus Alberta Neuroscience, the Eye Institute of Alberta, the Neuroscience & Mental Health Institute and, the Hotchkiss Brain Institute. The SCN is also connected with AHS' Allied Health Professional Practice & Education and Health Professions Strategy & Practice, provincial methodological resources (Institute of Health Economics, EPICORE/SPOR), health system research groups (rehabilitation education group within AHS Health Professions Strategy & Practice) and national and international partnerships to further research and support standardization in SCI (with Praxis Spinal Cord Institute and SCI-AB) and wound care (with Mölnlycke Health Care).

The SCN has also created of a registry of researchers using online searching methods to determine the breadth and scope of NRV-related researchers at Albertan universities, institutes of technology, research institutes, community organizations and research collaboratives. The registry identifies more than 1,100 individuals based in Alberta whose research interests may align with the NRV SCN streams.

In early 2020, the Scientific Office distributed a survey to these registrants to determine current research interests, projects and priorities to establish connections. This survey was complemented with personalized and group engagement strategies to further connections between the Scientific Office and NRV-related researchers. Through these activities, we count 105 researchers across the province as current, active research members to our burgeoning research community.

ADVANCING KNOWLEDGE AND BUILDING CAPACITY FOR FUTURE RESEARCH

In the past fiscal year, the NRV SCN were active principal or co-principal investigators on four successful research grants totaling more than \$1.3M. Topics included: transitions in care for SCI, music therapy as rehabilitation, and early function in SCI.

SCN leaders also published seven manuscripts evaluating pain assessment techniques, innovations in SCI, tissue integrity in SCI rehabilitation, shared decision-making in community rehabilitation, home health monitoring technologies, training innovations in health systems research and policy, and cultural appropriateness of health information resources. Research findings were also shared through other knowledge translation activities including presentations to key stakeholders, participating sites and knowledge users.



The NRV Scientific Office also held its first seed grant competition and received strong and diverse applications related to rehabilitation in neurological disorders/brain injury, rehabilitation in joint surgery/peripheral nerve injury, vision loss, brain surgery, dementia, and pediatric pain. The competition was adjudicated in April 2020 and three grants of \$8000 were awarded to further NRV research in Alberta.

Other highlights

A key milestone for SCNs is the release of a Transformational Roadmap (TRM), which outlines strategic priorities for the network. The NRV SCN released its 2020-2024 TRM earlier this year. It identifies four strategic directions:

- Improving care through research and innovation
- Integrating care across the patient journey
- Supporting evidence-informed decision making
- Ensuring timely and equitable access to care

In addition, the NRV Scientific Office supported:

- the development of business cases related to pressure injury and wounds management, and adult concussion
- the Vision Research Group in developing a proposal focused on understanding patient experiences with Alberta's health and social systems for patients experiencing visual impairment, particularly post-stroke

Impact on health and care

In the 14 months since its launch, the NRV SCN has laid the groundwork to improve patient care, outcomes and experiences for Albertans with neurological, vision, brain and hearing conditions and those requiring rehabilitative services. Their efforts have focused on

- ▶ Building connections with patients, families and diverse stakeholders to support future collaboration
- ▶ Identifying strategic priorities and opportunities for targeted research, innovation and health system improvement
- ▶ Sharing knowledge and building capacity for health research and practice change that aligns with patient needs



Actions and areas of focus

- ▶ Understand and improve the patient experience
- ▶ Promote a provincial rehabilitation innovation strategy
- ▶ Develop and support the implementation of provincial clinical pathways that ensure integrated care along the patient journey and improve care transitions from hospital to home
- ▶ Identify quality indicators and performance measures that can support evidence-informed decision-making.
- ▶ Review clinical appropriateness of tests and therapies
- ▶ Understand gaps in equitable service delivery and deliver care closer to home

NEUROSCIENCES, REHABILITATION AND VISION



7

Peer-reviewed Publications

4

Research Grants



Value of Grants

\$1.3M



10

Seed Grant Applications



105

Research Members

9



Trainees / Research Personnel

www.ahs.ca/nrvscn

POPULATION, PUBLIC & INDIGENOUS HEALTH



Senior Provincial Director
Val Austen-Wiebe [MSc, Med,
BHEC, AHS]



**Senior Medical Director,
Population & Public Health**
Dr. Laura McDougall [MD,
University of Calgary, AHS]



**Senior Medical Director,
Indigenous Health**
Dr. Esther Tailfeathers [MD,
University of Alberta, AHS]



Scientific Director
Dr. Melissa Potestio [PhD, MSc,
University of Calgary]



**Assistant Scientific
Director, Indigenous Health**
Kienan Williams [MPH,
University of Calgary]



**Assistant Scientific
Director, Population &
Public Health**
Jamie Boyd [MSc, University of
Calgary]



**Executive Director,
Indigenous Health**
Marty Landrie [MSc, RPN, AHS]



**Executive Director,
Population & Public Health**
Jan Tatlock [MSc, BSN, AHS]



**SCN Manager, Indigenous
Health**
Erin Tomkins



**SCN Manager, Population &
Public Health**
Chrystia Bell [MSc]

Note: The PPIH SCN is in transition as part of an amalgamation with the provincial Indigenous Health and Provincial Public Health teams, effective fall 2020.

Major initiatives and achievements, 2019-2020

Over the past year, the Population, Public and Indigenous Health (PPIH) SCN has advanced several projects focused on cancer prevention, population health and improving health service delivery in Indigenous communities across Alberta. In early 2020, the Population and Public Health (PPH) team released its Transformational Roadmap, which outlines its strategic direction and priorities for improving population health outcomes, promoting health, and addressing health equity.

SUPPORTING ALBERTA'S PUBLIC HEALTH RESPONSE TO THE COVID-19 PANDEMIC

In March 2020, the SCN rapidly pivoted and shifted its focus in response to Alberta's first confirmed case of COVID-19.

The network has played a critical role in supporting Alberta's pandemic response and public health measures. Its support and coordination across zones, and with Indigenous communities across the province have significantly contributed to its public health response. Network leaders and members have reviewed emerging evidence and contributed their expertise to monitor and develop public health measures on a local and provincial scale. The importance of this work cannot be understated and is expected to continue throughout 2020.



DESIGNING AND IMPLEMENTING PATHWAYS THAT SUPPORT ENHANCED SCREENING, REFERRAL CAPACITY AND PATIENT CARE

Commercial Tobacco and Alcohol Misuse Prevention Pathway – This study focuses on implementation of two screening, brief intervention and referral (SBIR) pathways in acute care settings. Currently, Alberta has one of the highest smoking prevalence rates (16.1%) in Canada and the highest per capita alcohol consumption (9.3L per capita sales). Both are key drivers of poor health outcomes and health care spending. The team has partnered with the AHS Central Zone and multiple SCNs to embed these pathways within existing clinical workflows. Deployment sites will be directly supported by the project team to identify and address local barriers to implementation.

Financial Strain Pathway – The PPH SCN is working with AHS Zones and community providers to develop an evidence-based screening pathway for financial strain as part of routine clinical care. The goal is to embed screening and referral capacity for social and preventative factors into patient health records in the new provincial electronic medical record system, Connect Care. This data would contribute to the overall picture of social determinants of health and provide an opportunity to predict which patients require more support before being discharged or which ones might benefit from more active outreach and support to avoid re-hospitalization. Rich data of this nature will also enable AHS to evaluate the extent to which health services and outcomes are equitable.

Prevention of Cancer among Indigenous Peoples & Vulnerable Populations – The SCN has leveraged grant funding to support several projects focused on cancer and chronic disease prevention. These include a study involving enhanced screening and prevention at three Indigenous primary care sites that focused on improving health outcomes and reducing the incidence of cancer and related modifiable risk factors among Indigenous populations in Alberta.

ECHO+ Program (Extension for Community Healthcare Outcomes) – This work aims to increase screening, support and treatment for Hepatitis C and other sexually transmitted blood-borne infections for Indigenous communities. The program involves biweekly videoconferences and events to improve disease prevention, patient outcomes and experiences. Since launching in July 2019, 16 Indigenous communities have implemented ECHO+ and 76 individuals have attended ECHO+ events.

Other highlights

IMPROVING PATIENT EXPERIENCE FOR INDIGENOUS PEOPLES THROUGH ENHANCED CULTURAL SUPPORT

The **Four Winds Project** focuses on providing clinical and cultural support to help Indigenous patients and their families navigate the health system and bridge gaps between healthcare providers and Indigenous patients. Its goal is to support them throughout their care journey, improve Indigenous patients' experiences with the health system and Indigenous health outcomes.

The name "Four Winds" was developed by committee of Elders representing Métis, Inuit, Piikani and Kainai Nations. Members of these communities met to share experiences of Indigenous peoples when navigating healthcare services, discuss challenges and identify potential solutions. Community members identified 213 solutions for challenges ranging from accessibility and access, to primary health care and integration, collaboration and partnership.



In response, an Indigenous Patient Navigation Service is now offered in Lethbridge, and is the first of its kind in the province. The effectiveness of this service will be evaluated over three years, after which the program could be expanded to other Zones in Alberta.

Impact on health and care

The PPIH SCN's commitment to partner with Elders, communities and health providers throughout the province are positively impacting patient care and health outcomes Indigenous peoples and all Albertans. Over the past year, this work has:



- Supported public health measures and health outcomes throughout the province during the COVID-19 pandemic
- Improved quality of care, data collection and supports for Indigenous patients, people experiencing financial strain and vulnerable populations
- Improved awareness of underlying social needs and expanded screening for risk factors for blood-borne infections, cancer and other chronic diseases by primary care clinicians and community partners
- Helped build trust, positive relationships and connections with patients, families, Indigenous peoples, primary care, community partners and other stakeholders to support future collaboration

Actions and areas of focus

- Reorient health services to improve population health outcomes and reduce the gap in health outcomes in Indigenous communities
- Transform and align health services toward equitable access to health services for all Indigenous peoples
- Support the development of healthy, resilient communities
- Promote health and safety with children, youth and families
- Identify opportunities for shared action between the health care system, public health and communities to address underlying social needs and create conditions for health
- Improve the health and wellness of Indigenous peoples by implementing the Truth and Reconciliation Commission of Canada's Calls to Action through respectful engagement with Indigenous peoples, addressing determinants of health

POPULATION, PUBLIC & INDIGENOUS HEALTH



3

Peer-reviewed Publications

4

Research Grants



Value of Grants

\$15.7M

10

Letters of Support



72

Research Members

31

Trainees /
Research Personnel



PRIMARY HEALTH CARE INTEGRATION NETWORK



Senior Provincial Director
Rob Skrypnek [MPH, BSc]



Senior Medical Director
Dr. Linda Slocombe [MD,
University of Calgary]



Scientific Director
Dr. Judy Seidel [PhD, University
of Calgary]



**Associate Medical Director
for the Scientific Office**
Dr. John Hagens [MD, University
of Alberta]



Assistant Scientific Director
Dr. Ceara Cunningham
[PhD, University of Calgary]

and



Dr. Robin Walker (interim)
[PhD, University of Calgary]



Executive Director
Julie Schellenberg [BKin]



SCN Manager
Chris Roach [BSch, Dipl.
Emergency & Disaster
Management]

Major initiatives and achievements, 2019-2020

Over the past year, the Primary Health Care Integration Network (PHCIN) has focused on two major initiatives to improve transitions in care. Both projects involve a collaborative process with diverse health partners and stakeholders including primary care providers, community health service providers, specialists, and patients, families and caregivers.



ALBERTA'S HOME-TO-HOSPITAL-TO-HOME (H2H2H) TRANSITION GUIDELINE

Using an iterative, mixed-method approach, the network led key partners and stakeholders through a consensus-building process in which stakeholders' perspectives from one phase were used to inform the next phase. This work culminated in the release of *Alberta's Home to Hospital to Home (H2H2H) Transition Guideline and Measures*, a resource that outlines how to best support adult patients as they transition from their communities, to hospitals and then back home.



The guideline is for healthcare providers and teams working in hospitals, primary care and community settings and focuses on integrating the support patients receive from all health providers and partnering with their families and caregivers.

Ultimately, the guideline it aims to ensure patients and their families have the support they need at all stages of their health journey – from checking whether patients have a family doctor when they are admitted to hospital, through referral and access to community supports when they are discharged. Improved transitions also make the system more effective (e.g., by reducing hospital readmissions) by ensuring people have the support they need to stay well in their communities – and on their terms.

This work involved patient-oriented research and extensive engagement with patients, their caregivers, and families in co-designing the guideline. More than 15 patient advisor contributed to the guideline and ensured it focused on patient-identified needs and priorities. Patient advisors also helped identify resources for patients and families to support safe transitions.



Patient Discovery Day for H2H2H Transitions Guideline, Oct 2019

Having a provincial standard for coordinating transitions across the continuum of care is expected to improve continuity, patient outcomes, and patient and provider experiences and satisfaction on a provincial scale. The PHCIN is monitoring transitions using system and strategic measures developed with the guideline.

For more information, see [Alberta's H2H2H guideline](#) and [transition measures](#).

Sandi, Patient and Family Advisor

*Dr. Ted Braun, AHS Vice President &
Medical Director, Central & Southern
Alberta, referring to Alberta's Provincial
H2H2H Transitions Guideline*

Patients who have complex, chronic diseases often have extensive unmet care needs as they transition between hospital and home. These patients regularly return to hospital due to a flare-up or progression of their medical condition. Many hospital readmissions can be prevented with appropriate primary care and community supports. Previously, interventions to address care gaps during transitions have tended to be disease-specific (e.g., heart failure, cancer) and developed in hospitals by specialists. They are not necessarily optimized for family doctors who may not have the tools and resources to support the shared care needed by these patients.

ADAPT outcomes

- Support patients in highest risk for poor outcomes with medication use
- Enhance community capacity and support the patient's medical home
- Promote patient self-care and sign care with their preferences
- Reduce health system costs
- Improve patient outcomes
- Reduce clinical variation

Work has begun and investigators anticipate that establishing a common platform, using existing evidence and strategies from disease-specific pathways, and refining and re-aligning components with primary/community care will better meet the needs of care providers and patients, reduce resource use and cost across the health system, and improve patient outcomes.

- ▶ Share leading practices to achieve integration across Alberta
- ▶ Advance innovation and accelerate the spread and scale of initiatives that achieve significant system improvement

- ▶ Keep care in the community
- ▶ Link to specialists and back
- ▶ Support transitions from home to hospital to home

6

Peer-reviewed Publications

5

Research Grants



Value of Grants

\$2.9M

8

Workshops, Presentations and Webinars



108 Research Members

+115 Patient Advisors
active as part of a Virtual
Patient Engagement Network



8

Trainees /
Research Personnel



RESPIRATORY HEALTH



Senior Provincial Director

Shelly Valaire [MA]



Senior Medical Director

Dr. Dale Lien [MD,
University of Alberta]



Scientific Director

Dr. Michael Stickland [PhD,
University of Alberta]



Assistant Scientific Director

Dr. Heather Sharpe [PhD,
University of Calgary]



Executive Director

Jim Graham



SCN Manager

Eileen Young

Note: Respiratory Health will be part of the Medicine SCN, effective fall 2020.

Major initiatives and achievements, 2019-2020

Over the past year, the Respiratory Health SCN has engaged patients, families, clinicians and researchers on several initiatives focused on improving patient care for people with respiratory illnesses. The SCN has also focused on building research capacity in respiratory health in the province. This work has helped advance knowledge about risk factors and clinical best practice and broaden our understanding of individuals' experiences following lung transplantation. [Read more](#)

EARLY DIAGNOSIS, BETTER CARE AND IMPROVED QUALITY OF LIFE FOR PATIENTS WITH COPD

Pulmonary rehabilitation typically involves multidisciplinary interventions to improve shortness of breath, exercise tolerance and quality of life in patients with chronic obstructive pulmonary disease (COPD). In 2019, the SCN secured grant funding from the Alberta Boehringer Ingelheim Collaboration (ABIC) to spread pulmonary rehabilitation program resources to patients, families and health care professionals across Alberta and evaluate the impact of interventions such as assessment, exercise training, self-management education and psychosocial support on patient and family outcomes.



COPD often goes undiagnosed, and finding new ways to identify patients at early stages of the disease enables preventative treatment to be started earlier. The SCN used health administrative data to understand the experiences of individuals prior to a COPD diagnosis based on trends in health care utilization. This work has potential to improve quality of life for patients and families, reduce (or delay) the need for prolonged hospitalizations and frequent emergency department visits, and reduce demand for acute care for this population.



OPTIMIZING ASTHMA DIAGNOSIS IN PRIMARY CARE SETTINGS

Asthma is a condition that affects an estimated 8.1% of Canadian adults and 1 in 3 Canadians will be diagnosed with asthma sometime in their life. Despite its prevalence, diagnostic practices vary and unique challenges exist for community primary care clinics. Based on input from patient

advisors and clinicians, the Respiratory Health SCN identified a need to better understand current diagnostic practices, strategies and challenges primary care physicians face when diagnosing asthma.

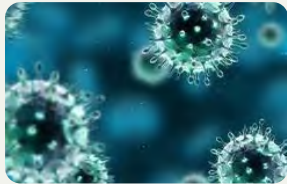
The group surveyed 84 primary care physicians about current practices and barriers to optimal diagnosis. Results were recently [published](#) and show that most primary care providers chose full pulmonary function testing or pre- and post-bronchodilator spirometry as the ideal methods of diagnosing asthma. However, they identified challenges in leveraging objective measurement for diagnostics and may rely on other diagnostic methods such as trials of medications. Based on this learning, the Airways Working Group is developing clinical practice guidelines for pulmonary function testing. These quality improvements are happening in partnership with patient advisors and primary care providers to address the identified gaps. This example of grassroots practice change is expected to reduce variation and improve quality of care.

"I think this SCN has the potential to change the way we manage health care in this province. Bringing front-line medical personnel and researchers together with everyday people who have important first-hand experiences managing their own illnesses, we will be able to greatly improve healthcare outcomes for the patients while bringing costs of treatment down in the long-term. This SCN is crucial to an efficient, patient-focused healthcare system."

Dean Powell, Airways Working Group Member

Other highlights

LEADERSHIP, EVIDENCE REVIEWS AND SUPPORT DURING THE COVID-19 PANDEMIC



The emergence and global spread of COVID-19 created unprecedented challenges for healthcare providers, public health officials, policy makers, and citizens everywhere. COVID-19 causes acute respiratory illness, particularly

for those with existing respiratory conditions and underlying health conditions. A rapid and coordinated response was essential to limit risk and potential for community exposure.

The Respiratory Health SCN was integral in supporting evidence-informed decision making, planning and coordination on a provincial scale. Members of the Scientific Office provided expert guidance as part of the AHS Scientific Advisory Group. They rapidly reviewed large volumes of emerging evidence, identified best practices and recommended actions that informed provincial decision-making. The SCN also helped develop a provincial Pandemic Respiratory Management Pathway that aligned clinical practices, and support rapid uptake of best practices and protocols to assess and treat COVID-positive patients.

Impact on health and care in Alberta

Together with its clinical and research partners, the Respiratory Health SCN continues to improve care for people living with respiratory conditions in Alberta. This work is contributing to:

- ▶ Improved understanding of care gaps and earlier, more accurate diagnosis of COPD and asthma
- ▶ Improved access to pulmonary rehabilitation resources and quality of care
- ▶ Quality, evidence-informed care and preventative measures during the COVID-19 pandemic
- ▶ Improved patient experience following lung transplantation by advancing understanding risk factors and best practices
- ▶ Potential to reduce prolonged hospitalization and frequent ED visits through earlier diagnosis and treatment of patients with COPD



Actions and areas of focus

- ▶ Optimizing respiratory health through innovative, patient-centred, evidence-informed and coordinated services
- ▶ Provincial standards for lung testing, sleep testing and oxygen therapy
- ▶ Developing integrated clinical pathways (COPD, asthma)
- ▶ Prevention and early detection of respiratory illness
- ▶ Improving access to clinical information, supporting measurement and evaluation
- ▶ Prioritization of respiratory health research

RESPIRATORY HEALTH



9

Peer-reviewed Publications

5

Research Grants



Value of Grants

\$2.1M



Hosted a Provincial Workshop to Identify and Align Quality Indicators

\$54K

Awarded to Alberta Students for Targeted Research

17

Trainees/ Research Personnel



www.ahs.ca/rhscn



Senior Provincial Director

Scott Fielding [RN, MBA CHE, AHS]



Senior Medical Director

Dr. Jim Silvius [BA (Oxon), MD, FRCPC, University of Calgary]



Scientific Director

Dr. Adrian Wagg [MB FRCP (Lond), FRCP (Edin), FHEA, University of Alberta]



Assistant Scientific Director

Dr. Heather Hanson [PhD, University of Calgary]



Executive Director

Dennis Cleaver [MHSA]



SCN Manager

Mollie Cole

Note: The Seniors Health SCN is in transition as part of an amalgamation with the Seniors Health team of Community, Seniors, Addictions, & Mental Health, effective fall 2020.

Major initiatives and achievements, 2019-2020

Over the past year, the Seniors Health SCN has engaged patients, families, clinicians and researchers to identify key priorities for improving health and care for Alberta seniors.

MOBILIZING RESEARCH ON WHAT MATTERS MOST FOR SENIORS' HEALTH IN ALBERTA

The Seniors Health SCN is working to mobilize the creation and synthesis of knowledge in areas identified by end-users as being most important areas for future research. The "Alberta Seniors' Health Research Priority Setting Partnership Project" worked with research stakeholders to identify and prioritize knowledge needs. The Seniors Health SCN engaged older Albertans, caregivers of older adults, and health and social care providers serving older adults in a priority-setting initiative following the method outlined by the James Lind Alliance. Recent focus has been on disseminating the "Top 10 List" of topics identified through this process. Dissemination has included an infographic, report, manuscript for peer-reviewed publication, and various presentations to stakeholders.



These activities are fundamental to build awareness of end-user identified research priorities, and mobilize research through partnership and collaboration with the clinical and academic communities in Alberta. This work will lay the foundation for the networks to identify strategic direction and vision for the next five-years. These priorities have also catalysed a knowledge synthesis competition and the employment of a postdoctoral fellow dedicated to furthering this work and improving the health literacy of older Albertans.

SUPPORTING SENIORS HEALTH THROUGHOUT THE COVID-19 PANDEMIC

In early 2020, Alberta Health and clinical and operational leaders in the AHS Edmonton and Calgary Zones sought assistance from the Seniors Health SCN to support the province's pandemic response. Clinical leaders with the SCN and provincial programs conducted rapid evidence reviews, developed and shared recommendations for dementia-friendly care, and provided ongoing support to the AHS Emergency Coordination Centre, all health zones, and care providers at long-term, continuing care and congregated living facilities.



These contributions helped achieve a consistent, coordinated response across the province and development and rapid uptake of clinical practice guidelines. These strategies were essential to limit risk and potential for community exposure, and ensure continued support of other ongoing care needs of Alberta seniors. SCN leaders were instrumental in reviewing emerging evidence about the risks of COVID-19 to older Albertans and were part of the team recommending public health interventions, making difficult decisions about visitation at seniors care facilities, and actively monitoring the impact of these policies. The team has continued to refine these strategies to balance the health and safety of families, residents and staff. Protecting our vulnerable seniors' population was, and continues to be, their primary focus.

Throughout the pandemic, the SCN has also continued to engage Albertans and listen to their needs and concerns. Members have worked closely with public health officials to support information needs, contact tracing and outbreak investigations at long-term care and supportive living facilities and communicate with care providers, patients and families across the province.

Other highlights

BUILDING CAPACITY FOR PRIORITY RESEARCH

The Seniors Health SCN Scientific Office provided funding to incent research by clinician researchers and undergraduate and graduate students in priority areas:

- Aging brain care
- Frailty, resilience, aging well: Late-life transitions
- Anticipating an aging Alberta

Over the past fiscal year, the SCN funded 29 research trainees, including 7 summer students from Norquest College, the University of Alberta and the University of Calgary.

Impact on health and care in Alberta

Together with its provincial, clinical and research partners, the Seniors Health SCN continues to prioritize improvements in health and care for older Albertans. Over the past year, this work has contributed to:

- ▶ **Critical public health interventions** to reduce risk and potential for community exposure to COVID-19
- ▶ **Improvements in brain care and dementia supports** for aging Albertans and their families
- ▶ **Expansion of clinical pathways that support elder-friendly care** in hospital and closer to home

"As the Seniors Health SCN continues to advocate for and play a leading role in improvements to health services and care for Alberta's older persons, evidence is of vital importance; the Scientific Office works in parallel with SCN initiatives to lend expertise and bring research and evidence into the conversation to inform decision-making."

Dr. Adrian Wagg, Scientific Director, Seniors Health SCN



Actions and areas of focus

- ▶ Prioritization of seniors health research
- ▶ Elder-friendly care in hospitals and enhanced care in the community
- ▶ Appropriate prescribing and medication use strategy for older Albertans
- ▶ Supporting Alberta's Dementia Strategy and Action Plan, brain care for aging Albertans
- ▶ Clinical pathways that support transitions in care and improve patient and family experiences

SENIORS HEALTH



3

Peer-reviewed Publications

3

Research Grants



Value of Grants

\$3.1M



103

Research Members

\$39K

in Grants & Studentships
Awarded to Incent Research in
Seniors Health

38

Trainees /
Research Personnel



www.ahs.ca/seniorshealthscn



Senior Provincial Director
Jill Robert [BScN, AHS]



Senior Medical Director
Dr. Jonathan White [MMed. Ed., MD, University of Alberta]



Scientific Director
Dr. Mary Brindle [MD, University of Calgary]



Assistant Scientific Director
Dr. Sanjay Beesoon [PhD, MPH, University of Alberta]



Executive Director and SCN Manager
Tim Baron [MBA, MScPT]

Major initiatives and achievements, 2019-2020

Over the past year, the Surgery SCN has continued to provide feedback and evidence to support the provincial government's policy directive to reduce unacceptably long wait times for elective surgeries in Alberta and support quality improvement initiatives and strategies to improve access to surgical care.

PRIORITIZATION AND RESEARCH PROGRAM DEVELOPMENT TO SUPPORT RIGOROUS EVALUATION OF THE ALBERTA SURGICAL INITIATIVE (ASI)

The Surgery SCN spearheaded a number of stakeholder engagement sessions and supported a 2019 Health Evidence Review on Surgical Wait Times conducted by Alberta Health in partnership with AHS. This work led to the creation of the Alberta Surgical Initiative (ASI), a plan that identifies five key strategies to improve the access, safety and quality of surgical care in Alberta. The plan's core strategies span the patient's journey through all phases from referral to surgery and recovery:



1. Improve provision of specialist advice to family doctors before consultation (Referral Phase).
2. Improve provision of surgical consultation and recovery (Referral and Recovery Phases).
3. Improve provision of surgery (Surgery Phase).
4. Improve care coordination and development of surgical pathways for patients and referring doctors (Referral Phase).
5. Develop strategies and recommendations to support long-term service viability (all phases).

This work is expected to involve transformational change in the structure, processes and outcomes of surgical services in Alberta. The SCN Scientific Office is working with AHS operations, Alberta Health policy makers and academic partners to put in place a robust research program to identify, monitor and report on barriers and enablers during the deployment of the ASI using concepts and models of implementation science and change management frameworks.

ADVANCING KNOWLEDGE AND OPTIMIZING SURGICAL PRACTICE, QUALITY AND SAFETY

The Surgery SCN Scientific Office has initiated and led two major studies on the implementation of the National Surgical Quality Improvement Program (NSQIP) in Alberta. We completed a systematic review on the impact of NSQIP, which was published in 2020 in the Journal of American College of Surgeons. This findings of this review not only reinforce the business case for implementation of NSQIP across Alberta, but will also strengthen how NSQIP data are used to promote quality and safety of surgical care in the province.

[Read full publication](#)

The SCN also collaborated with the Physician Learning Program on a study looking at barriers and facilitators of NSQIP implementation. This study sheds light on important, but often ignored, human factors that affect (positively or adversely) the implementation of quality improvement programs like NSQIP. A manuscript has been submitted for publication to the British Medical Journal ('Changing cognitive mindsets to advance surgical quality: Study of the implementation of the National Surgical Quality Improvement Program' by Shroeder et al. [2020. under review, BMJ]).

Other highlights

FUTURE RESEARCH AND INNOVATION TO IMPROVE SURGICAL ACCESS

The Surgery SCN's Scientific Office has developed several proposals and were successful in securing funds to further advance initiatives aimed at improving access to surgical care in Alberta. These include:

- The Scientific Office played a major role in preparing and submitting a PRIHS 5 grant focused on implementation and assessment of elder-friendly bedside reconditioning to achieve functional improvements following surgery (BE FIT). This project, led by Dr Rachel Khadaroo, received \$947,735 over three years to evaluate implementation of the BE FIT program.
- As part of the efforts to reduce surgical wait times in Alberta, and based on the success of a pilot study led by Dr. Jonathan White, the Surgery SCN is leading a study to spread and scale central intake for surgical referrals across the province and extend this model to all surgical specialties. This project will be funded for three years [\$2.4 million] through the Health Innovation Implementation and Spread (HIIS) Fund.

Impact on health and care in Alberta

Together with its clinical and research partners, the Surgery SCN continues to advance knowledge and implement practice changes that aim to

- Increase access to surgical consultation and treatment and reduce wait times for elective surgeries
- Improve the quality and safety of surgical care and provide data to better track surgical demand, utilization and performance
- Support appropriate use of surgical resources, optimize efficiency, and improve coordination and communication across care providers
- Deliver better value and improve mobilization, outcomes and patients' and families' experience for Albertans who need surgical care



Actions and areas of focus

- Improving access to integrated surgical care from consultation to treatment to transition and recovery
- Providing safe, high-quality surgical care, including expanding the use of Enhanced Recovery After Surgery (ERAS), the National Surgical Quality Improvement Program (NSQIP) and Safe Surgery Checklist
- Building a strong surgical community across Alberta
- Expanding use of surgical data, analytics and evidence to guide decisions

SURGERY



45

Peer-reviewed Publications

8

Research Grants



Value of Grants

\$3.8M

9

Letters of Support



41

Research Members

16

Workshops & Presentations



www.ahs.ca/surgeryscn