

Building and Supporting Resilience within Alberta's Health System

2020-2021 Impact Report

April 1, 2020 to March 31, 2021



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Contents

Executive summary	iv
Leadership message	vi
Overview	8
Measurement data and reporting	8
Building and supporting resilience and adaptive capacity within Alberta's health system	9
Role of the Scientific Offices	10
Creating the future of health and care together	11
Collective achievements, impact and value	14
Advancing knowledge	15
Building capacity	19
Informing decisions	24
Health impacts	32
Economic and social benefits	34
Conclusions	37
Linked materials	38
Get involved	38
Appendices	38
Appendix A Methods and metrics	39
Appendix B 2020-2021 Highlights by SCN / Area of Health.....	43

Executive summary

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

Their commitment to health research and innovation, knowledge generation and knowledge translation on a provincial scale is helping build a resilient, high-performing health system and positively impacting health outcomes, patient care, and patient, family and provider experiences.

This report highlights outcomes and key areas of impact for the 2020-2021 fiscal year.

Annual Impact Report

at-a-glance

Research, innovation and collaboration are central to our success as a resilient, high-performing health system. These critical enablers support clinical excellence, quality and value and positively impact health and care across Alberta.

Together, we:

Advance, generate & share knowledge

86
successfully
funded grant
applications*

\$49.9M
in grant
funding

66% of grant funding from sources outside Alberta

44% SCN led (PI or Co-PI); 48% SCN collaborator

432
peer-
reviewed
publications*

168
letters of
support

56% (244) with UC faculty as a co-author

46% (200) with UA faculty as a co-author

Build capacity & capability to support practice change, health research & innovation

39
studentships &
seed grants
awarded**

200+
presentations,
workshops
and events

96 scholarly presentations (local, national & international)

111 additional learning and outreach events

100+ trainees supervised or mentored (FY 2020-2021)

Over past 4 years (FY 2017-2021)

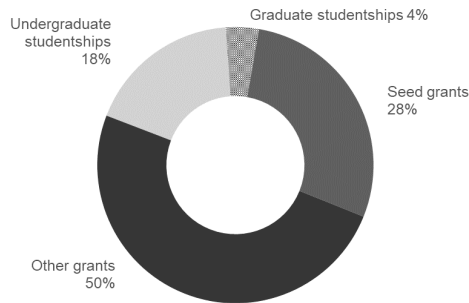
450+ trainees supervised and/or mentored

179 funded through seed grants & research funding

74 research personnel collaborated with SCNs in priority areas

\$690,606
in total funds
awarded**

↑ 50% over 2019-2020



More than \$200,000 in grant funding from SCN Scientific Offices awarded to students, researchers and trainees at **each** of Alberta's two largest universities in 2020-2021.

Inform decisions & policies, translating evidence and knowledge into action

COVID-19

82

rapid
evidence
reviews

39

provincial
guidance
documents

8

taskforce
reports &
frameworks

Contributed to the development of a **Post-COVID Playbook** supporting operational recovery from COVID-19 and sustaining new practices moving forward.

Non-COVID

15

provincial
clinical & patient
pathways

Co-leading
implementation of
the **Alberta
Pain Strategy**
with the Pain
Society of Alberta

Supported AHS Sustainability Program with evidence-based recommendations to **improve clinical service utilization** at Alberta's 14 largest acute care sites.

Improve health outcomes and positively impact health and care

- ✓ Reduced wait times and in-hospital diagnosis of lymphoma and colorectal cancer (factors associated with higher patient mortality)
- ✓ Improved biopsy reporting and access to patient supports, resulting in improved patient and family experience
- ✓ Fewer complications and hospital readmissions for patients with COPD (within 7 days and 30 days of discharge)
- ✓ Reduced risk of complications and unnecessary exposure to a blood product
- ✓ Increased awareness, access to medication, screening and treatment, and antiviral use for people with Hepatitis C and other sexually transmitted blood-borne infections, improving health outcomes

Support positive socio-economic outcomes

Reduced length of stay, treatment costs, & wait times for consultation and treatment

Improved safety, patient supports, self-management, and patient & provider satisfaction



Early screening & treatment, disease & injury prevention



Cost avoidance, improved value, efficiency & sustainability

Notes:

*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.

**includes grant funding from AHS/SCN budgets and network partners (CIHR) to support health research at Alberta's major research universities

Leadership message

Tracy Wasylak, Chief Program Officer

Braden Manns, Associate Chief Medical Officer

Strategic Clinical Networks, Alberta Health Services



Year in Review

Alberta's health system, like others' around the world, has faced extraordinary challenges over the past 20 months. The COVID-19 pandemic continues to challenge us with new variants, capacity pressures, and far-reaching impacts for all Albertans. There is no doubt that COVID-19 has profoundly influenced our lives, our work and our communities in 2020-2021.

Since the pandemic began, SCNs have supported Alberta Health Services' pandemic response, both directly with some staff being redeployed to support capacity pressures, and through our work with operational teams to navigate the impact of COVID-19 on the health, safety and well-being of Albertans. **Together, we've worked to ensure an evidence-informed and provincially coordinated response.** SCNs and Provincial Programs have been an important resource for decision makers, clinicians and the people of Alberta, with their Scientific Offices bringing research capability, connections and expertise to support the pandemic response and issues facing the organization.

Many SCN leaders have served as part of AHS' Scientific Advisory Group, rapidly reviewing and synthesizing emerging evidence on COVID-19 and best practices for clinical care. They have also co-developed provincial guidelines and recommendations that directly support patient care, families, healthcare providers and community partners.

SCNs and Provincial Programs have also continued to **rigorously evaluate practice changes and system performance, and develop and implement strategies and solutions with zone and facility leaders and community partners.** As we've begun to recognize the impact of the pandemic on people with other health conditions, the SCNs have also worked with operations to mitigate this impact across many areas.

Throughout the pandemic, we have observed countless acts of courage, compassion and sacrifice from Alberta's frontline providers. We've also witnessed renewed agility and adaptiveness in all areas of health, and the ability to maintain quality care amid unprecedented capacity pressures. Most of all, we've seen tremendous **resilience** from our people, teams and organization as a whole. For example:

- AHS has been able to leverage provincial resources such as HealthLink, its Virtual Health Program and the SCNs to mobilize resources to areas of greatest need and readily adapt to rapidly changing conditions.
- Despite the challenges of COVID-19, we have also **continued to advance and support many important initiatives that were in progress prior to the pandemic.** For example: clinical pathway development and integration, injury and chronic disease prevention, the AHS Sustainability Program, and realigning provincial structures to enhance organizational efficiency and value. This process led to the launch of the Medicine SCN and amalgamation of several networks with corresponding Provincial Programs.

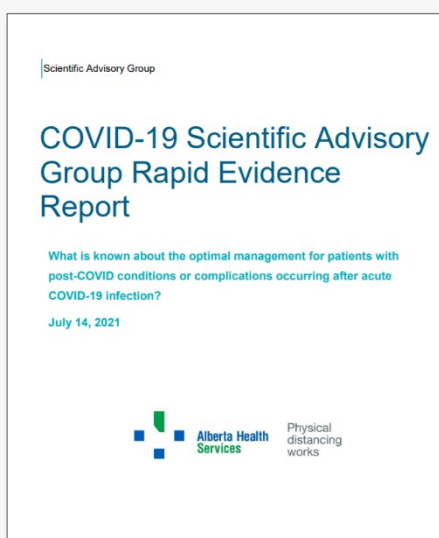
Throughout the pandemic, all of us have developed a greater understanding of factors that can enhance organizational resilience, and the cascading impact of integrated structures, collaborative processes and targeted investments such as Connect Care, the Alberta Surgical Initiative, and the Indigenous Health Strategy.

Outlook for 2021-2022

The COVID-19 pandemic has reminded all of us that we are in an era of rapid learning, and we must be **ready to adapt to new challenges using the best data and best evidence available**. We expect that the SCNs and Provincial Programs will continue to play an important role in building adaptive capacity and change readiness across AHS and across Alberta. We've made great strides over the past 12 months and are on the right track to support key priorities that positively impact health and care.

With Wave 5 ongoing at the time of writing, we expect COVID will continue to influence our work through early 2022. However, as resources allow, we intend to evaluate our progress on other strategic priorities and reactivate efforts that have been temporarily paused or slowed due to the pandemic.

Planning is well underway to support Alberta's post-COVID recovery and resume work in priority areas, such as Connect Care, Alberta's Surgical Initiative, post-COVID rehabilitation, Indigenous Health and addiction and mental health. The SCNs, Provincial Programs and Scientific Offices will continue to play an important role in supporting these efforts. As an organization, we have a tremendous opportunity to build on what we've learned and seize opportunities to sustain practices and progress made during the pandemic that will help AHS move forward as a resilient, sustainable and rapidly learning health system.



Overview

This report summarizes the collective achievements, outcomes and impact of Alberta's Strategic Clinical Networks™ (SCNs™), Provincial Programs and their Scientific Offices during the 2020-2021 fiscal year (April 1, 2020 to March 31, 2021). It highlights key collaborations and contributions of patients and families, university partners, Alberta's research community, clinical, operational and community partners, and many others, and 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 highlights 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](#)). Links are included for readers interested in additional detail on grants, publications, university faculty involvement, research collaborations and outreach activities.

As described in the *2019-2024 SCN Roadmap*, the SCNs are committed to advancing health research and innovation while building and strengthening connections with partners and stakeholders across the province. This report provides an important vehicle to communicate with our partners and report annually on outcomes and achievements. To share your feedback or suggestions for future impact reports, please contact us at StrategicClinicalNetworks@ahs.ca.

Our shared mission:

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

Measurement data and reporting

The SCN Scientific Offices have prepared this report using data for the 2020-2021 fiscal year (April 1, 2020 to March 31, 2021).



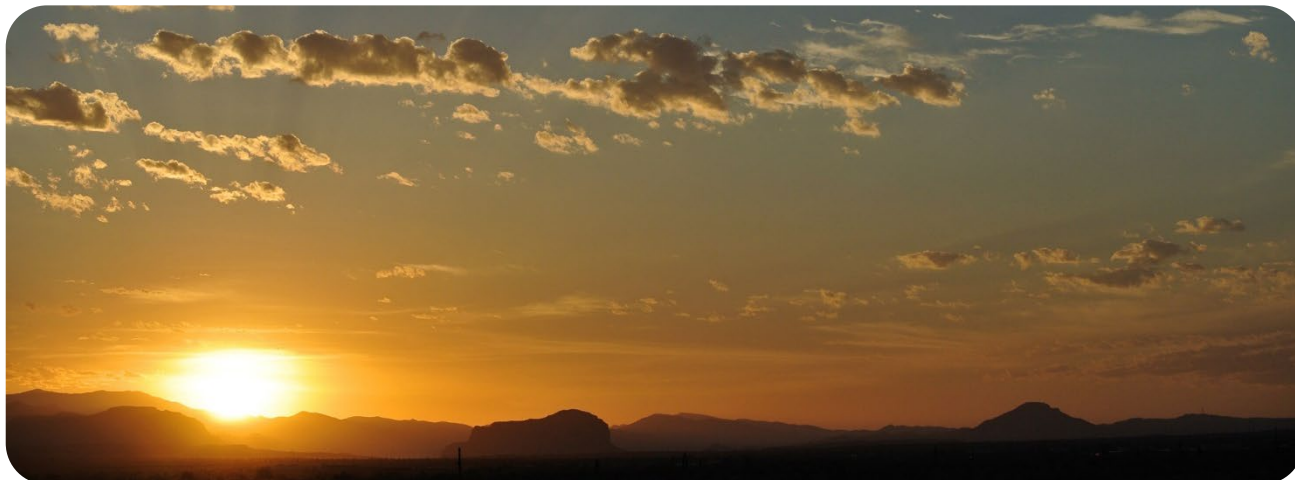
NOTE: Although the release of this year's report has been delayed due to the pandemic, metrics reflect the status of grants, publications, and funding awards at the end of the fiscal year. As such, those listed as 'pending' or 'submitted' as of March 31, 2021 were not counted in the summary metrics (even if their status is now known) to avoid double-counting and ensure consistent year-to-year reporting. Grants, awards, publications and other achievements since March 2021 will be captured in next year's report.

The report structure is similar to the 2019-2020 report and is based on the CAHS framework. This framework is widely used by government, funding agencies, and research institutions to evaluate the impact of health research. This approach is consistent with the 2019-2020 annual report.



One notable difference from last year is that SCN-specific information reflects the current network configuration, which has changed. SCNs that have amalgamated with Provincial Programs include contributions only for the affiliated Scientific Office and do not reflect grants, publications, outreach, program and health policy initiatives of the entire Provincial Program.

This is the sixth consecutive year SCNs have compiled an annual Scientific Office report, and we are grateful to the scientific directors and assistant scientific directors for providing the data and information and reviewing all details for accuracy.



Building and supporting resilience and adaptive capacity within Alberta's health system

Since March 2020, the COVID-19 pandemic has placed unprecedented stress on healthcare workers, communities and citizens, locally and globally. It has significantly disrupted normal operations and created new challenges and uncertainties driven by surging caseloads, new variants, finite ICU and surgical capacity, and vaccine hesitancy in some parts of the province.

Despite continued challenges, Alberta Health Services (AHS) has managed to plan, adapt, and rapidly implement practice changes to address many of these pressures. These actions have been enabled, in part, due to embedded capabilities, structures and processes, our willingness to learn through change, and our experience working together.

As a provincially integrated health system, AHS was able to rapidly scale-up COVID screening and contact tracing, share data and analytics capabilities, and redeploy staff and equipment to address critical resource and staffing needs. Our health system and province had prior experience rapidly responding to large-scale emergencies such as the 2013 flood and 2016 Fort McMurray wildfire. When the pandemic hit, provincial structures and measures were re-activated, including as the Emergency Coordination Centre and Zone Emergency Operations Centres. New structures and processes also emerged, such as the Scientific Advisory Group, to actively seek out and synthesize the best available evidence in the face of rapidly changing conditions.

These supports enabled rigorous review of emerging evidence and timely uptake of new knowledge into practice. Coordinated communication channels engaged clinical leaders in all parts of the province to ensure frontline teams had access to clear, consistent information and guidance.

resilience

1. the ability to respond positively in the face of significant adversity;
2. a positive, adaptive response that enables organizations and individuals to (i) maintain normal function, 'bounce back' from disruptions, and continue to meet their objectives (equilibrium theory), or (ii) improve and adapt in the face of challenges by learning from each interruption or destabilizing event (non-equilibrium view);
3. a system or individual's capacity to not only withstand shocks, but also respond to stresses, monitor, learn, anticipate and transform¹

¹ Hollnagel, E. 2010. How resilient is your organization? An introduction to the Resilience Analysis Grid (RAG). *Sustainable Transformation: Building a Resilient Organization*. Toronto, Canada.

In hospitals, clinics, and other care facilities across the province, staff and healthcare providers continually adapted clinical practices and monitored outcomes to ensure patient and provider safety, optimal care and outcomes.

Over the past year, much has been written about our individual and collective resilience as a community, society and nation, and the concept of ‘resilience’ in discussing global health challenges. At an organizational level, resilience is often described as an essential capability to limit vulnerability to crisis. Leadership, adequate resources, planning and preparedness, information management and collaboration are some of the key attributes to enable organizational resilience¹. For hospitals, factors that might foster resilience include well-developed, scalable clinical protocols; flexible electronic health records; supportive, interdisciplinary teams; adaptive work environments; emphasis on psychological safety; and effective and transparent leadership that promotes organizational alignment, empowerment and open communication².

As a learning health system, AHS has long recognized the importance of research and innovation in achieving clinical excellence and operating as a high-performing health system. The SCNs are a key enabler of this work, in part because they provide adaptive capacity to action key pieces of work and in doing so, they bring together diverse voices, perspectives, and skill sets.

There is no question that patients, families, operational leaders, clinicians, researchers, frontline care providers, community partners support health system resiliency by providing critical expertise, knowledge, and support. During major disruptive events like the pandemic, the SCNs served as collaboration and communication hubs, and leveraged these relationships and communication channels to rapidly adapt to changing conditions on a provincial scale. These same partnerships provide the support needed to advance health system improvements and innovations, evaluate programs and practices, and capture learnings during normal operations.

As the pandemic continues to ebb and flow, AHS leaders, the SCNs and others continue to look ahead, evaluating both the direct and indirect impacts of the pandemic to date and developing strategies to address anticipated future challenges, including surgical backlogs, delayed diagnoses and/or treatment and increased demand for addiction and mental health services.

Partnerships are critical pieces of Alberta’s health infrastructure that will help us emerge stronger, smarter, and with the confidence and capability to move forward and take on new challenges while optimizing health outcomes and value for Albertans.

Role of the Scientific Offices

Scientific resources are embedded into Alberta’s Strategic Clinical Networks and Provincial Programs and provide essential expertise to improve health and care in our province. The Scientific Offices rigorously monitor data, evidence and emerging research from Alberta and health systems around the world. They bring leading practices, tools, technologies and innovations to our province; evaluate them within a local context; and spread and scale those proven to improve health, quality and value.

This does not happen in isolation. The Scientific Offices work with operational leaders, researchers, patients, families and community partners, and frontline clinicians to identify areas of high priority, mobilize and translate knowledge into practice, and implement practices that improve health outcomes and health service delivery.

² Barbash, IJ and Kahn, JK. Fostering hospital resilience: Lessons from COVID-19. Commentary. JAMA 326(8):693.

Scientific teams embedded within integrated Provincial Programs bring these capabilities to newly formed Provincial Knowledge, Evidence and Innovation Divisions as part of clinical centres of excellence and work closely with program directors, health informatics teams and others to support program evaluation, quality improvement, innovation and health system transformation on a provincial scale.

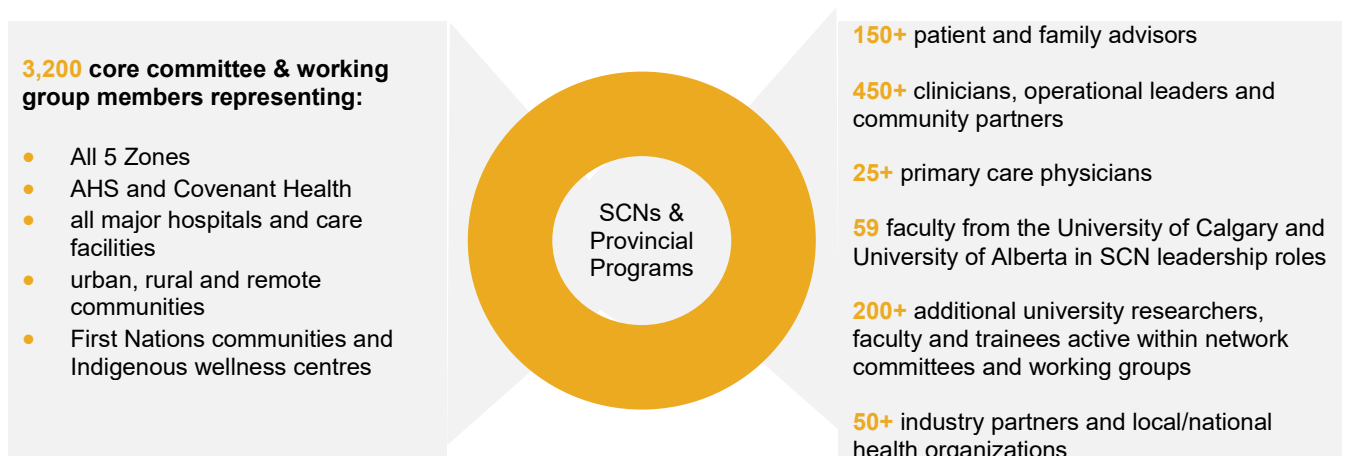
This work benefits the people of Alberta by:



Creating the future of health and care together

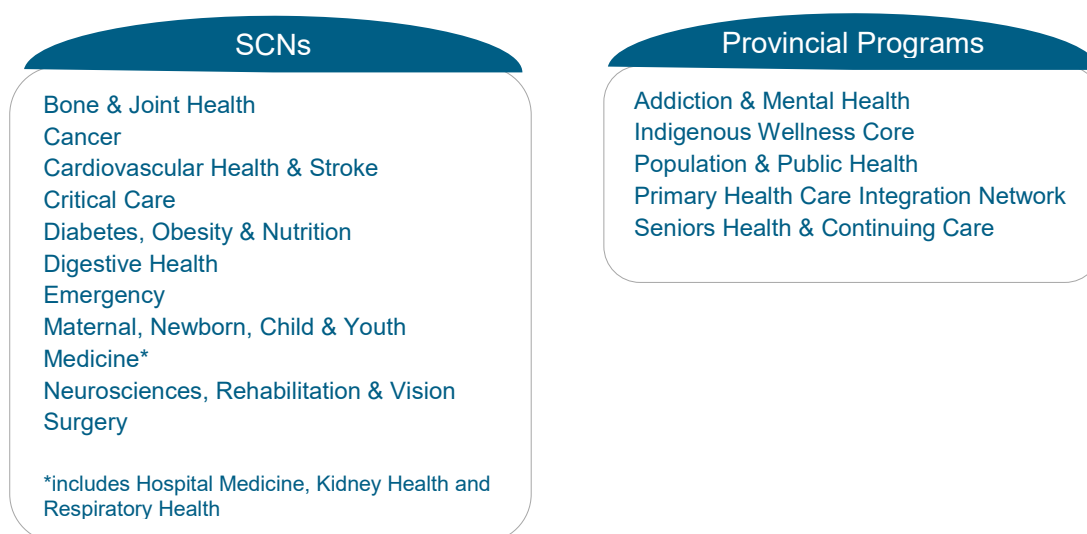
Collaboration and engagement are essential to the work and success of Alberta's SCNs and Provincial Programs. Bringing together diverse stakeholders reduces fragmentation and leverages resources to improve health, advance innovation, and support evidence-based improvements. This benefits the people of Alberta as well as frontline staff and physicians by increasing their satisfaction, knowledge, competence and confidence.

Over the past year, the composition of each network has remained relatively stable. Patients, families and caregiver with lived experience, clinician leaders and frontline care providers, leading researchers, programs and institutions are represented and active participants in each network. This structure provides a seat at the table for all stakeholders to channel their knowledge, experience and resources for maximum impact.



These structures provide an important mechanism to support rapid learning, mobilization of evidence and uptake of practice changes on a provincial scale. The SCNs, Provincial Programs and their Scientific Offices have continued to leverage relationships with zone operations and community, academic and provincial partners to ensure high-quality care to 4.4 million Albertans.

Over the past year, AHS refined several of these structures to optimize resources and further align resources and strategic planning. In response to recommendations outlined in the 2019 Alberta Health Services Performance Review, AHS and Alberta Health agreed to amalgamate several SCNs with corresponding Provincial Programs, bringing together their expertise and capabilities to support clinical excellence. This model features shared leadership and a revised organizational structure designed to strengthen existing linkages and enable greater integration of knowledge resources such as the Scientific Offices, data analytics and policy support. This report reflects the most recent SCN structure and integrated Provincial Programs configuration.



SCN Scientific Offices play an important role in brokering partnerships and collaborations with other researchers, programs and organizations as well as patients, caregivers and community partners. 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) support provincial spread and scale, health policy harmonization, and evidence-informed decision making.



Engaging patients, families and caregivers with lived experience...

Provincial Seniors Health and Continuing Care (PSHCC) supported the pandemic response with timely evidence generation and decision-making. Working closely with Provincial Public Health, community members and continuing care partners, the Provincial Program led the development and ongoing review of *Continuing Care Visitation Guidelines*.

Stakeholder engagement was a key part of this process and informed guidelines for visitors, designated support persons, and end of life care.

Guidelines were refined throughout the pandemic to reflect input from residents, families and caregivers as facilities worked to limit COVID-19 outbreaks, mitigate risks and balance the risks and benefits of public health restrictions within the rapidly changing circumstances of the pandemic.



Collaborating with clinician leaders and frontline care providers...

Over the past year, evidence has emerged about 'Long COVID' symptoms, which can include functional impairments and long-term effects on physical, psychological, and psychosocial health. In response, the Neurosciences, Rehabilitation and Vision (NRV) SCN led a series of Task Forces to inform a provincial approach to support adult patients recovering from COVID-19.

Stakeholders from all 5 AHS Zones participated, including AHS, Covenant Health, and clinicians and service providers from acute care, primary care and continuing care.

A key outcome of this work was the development of a [Post COVID-19 Rehabilitation Response Framework](#), which outlines clinical pathways, tools and supports to assess and meet the rehabilitation needs of these patients, ensuring a consistent and coordinated approach among providers.



Partnering with leading researchers, programs and institutions...

SCN Scientific Offices have rigorously evaluated and reviewed emerging evidence about the effectiveness of anti-viral therapies, proning and other clinical interventions in the prevention and treatment of COVID-19, and strategies to optimize care during the pandemic. These reviews have contributed to visible, direct impacts on care across the system.

From March 2020 to 2021, the Scientific Advisory Group completed 82 rapid evidence reviews in response to emerging issues about COVID-19. These reviews have facilitated the knowledge to action cycle, and reduced the time to move evidence into practice. Reviews have focused on safety precautions for patients, caregivers and healthcare providers, viral transmission in workplaces and congregate living facilities, efficacy of various therapies in treating patients with COVID-19, risks to specific populations, strategies for controlling outbreaks of COVID-19, and various other topics.

Several SCNs, in collaboration with university researchers and industry partners, have also secured grants to support randomized control trials and studies focusing on improving patient outcomes and clinical practices for patients hospitalized with COVID-19, pregnant women and youth seeking acute mental health and addiction care.

...to overcome challenges of the past 12 months, apply learning, continue looking forward and evolving as a learning health system

Collective achievements, impact and value

The collective achievements and contributions of the SCNs, Provincial Programs and their Scientific Offices during the 2020-2021 fiscal year are described using the CAHS impact framework. In the sections that follow, the impact of this work is discussed in the context of five CAHS domains. Indicators and common definitions used by all networks are listed in [Appendix A](#).



These domains 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 also reflected in the AHS Innovation Pipeline.

The Innovation Pipeline is fueled 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 of the pipeline, research and academic partners provide expertise and capacity to support scientific inquiry, knowledge generation, rigorous data collection and analysis. The SCNs 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.



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

SCNs and their Scientific Offices establish priorities that address critical knowledge gaps and reflect 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 with interdisciplinary teams, universities, research institutes and Alberta's research community create synergies and build capacity to conduct health research that is relevant to AHS and Albertans.

The networks benefit from the expertise that researchers, data scientists and academic partners provide. In turn, SCN engagement can help clinical and academic researchers access funding by enhancing the feasibility and potential impact of projects, or enabling pragmatic trials within a provincially integrated health system.

The approach seems to be working. In 2020-2021, \$49.9 million in grant funding was awarded to university faculty working with SCNs and Provincial Programs. Funding sources included national research and health organizations (e.g., CIHR, Heart and Stroke Foundation), research institutes, foundations and health organizations, industry partners, and provincial sources.

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.

¹ AHS. Updated review of prolonged symptoms after acute COVID-19 infection. COVID-19 Scientific Advisory Group Rapid Evidence Report. [July 12, 2021].

² AHS. What is known about the optimal management for patients with post-COVID conditions or complications occurring after acute COVID-19 infection? COVID-19 Scientific Advisory Group Rapid Evidence Report. [July 14, 2021].

Understanding long-term outcomes of COVID-19 and risk factors for 'long COVID'



Although much has been learned over the past year about the novel coronavirus (COVID-19) and risks of acute illness, less is known about long-term physical and psychological outcomes.

In a rapid evidence report¹ on this topic, the Scientific Advisory Group (SAG) found early studies showed as many as 1/3 to 1/2 of people diagnosed with COVID-19 had symptoms lasting more than a month, with some symptoms lasting 6 months or more. Further, several studies describe COVID-19 survivors as requiring medical care (from emergency departments, acute care, home care, outpatient specialty clinics, general practitioners, and telehealth lines) after their initial infection.

Further research is needed to address current gaps, and identify risk factors for post-COVID conditions. Alberta researchers are among those delving into these questions. For example:

- SAG has conducted an evidence review² on what is currently known about the optimal management of patients with post-COVID conditions or complications and strategies that may be useful in treating people with post-COVID conditions.
- Researchers from the Cardiovascular Health and Stroke SCN and Neurosciences, Rehabilitation and Vision SCN are co-leading a retrospective, case-control study in Alberta to understand the prevalence of long-term symptoms in COVID-19 survivors, patient care needs, and risk factors associated with adverse physical and psychological health outcomes.

This work will generate knowledge that will be used to improve patient care and outcomes for Albertans who contracted COVID-19. Funding for this research was provided by Alberta Health in March 2021. Learn more about this study in the [2020-2021 Research Collaborations Summary](#) (page 31).

Advancing knowledge: 2020-2021 at-a-glance

Grant funding for health research in Alberta

\$49.9M

2020-2021 total funding
(successful applications)

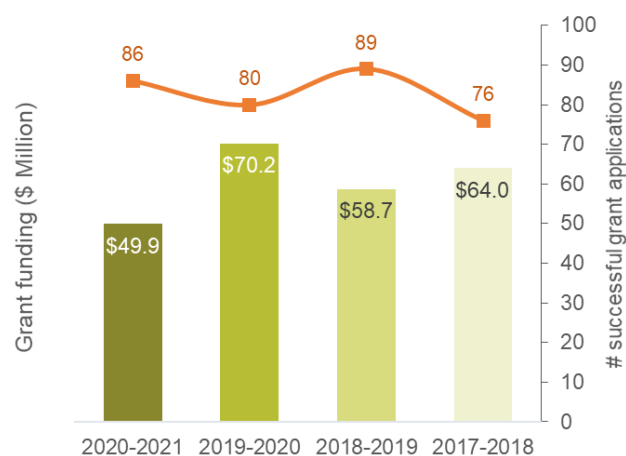
86

successful applications

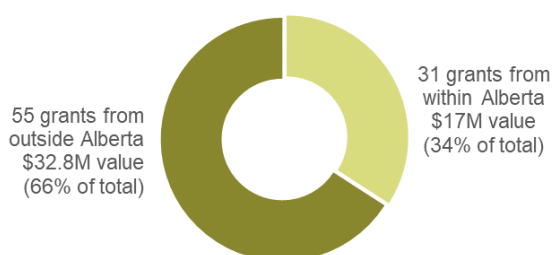
66%

of awarded funding from
sources outside Alberta

GRANT FUNDING, YEAR OVER YEAR

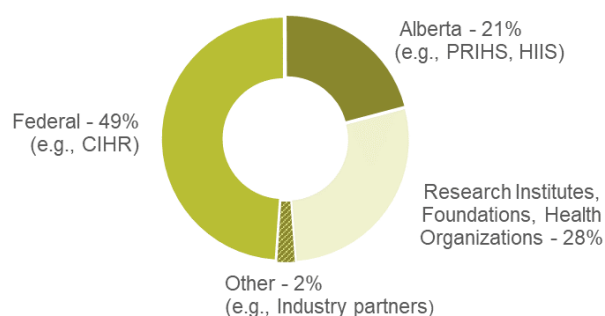


TOTAL FUNDING BY SOURCE*

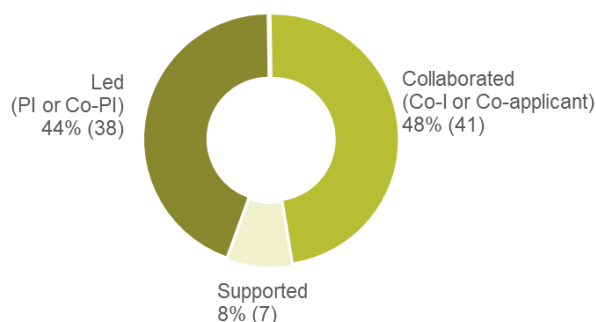


*does not include operational funding from AHS and Alberta Health

GRANTS BY SOURCE



SCN ROLE



69% Success rate for grant applications (2020-2021)
64% in 2019-20 | 67% in 2018-19

NOTES:

These metrics include work SCNs are leading, collaborating on, or supporting. They do not include funding for work done part of members' other roles, responsibilities or affiliations, nor do they include the 47 additional competitions pending at fiscal year, letters of interest or letters provided in support of grant applications.

Details on grants (including areas of research) are provided in the [2020-2021 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 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 fiscal year, SCNs provided 168 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.

168

letters of support to Alberta researchers in support of funding proposals

Note: Letters of support are counted separately and excluded from grant totals.

2,000

active research network partners

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 2020-2021 fiscal year, SCNs authored and contributed to:

432

total peer-reviewed publications

93%

with SCN leaders as named authors

244 (56%)

with UC faculty listed as a co-author

+65

submitted or in-press manuscripts

70

publications with SCN leaders listed as first or second authors

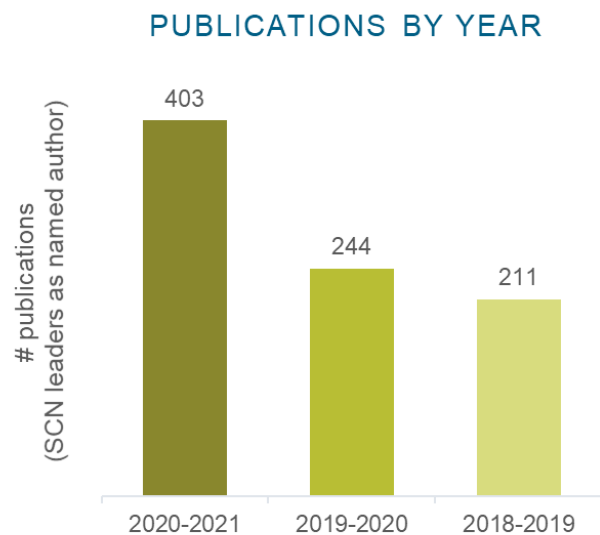
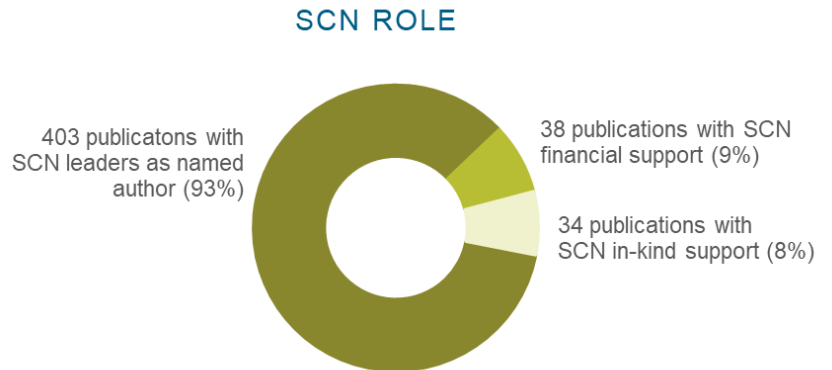
200 (46%)

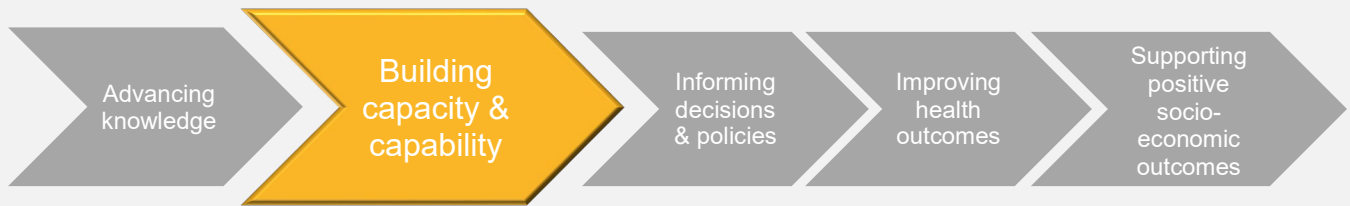
with UA faculty listed as a co-author

Note: Totals do not include in press, submitted or pending manuscripts as of March 31, 2020

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 [2020-2021 Publications Summary](#).





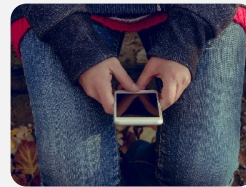
SCN Scientific Offices provide funding and learning opportunities that build capacity to test, measure and pilot solutions, drive innovation, and facilitate current and future health research

Capacity-building is an area of impact identified within the CAHS framework, and many SCNs identify capacity-building as a key priority for their network.

Capacity building within the networks takes many forms. Several SCNs have actively partnered with Indigenous communities and organizations on collaborations that address barriers to care and the unique health needs of First Nations, Métis and Inuit Peoples.

Seed grants and funding for summer students, research fellows and clinicians are other examples of strategic investments 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, investments in health technologies, and practice changes to improve health outcomes, service delivery and system performance.



Partnership builds capacity and supports Indigenous youth mental health

In Alberta, there is a pressing need for community-based and cost-effective mental health supports. COVID-19 has amplified these needs and revealed increasing rates of addiction and mental health issues in youth and young adults, ages 15 to 24. These needs require immediate attention and action that is effective, appropriate and scalable to meet current demand.

The Siksika and Tsuut'ina Nations have partnered with AHS and the University of Calgary to respond to the mental health needs of their youth and young adults. Together, the team is working with Innowell, a digital health organization, to develop and evaluate an electronic mental health platform (eMental Health) that aims to empower and support youth in their mental health journey.

Over the past year, Siksika Health Leadership, Indigenous scholars, Provincial Addiction and Mental Health, the Indigenous Wellness Core and the AHS Virtual Health Team have actively engaged the Tsuut'ina and Siksika communities and sought their feedback on a co-designed eMental Health platform.

The support provided by these Nations led to the platform being adapted to include domains relevant to Indigenous community perspectives. These culturally relevant domains include spiritual health, cultural connectedness, grief and loss.

This project is the first of its kind in Alberta and has achieved many milestones over the past year through the leadership and continuous participation of First Nations communities. It demonstrates the value of working together to build community health capacity and will inform future community-driven research priorities on mental health, locally and provincially. Work is ongoing and community health leaders, clinicians, and youth will continue to play a key role in expanding it going forward.

Building capacity and capability: 2020-2021 at-a-glance

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, including outcomes, are provided in the [2020-2021 Research Collaborations Summary](#). Other capacity-building activities within specific areas of health are highlighted in [Appendix B](#).

In FY 2020-2021

100+

trainees supervised or mentored
by SCN leaders

Over past 4 years (FY 2017-2021)

450+

trainees supervised and/or mentored

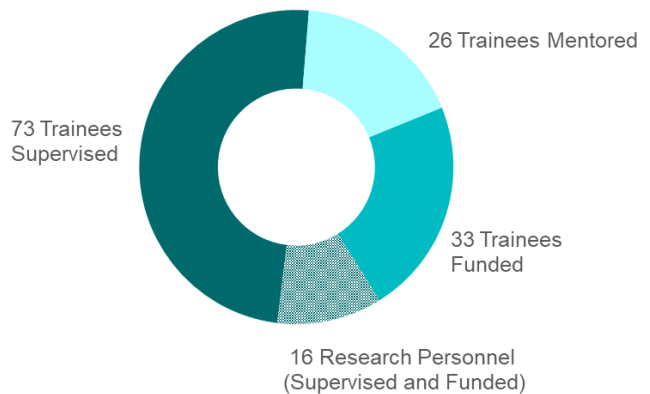
179

funded through seed grants and
research funding

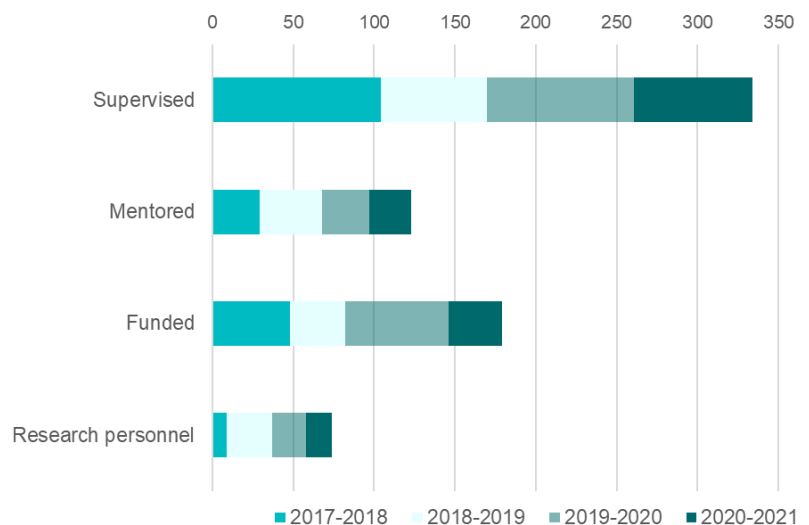
74

research personnel collaborated with
SCNs in priority areas

TRAINEES SUPPORTED FY 2020-2021



SUPPORT BY TYPE AND YEAR



Grants awarded through the SCN Scientific Offices

\$690,606

in grants awarded in FY 2020-2021
to support local research and
capacity building



A 50% increase over 2019-2020

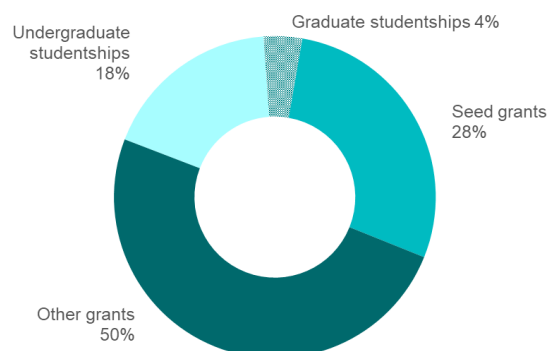
39

studentships & seed grants awarded to
support health research at Alberta's
three major research universities

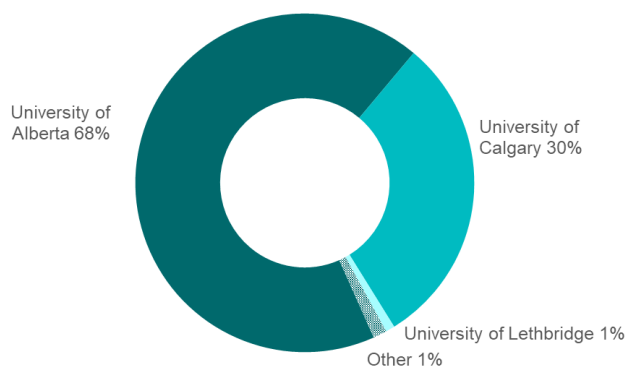
15

additional grants awarded for research
collaborations in priority areas

FUNDING TYPE



FUNDING BY RECIPIENT AFFILIATION



Studentships

	N	Funds Awarded
University of Alberta	14	\$85,500
University of Calgary	9	\$59,752
University of Lethbridge	1	\$6,000
Other	0	--
TOTAL	24	\$151,252

Seed Grants

	N	Funds Awarded
University of Alberta	13	\$150,783
University of Calgary	2	\$45,000
University of Lethbridge	0	--
Other	0	--
TOTAL	14	\$195,783

Other Grants

	N	Funds Awarded
University of Alberta	7	\$231,713
University of Calgary	6	\$102,858
University of Lethbridge	0	--
Other	3	\$9,000
TOTAL	15	\$343,571

Patient-led research and PaCER training

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 2020-2021, SCNs supported four patient-led or co-led research projects. These studies focused on patient and family experiences in the areas of addiction and mental health, digestive health, nutrition and seniors' health. For detail on these projects, see the [2020-2021 Patient Research Summary](#).

17

patient volunteers
sponsored to receive PaCER
training in FY 2020-2021

3

PaCER cohorts and 3 patient-led or
co-led research projects that are; part of the:
Alberta Pain Strategy | eMental Health Project
Indigenous Youth/Young Adults Honouring Life Project

Workshops, presentations, outreach activities

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 2020-2021, these activities included many virtual events and fewer in-person events due to public health restrictions limiting gathering size.

200+

presentations, workshops and events

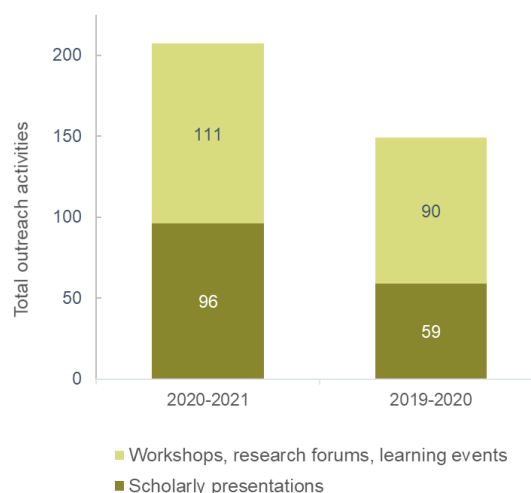
96

scholarly presentations to local, national
or international audiences

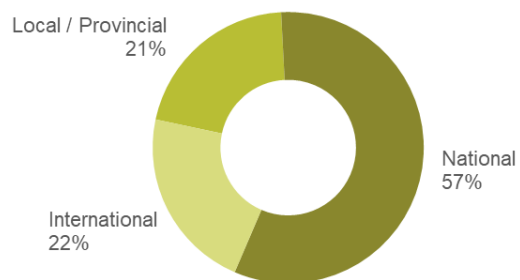
111

additional learning & outreach events

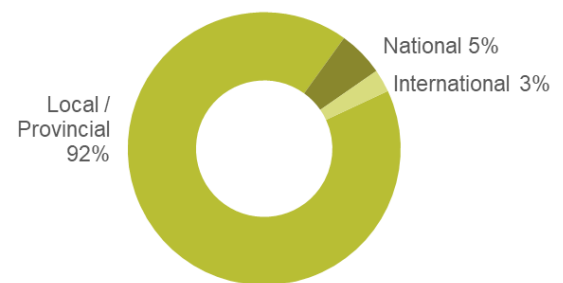
YEAR-OVER-YEAR COMPARISON



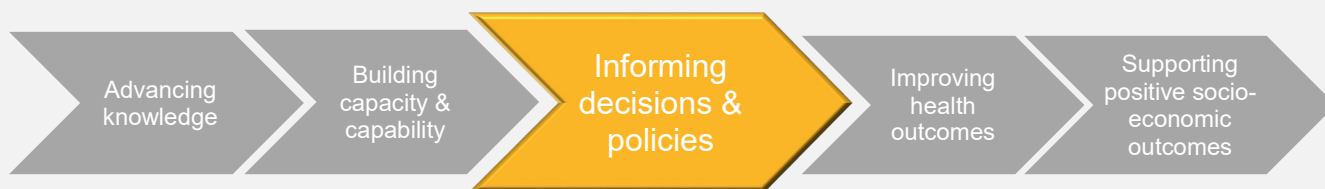
SCHOLARLY PRESENTATIONS



WORKSHOPS, LEARNING EVENTS, RESEARCH FORUMS



For details, see the [2020-2021 Outreach Summary](#).



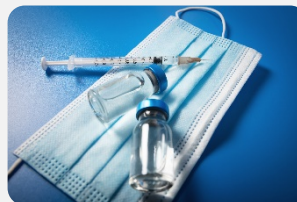
SCN Scientific Offices convert knowledge and evidence into action that informs health policy and decision making. Together with operational partners and provincial programs, we implement practice changes that positively impact patient & provider safety, improve health outcomes, and promote equity across the province.

The Scientific Offices play an important role in mobilizing evidence and integrating it into daily practice. They ensure scientific rigour throughout this process and support a variety of knowledge dissemination and translation activities.

Knowledge translation is a core function of the SCN Scientific Offices and is an embedded capability within the Provincial Programs and their Knowledge, Evidence and Innovation teams. It is pivotal in realizing the benefits of research in terms of health service delivery, quality of care, and improved outcomes for patient and population health.

Over the past year, we have seen many examples in which the SCNs, Provincial Programs and their Scientific Offices have rapidly reviewed and synthesized evidence to support health policy and decision making on a provincial scale.

This knowledge has informed decisions and policies regarding exposure risk, clinical practices and therapies for COVID-19 patients, screening methods, vaccination strategies, and other pandemic and public health protocols. It has also supported clinical pathway development and clinical excellence across all zones.



Rapid evidence review, synthesis & recommendations

During the pandemic, the need for rapid, evidence-informed decision making was paramount. SCNs played a key role in ensuring frontline staff and decision makers had access to the best information and data available amid a very volatile information environment.

SCN Scientific Offices worked alongside academic researchers and senior medical leaders to review, synthesize and compile emerging evidence and develop clear recommendations on topics requested by the Emergency Coordination Centre and Chief Medical Officer of Health.

From March 2020 to 2021, the Scientific Advisory Group (SAG) completed 82 rapid evidence reviews and reports, including several updates. These reports have informed decisions regarding:

- masking and personal protective equipment for healthcare workers, staff and visitors at long-term care facilities
- the safety and efficacy of pharmacological treatments for COVID-19 (e.g., NSAIDs, ACE inhibitors, Vitamin D, hydroxychloroquine and chloroquine, Colchicine, Ivermectin, Sotrovimab)
- the effectiveness of anti-microbial therapies for secondary infections, prone positioning for non-intubated patients and virtual vs. in-person care

The SAG also evaluated risk factors for developing severe outcomes from COVID-19, community transmission, immunocompromised patients, and transmission risk related to school and daycare reopening. Reviews were shared with AHS executive, the ECC, Alberta Health and the Chief Medical Officer of Health and used to inform public health policy, restrictions and guidance.

Many of the rapid evidence reviews and reports are available on the [AHS web site](#). For additional details, see the [SCN COVID-19 Publications Summary](#).

Mobilizing knowledge and evidence into practice

A key function of SCNs and Provincial Programs is to support knowledge translation with the goal of rapidly getting evidence into practice. Working with clinical and operational stakeholders, teams support this objective by:

- identifying care gaps, **developing strategic plans** that align with provincial and organization priorities
- working with patients, operational leaders, clinicians, the research community and community partners to **action** these plans
- developing and operationalizing **clinical pathways and guidelines**
- supporting **provincial coordination** across sites and zones
- prioritizing **stakeholder engagement and communication**
- helping **develop and implement provincial health strategies** (e.g., Alberta Pain Strategy, Indigenous Health Strategy, and Alberta Surgical Initiative)
- **synthesizing evidence and providing recommendations, input and advice** to inform 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

Much of this work is provincial, which helps promote equity in terms of access, quality and value. Provincial pathways, guidelines and practices help standardize care across sites, and bringing a provincial lens to operational planning helps ensure high-quality care for Albertans in every zone, community and rural area.

Nonetheless, impacts in this domain are challenging to quantify – in part because decision-making inputs, the roles of each contributor, and the way evidence informs decisions are difficult to measure. Although no common measures have been defined by CAHS, the following examples highlight key contributions the SCNs, Provincial Programs and network stakeholders have made during the 2020-2021 fiscal year that have informed health policy decisions and provincial initiatives. These achievements are a direct outcome of partnerships 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 COVID-19 Scientific Advisory Group.

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.

In 2020-2021, SCNs contributed to development & implementation of

more than

37

COVID-related provincial guidance documents

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. Notable accomplishments in 2020-2021 are listed below.

COVID-19

SCNs and Provincial Programs co-developed, updated, reviewed and disseminated a variety of clinical pathways and guidance documents to support patient care during the pandemic. These deliverables supported diverse patient populations and were rapidly implemented on a provincial scale to ensure standardized care in all communities and AHS facilities. Many of these guidance documents were also shared with other provinces and health jurisdictions to support their pandemic response. Examples include:

- Cancer Treatment Prioritization Framework (to guide the delivery of Cancer Care Alberta services during the pandemic)
- Provincial Surge Capacity Planning
- Provincial Respiratory Therapy Communicable Disease Emergency Response Plan

Triage guidelines

- Critical Care Triage Plan (adult and pediatric guidelines) and numerous guidelines to support critically ill patients, including:
 - team-based care and staffing models for critical care during the pandemic
 - altered clinical practices during COVID-19 surge
 - provincial critical care tele-support for COVID-19
- Provincial Endoscopy Triage Guidelines
- 6 guidance documents to support emergency departments in managing COVID-19 patients and risks, including:
 - case definitions and flow maps
 - COVID screening in emergency departments
 - triage diversion directive (in the event emergency departments were overwhelmed)

Personal protective equipment (PPE)

- Masking guidance for healthcare workers
- Medical exemptions to mandatory vaccination
- PPE for GI Endoscopy guidelines

Clinical care

- Provincial guidelines to support respiratory management of adult patients with confirmed or suspected COVID-19
- 15 guidance documents for pediatrics and maternal health, including clinical support guidelines and resources to support masking during labour and COVID-19 vaccination during pregnancy
- Management strategies for wandering COVID-19 patients in acute care
- Series of post-COVID rehabilitation pathways, tools and supports
- Family support and visitation guidelines

SCNs also worked with key stakeholders to support the implementation of another

15

clinical and patient pathways

Continuing care

- Guidelines for care of residents in long-term care during the pandemic
- Visitation guidelines for continuing care sites during the pandemic

Other (non-COVID) pathways

Bone and Joint Health

- co-developed evidence-informed Standards of Practice for Conservative Management of Osteoarthritis in partnership with the Alberta Bone and Joint Health Institute, patient advisors, clinicians and core committee members

Cancer

- provincial implementation is underway for the lymphoma diagnosis pathway (complete in Calgary and Edmonton Zones, has begun in North, Central and South Zones)
- design is complete for the colorectal cancer diagnosis pathway; implementation to begin in 2022

Critical care

- work continues to progress toward provincial implementation of Venting Wisely pathway, which aims to improve outcomes for mechanically ventilated patients through standardized practices

Chronic conditions

- diabetic eye care clinical pathway
- gastrointestinal pathways and supports (7 primary care pathways that address common digestive health conditions plus 8 patient pathways)

Heart Failure (HF) and Chronic Obstructive Pulmonary Disease (COPD)

- revised implementation toolkit to support uptake of HF/COPD pathway and address barriers to implementation
- completed COPD Discharge Bundle and Pathway project (PRIHS-funded)

Integrated care during transitions

- continued implementation of the Provincial Home to Hospital to Home (H2H2H) Transition Guideline and Elder-Friendly Care

These pathways and guidelines support the Quadruple Aim and help standardize patient care, improve safety and health outcomes, and improve the experience for patients, families, 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](#).



Pathways aim to expedite cancer diagnosis, referrals and treatment

While there's nothing particularly flashy about clinical pathways and guidelines, they are important tools for standardizing care and improving quality, safety, patient outcomes, and patient, family and provider experience. Comprehensive, evidence-informed pathways can support early diagnosis and end-to-end patient-centred care, resulting in better outcomes.

Strategies that expedite cancer referrals and diagnoses, improve care coordination and provide supports for patients and families can also help reduce stress and anxiety and prevent delays in testing, referrals and treatment.

The Cancer SCN and Cancer Care Alberta have implemented provincial diagnosis pathways for breast, lung and prostate cancer. These innovations include standardized reporting, facilitated diagnostic investigations and referrals, urgent assessment and triage, and access to navigation, psychosocial, and education supports

urgent assessment and triage, and access to navigation, psychosocial, and education supports.

The SCN is building on the success of previous pathways and is expanding this work to other areas. Over the past two years, it has co-designed provincial pathways focused on expediting diagnosis, treatment and support for patients suspected of having colorectal cancer or lymphoma. Local implementation teams are supporting shared learning across sites and dashboards are being developed to monitor health system performance.

For colorectal cancer and lymphoma patients, a significant proportion are diagnosed during hospital admissions, which is associated with higher mortality and potentially unnecessary investigations.

These pathways focus on improving biopsy processes and reporting; access to education, navigation and psychosocial supports; expediting staging investigations; and improving coordination with primary care providers.

Strategic priorities and plans for health system improvement

Integrated provincial teams to drive clinical excellence

In early 2020, following the AHS Review, four networks merged with their corresponding provincial program to become integrated provincial teams. The shared model maintains the capabilities of both teams while enhancing opportunities for collaboration, provincial coordination, innovation and impact.

The integrated provincial programs include:

- Indigenous Wellness Core
- Provincial Population and Public Health
- Provincial Addiction and Mental Health
- Provincial Seniors Health and Continuing Care

In addition, the Kidney Health and Respiratory Health SCNs were consolidated as part of the Medicine SCN. Work is currently underway to develop shared strategic plans that will drive innovation on a provincial scale.

Opportunities to improve clinical services utilization at acute care sites

Clinical services utilization was one of the key themes identified in the AHS Performance Review. In spring 2020, the Sustainability Program Office asked SCN leaders for support in conducting a [comprehensive evidence review](#) to identify opportunities and strategies to improve clinical services utilization at acute care sites in Alberta. The review focused on opportunities to accelerate current progress and spread, scale or implement practices that have the greatest potential to deliver targeted efficiencies and cost savings.

More than 75 SCN members contributed to this work, which culminated in a detailed report to the AHS Review Implementation Team and Executive Leaders outlining opportunities to support key objectives identified in the AHS Performance Review (i.e., to reduce avoidable admissions, acute care length of stay, and alternate level of care days and to improve the ambulatory care operating model with a focus on clinical efficiency).

Working groups reviewed data for Alberta's 14 largest adult acute care sites and interviewed site leaders to ensure recommendations reflected site-specific considerations, opportunities, needs and priorities. They also considered innovations, strategies and changes in practice implemented during the COVID-19 pandemic, and whether some of these could be sustained post-COVID to help achieve targeted improvements in patient flow, acute care capacity and patient outcomes.

Deliverables also included 14 site-specific reports that documented areas of success as well as opportunities and recommendations to support operational leaders in prioritizing and making decisions about which opportunities and strategies to implement at their site. These reports were shared with site leaders in June 2020 and used to inform Site Implementation Plans and AHS' Clinical Services Implementation Strategy, submitted to Alberta Health in August 2020.

Post-COVID planning and prioritization

AHS continues to adapt to the COVID-19 pandemic and has engaged the SCNs, provincial programs, clinical and operational leaders, and others to help assess service backlogs and indirect impacts of COVID-19 on patients with other health conditions.

A multidisciplinary advisory committee that includes Executive Leadership, Zone Operations, SCN leaders, Data Working Group, AHS Patient Safety, Planning and Performance and Finance teams has compiled a **Post-COVID Playbook** that provides data and evidence-informed recommendations to support organizational preparedness, policy and operational decision-making as Alberta moves beyond Wave 5 of the pandemic. The focus is on clinical service delivery in 15 major health services areas, mitigation strategies and estimated costs related to the pandemic and anticipated increases in demand.

The Playbook is intended to guide operational leadership in optimizing health system delivery by providing a range of evidence-based options and strategies. Recommendations and priority actions were shared with the AHS Board and Executive Leadership Team and decision making is underway. Some examples of specific actions include updated guidance for endoscopy referrals, increased access to cancer diagnostics and palliative care services, and expansion of post-COVID specialty clinics, the rehabilitation advice line, and non-urgent telephone specialty advice services.

Updated roadmaps and strategic plans in specific areas of health

While the pandemic caused some projects to be temporarily paused over the past year, several networks were able to complete or continue work on updating their transformational roadmaps, and reflect emerging needs in their plans and priorities.

4

SCNs* released an updated Transformational Roadmap, identifying priorities for the next five years

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

+4

newly amalgamated provincial programs initiated process of developing an integrated strategic plan

Wellness, health promotion and prevention

The SCNs, their Scientific Offices and Provincial Programs support provincial strategies that promote wellness, self-management, early diagnosis and interventions that help *prevent* chronic disease, pain and injury. Highlights from 2020-2021 include:

- Co-leading provincial implementation of [The Alberta Pain Strategy](#) in partnership with the Pain Society of Alberta. Over the past year, the team launched the Alberta Pain Research Network and working groups focused on optimal prescribing; perioperative pain management; education; models of care; interdisciplinary access; outcome measures; and transitional pain. In 2021, the team received a CIHR Health System Impact Fellowship to develop and evaluate a provincial model for chronic pain.
- The Bone & Joint Health SCN completed an evaluation of [GLA:D](#), a community-based program that supports bone and joint health, preventative care and non-surgical self-management strategies for people living with hip and knee osteoarthritis. The evaluation includes feedback from patients and providers and Alberta-specific insights that will be used to refine the program and support spread and scale.
- Completion of a pilot study in the South Zone that showed **Enhanced Lipid Reporting** (a lab-based screening tool), successfully increased screening and identification of patients at risk of cardiovascular disease and supported primary care physicians in providing up-to-date treatment guidelines based on patients' risk scores. Work is currently underway to spread this initiative, led by the Cardiovascular Health and Stroke SCN, provincially to all zones.
- Research and programs that support **community-based cancer and Hepatitis C screening, prevention and treatment** in Indigenous communities. The Indigenous Wellness Core has partnered with Indigenous communities and health organizations to evaluate outcomes, expand these programs to additional sites and improve the experience of Indigenous patients.
- Health coaching, workshops and supports through the **Virtual Diabetes Prevention Program**, a partnership between the Diabetes, Obesity and Nutrition SCN, Alberta Blue Cross, several Primary Care Networks and Yes Health. This program provides virtual support to individuals at risk for type 2 diabetes as well as fitness and nutrition monitoring using an app to encourage healthy living and diabetes prevention.



- Efforts to incorporate screening for financial strain with the goal of **reducing the impact of financial strain** on health. The Primary Health Care Integration Network has partnered with Provincial Population and Public Health, the Alberta Medical Association, AHS Zone leaders, Primary Care Networks (PCNs) and communities across Alberta to pilot and evaluate strategies to identify patients experiencing financial strain and provide referrals to community supports through PCNs and community agencies. Screening has been integrated into the clinical workflow at three sites and participating communities are currently at the implementation stage for their prioritized actions.



The work of the SCNs and Scientific Offices is grounded in the Quadruple Aim and our commitment to positively impact health outcomes, patient and provider experiences, value and sustainability.

SCNs and Provincial Programs 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, the Provincial Programs and their Scientific Offices spans many areas of health and its impact extends to individuals as well as population and public health.

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



Community-based program helps Albertans with osteoarthritis stay active and live well

First piloted in Alberta in 2016, the GLA:D Program (which stands for Good Life with osteoArthritis: Denmark) is now offered in communities across the province in all zones.

This eight-week neuromuscular exercise program helps individuals living with hip and knee osteoarthritis (OA) learn how to build muscular strength through functional exercises, control movement and correct posture, and apply these exercise to everyday activities.

Research from Denmark shows that participants in the program report less pain, reduced use of painkillers and more physical activity.

A recent evaluation completed by the Bone and Joint Health SCN showed that most participants reported positive impacts on pain, strength, mobility and overall function. This translated into improved participation in daily activities that were previously limited or unavailable (e.g., gardening, playing with grandchildren, recreational activities, and getting in and out of a vehicle).

Additional benefits participants identified include:

- increased confidence, empowerment & motivation
- new habits & behaviours related to physical activity and exercise
- prevention, or delay, in surgery
- weight loss or improved muscle tone

The evaluation also showed that impacts were not equal across all participants. Some reported little change in their symptoms over the program, suggesting that GLA:D may not be suitable for all patients, particularly those with hip OA, significant functional restrictions or severe symptoms.

Impact of clinical pathways, guidelines, and programs on health outcomes



Provincial Colorectal Cancer & Lymphoma Diagnosis Pathways

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



Heart Failure and COPD Care Pathway

- ✓ Priority area for clinical pathway development due to the high cost of clinical variations in these populations.
- ✓ **Improved health outcomes**
- ✓ **Reduced hospital readmissions** for COPD patients who received the discharge bundle (within 7 days of discharge and 30 days overall) compared to those who did not. This change is associated with improved outcomes, fewer complications and considerable savings for Alberta's health system.



RATIONALE (Critical Care Optimization of Albumin Ordering)

- ✓ Since implementing changes in albumin ordering, Alberta has seen a **39% decrease in unnecessary albumin usage**
- ✓ 678 patients **spared unnecessary exposure to a blood product** and risk of complications



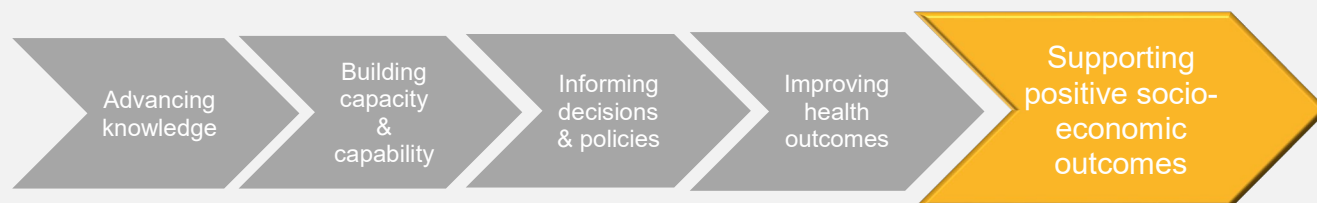
Improved Endoscopy Procedures

- ✓ 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.**



ECHO+ (Extension for Community Healthcare Outcomes) Program

- ✓ In Alberta, the prevalence rate of Hepatitis C is four times higher for First Nations Peoples compared to all Albertans. A lack of access to culturally safe and appropriate prevention, screening and treatment services is a root cause of inequitable and avoidable Hepatitis C burden.
- ✓ Changes in Hepatitis C screening and treatment supports have **increased awareness, access to medication, screening and treatment, and antiviral use for people with Hepatitis C and other sexually transmitted blood-borne infections**, improving health outcomes.



The SCNs, their Scientific Offices and Provincial Programs work with stakeholders across Alberta to advance health system improvements that improve access, value, clinical utilization, 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.

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.

Supporting optimal clinical utilization at Alberta's largest acute care sites



In May 2020, the AHS Sustainability Program Office engaged the SCNs to review evidence and identify strategies that can help optimize clinical services utilization at acute care sites. This work was initiated in response to recommendations outlined in the AHS Performance Review.

SCN leaders convened multidisciplinary working groups that reviewed and synthesized evidence and drafted a series of reports that identified leading practices and highlighted opportunities to improve clinical service utilization at Alberta's 14 largest acute care facilities.

Working groups focused on:

- ✓ Reducing avoidable admissions at acute care sites
- ✓ Reducing acute care length of stay (LOS)
- ✓ Reducing the actual LOS (ALOS) to expected LOS (ELOS) ratio for mental health patients
- ✓ Reducing alternate level of care (ALC) rates at acute care sites, and
- ✓ Improving the ambulatory care operating model with a focus on clinical efficiency

Site leaders were tasked with identifying site-specific strategies, best practices and actions that reflected their operational needs, demographics and context.

By validating and sharing evidence-based practices with AHS executive and operational leaders, SCNs were able to support site leaders in identifying and prioritizing opportunities to optimize care delivery and embed evidence-based practices that meet quality improvement and efficiency objectives. This work informed a comprehensive implementation plan that outlines actions expected to yield significant savings and capacity gains.

It also highlights the coordination that can be achieved within a provincially integrated health system and the capacity SCNs and provincial programs can provide to support operational needs, quality improvement and health system innovation throughout Alberta.

Economic and social benefits of clinical pathways, guidelines, and programs



RATIONALE (Critical Care Optimization of Albumin Ordering)

- ✓ In response to strong evidence showing that albumin (a donated blood product and common IV fluid) has no benefit for most patients, and may cause harm to others, the Critical Care SCN worked with clinical and operational stakeholders to optimize albumin ordering and limit inappropriate use of albumin.
- ✓ Since implementing changes in albumin ordering at 16 adult ICUs (Nov 2019 to Jan 2021), Alberta has seen a 39% decrease in unnecessary albumin usage. Based on estimated annual costs (\$2.2M in 2018), this change has resulted in **0.86M cost avoidance**.
- ✓ **Improved patient safety**, with 678 patients having been spared unnecessary exposure to a blood product.
- ✓ Reduced environmental impact and associated costs from healthcare waste (97.8 kg to date)



Primary Care Supports for Gastroenterology (PCS-GI)

- ✓ Development of standardized primary care pathways for common digestive health conditions (Hepatitis C, dyspepsia, IBS, chronic constipation, non-alcoholic fatty liver disease, H. pylori and gastro-esophageal reflux disease) support primary care providers and patient self-management, ensuring high quality care for patients within their medical home and optimizing capacity and referrals to specialty care.
- ✓ Early evaluation of the use of these pathways (based on 3,435 patients in the Calgary Zone) demonstrated their safety and effectiveness.
- ✓ **89% of patients received care within their medical home, with only 11% of patients re-referred to GI specialists**. Of these, only 25 patients had clinically actionable diagnoses (0.8% of the originally referred patients).
- ✓ Estimated net healthcare cost avoidance for this patient population was **\$835,000**. These pathways are available online for primary care providers in all health zones, enabling further cost avoidance.



CanREACH (Canadian Research and Education for the Advancement of Child Health)

- ✓ Provincial Addiction and Mental Health is supporting expansion and ongoing evaluation of the CanREACH program, which trains primary care physicians in pediatric mental health and provides mentors to help them implement service changes that improve care for children and youth mental health.
- ✓ The program, first piloted in Alberta in Calgary Zone (2014-2019), builds much-needed mental health literacy and community supports. Since September 2019, **272 Alberta participants** have been trained in the program, 36% from rural zones (North, Central and South).
- ✓ **18 pediatric mental health initiatives** have been developed and implemented by CanREACH alumni in Alberta, including youth hubs, specialized clinics, videos and consultation services.
- ✓ To date, the estimated cumulative net value of this program to Alberta's health system is **\$3.22 million** (based on research from the Calgary Zone).



Partnerships with First Nations to Understand Healthcare Disparity and Acute Care Experiences

- ✓ The Emergency SCN has led several studies that focus on equity in emergency care and involve partnerships with First Nations organizations to address barriers to care. This work is supported by an Elder Advisory Group that includes members from the three Treaty areas in Alberta.
- ✓ These studies have provided some of the first comprehensive, peer-reviewed examinations of First Nations members' ED visits and statistics for any Canadian jurisdiction, and document First Nations' members experiences with stereotyping and discrimination that impact their decisions to seek emergency care.
- ✓ This work provides First Nations partners with evidence that will help them **advocate for resources and improvements to health services** (within the ED and beyond) **and inform strategies to improve equity, diversity and inclusion in emergency care.**



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 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, cost avoidance and direct system savings.

Other impacts (e.g., expanded access to health services, integrated care)

SCNs and Provincial Programs continued to support other access, clinical service utilization, and quality improvements that:

- expand access and service offerings (e.g., using virtual models of care) and evaluate these approaches
- enable and enhance care at home or in the community (e.g., Primary Health Care Integrated Geriatric Services Initiative, Facility-Based Continuing Care Review)
- identify and reduce barriers to care, to achieve equitable access to health services

Over the past fiscal year, these efforts have involved extensive collaboration with primary care, patient and family advisors, clinical specialists, operational leaders, Indigenous communities and organizations, other community partners, Alberta Health and several AHS teams.



Expanded access to virtual 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 non-urgent specialist advice lines (ConnectMD, Specialist Link), a provincial Rehabilitation Advice Line and development of a Provincial Pathways Unit



Integrated health services for seniors living in the community

- ✓ Support for **age-friendly environments** and community-based services that align health systems to the needs of older people.
- ✓ Community collaborations piloted to date to create dementia-inclusive communities have led to development of key resources, including a **well-being guide and competency framework, evidence and multi-sectoral partnerships** (AHS, primary care networks, government, non-profits, industry, foundations) to sustain this work and support continued improvement.
- ✓ This work involves connecting people and communities for living well and emphasizes integrated approaches and multi-sector collaboration that **support elder-friendly care in the community** (e.g., home care services, addiction and mental health services, seniors outreach, palliative care, dementia-friendly care, community services and food security).

Conclusions

This report provides a high-level summary of the contributions SCNs, their Scientific Offices, Provincial Programs, 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 many benefits and reciprocal value these partnerships provide.

While the activities the SCNs have undertaken have changed over the past year, we have continued to support the needs of Albertans. The contributions highlighted in this report showcase how, together, we are helping build and maintain a strong, sustainable, and resilient health system that is capable of meeting the challenges of a global pandemic—as well as future challenges that are not yet known.

Health research and innovation are essential to a learning health system. Patients, clinical and operational partners, researchers and university allies, government and community partners are vital to successfully advance this work, inform decisions and advance strategic health innovation on a provincial scale.

Our plan for the coming year is simple: Continue to work together, absorb what we've learned over the past year and apply it to emerge a more resilient and adaptive health system. Focus on our strengths and capabilities to address the challenges that will remain once we emerge from the pandemic, and work together to maximize our collective impact and reach, and optimize resources to support clinical excellence, patient-centred care and a sustainable health system.

Linked materials

Additional detail for the 2020-2021 fiscal year is provided in supplemental files, linked from this report:

 Key Contacts – SCNs & Provincial Programs	 Faculty Involvement by University	 COVID-19 Publications & Contributions to the Scientific Advisory Group
 Grants Summary	 Outreach Summary	 Publications Summary
 Patient Research Summary	 Research Collaborations & Funding Support	

Appendices

- [Appendix A – Methods and metrics](#)
- [Appendix B – 2020-2021 Highlights by Area of Health | SCNs and Provincial Programs](#)

Get involved

Alberta's SCNs, Scientific Offices and Provincial Programs 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.

Appendix A Methods and metrics

Measuring our performance

The SCN Scientific Offices and Provincial Programs 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.

SCNs and Provincial Programs 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 contributions of SCNs and Provincial Programs in each of these domains. Where possible, common indicators are used to ensure consistent measurement across all networks, programs and time. Health impacts are characterized for the appropriate population and scale (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. Where possible, this report highlights collective achievements and describes the broad impact of this work.

Reporting period

Data in this report is for the 2020-2021 AHS fiscal year (April 1, 2020 to March 31, 2021).

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 information was reviewed for accuracy and completeness 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

Indicator	Definition
Grants ^{1,2,3,4,5}	# of grant proposals led, collaborated or supported by the SCN/Provincial Program and submitted to a single competition, and value (CAN\$) of grant award
Letters of support ^{5,6}	# of letters of support provided by SCN/Provincial Program Leaders
Research network members ⁷	# of researchers who self-identify as members of the SCN/Provincial Program research community
Peer-reviewed publications ^{5,8}	# of peer-reviewed publications aligned with SCN/Provincial Programs subject matter, projects, and/or priorities
COVID-related publications ^{5,9}	# of peer-reviewed publications or deliverables developed in support of the AHS COVID-19 Scientific Advisory Group and its mandate

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

1. Includes any grant proposals supported by the SCN/Provincial Program 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 of 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) or co-applicant. I
3. Grant amounts are reported in Canadian dollars. The full value of the grant is included in the summary metrics in the year the grant is awarded. Where grant allocations are dispersed by province, only the Alberta amount is counted in summary metrics. In the case of multi-SCN collaborations, shared grants are listed under each SCN but counted only counted once in summary metrics.
4. Grant applications submitted are listed as 'pending' if the outcome was not known by the end of the fiscal year. They are not counted in the summary metrics (even if their status is now known) to avoid double-counting and ensure consistent year-to-year reporting.
5. SCN/Provincial Program Leadership includes the Scientific Director and Assistant Scientific Directors well as Senior Medical Director, Senior Program Director or Senior Program Officer, Executive Director and Manager.
6. Includes letters of support written by any member of the SCN/Provincial Program Leadership team. Letters of support are mutually exclusive from in-kind support in Grant Application Indicators (i.e., letters of support are not counted as in-kind support in Grant indicators).
7. 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 research network even if the grant, project or working group is over.
8. 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).
9. In FY 2020-2021, a separate count of COVID-related deliverables is included. These include rapid evidence reviews, taskforce reports, frameworks, clinical practice guidelines and pathways, and related deliverables that supported the work of the AHS Scientific Advisory Group during the COVID-19 pandemic.



Building capacity

Indicator	Definition
Trainees – supervised ^{1,2}	# of trainees supervised by SCN/Provincial Program Leader(s) and related to an SCN/Provincial Program 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/Provincial Program 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/Provincial Program but <u>not supervised</u> by SCN/Provincial Program Leadership (e.g., Studentship competitions, SD budget, PRIHS, other SCN-related funding mechanisms) and related to an SCN/Provincial Program priority project.
Research personnel – supervised and funded	# of research personnel funded by the SCN/Provincial Program, by grant dollars or other SCN funding mechanisms <u>and</u> supervised by the SD, ASD or SCN/Provincial Program Leadership
Additional funding	
<ul style="list-style-type: none"> Summer studentships³ 	# summer studentships awarded (not launched) and total dollar amount in fiscal year
<ul style="list-style-type: none"> Seed grants³ 	# of seed grants awarded (not launched) and total dollar amount in 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 fiscal year
Patient-led research and PaCER training	# of patient volunteers sponsored by SCNs/Provincial Programs in fiscal year to receive PaCER training and # of SCN-supported patient-led or co-led research projects
Outreach activities ⁴	<p># of scholarly presentations (lectures, abstracts, posters, conference panelist and moderator) to local, national or international audiences in fiscal year by SCN/Provincial Program Leadership.</p> <p># of presentations, workshops, research or quality improvement forums, webinars, learning collaboratives, grand rounds, and similar learning events by SCN/Provincial Program Leaders that support knowledge-sharing and capacity-building.</p>

Notes:

1. SCN/Provincial Program Leadership includes SD and ASD as well as Senior Medical Director, Senior Program Director, Senior Program Officer, 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, University of Lethbridge, Mount Royal University, Other).
4. Includes sub-count of scholarly presentations and total count of other outreach activities (workshops, meetings and learning events). Totals include both in-person and virtual events. Regular meetings (e.g., core committees), social media posts, interviews/appearances are excluded from total count.



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- and Provincial Program-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, and 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 and Provincial Program 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

2020-2021 Highlights by Area of Health (SCNs and Integrated Provincial Teams)

Strategic Clinical Networks

- [Bone and Joint Health](#)
- [Cancer](#)
- [Cardiovascular Health and Stroke](#)
- [Critical Care](#)
- [Diabetes, Obesity and Nutrition](#)
- [Digestive Health](#)
- [Emergency](#)
- [Maternal, Newborn, Child and Youth](#)
- [Medicine](#) (includes Hospital Medicine, Kidney Health and Respiratory Health)
- [Neurosciences, Rehabilitation and Vision](#)
- [Surgery](#)

Provincial Programs

- [Indigenous Wellness Core](#)
- [Primary Health Care Integration Network](#)
- [Provincial Addiction and Mental Health](#)
- [Provincial Population and Public Health](#)
- [Provincial Seniors Health and Continuing Care](#)



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

BONE AND JOINT HEALTH



Senior Provincial Director

Jill Robert, BScN, AHS

Scientific Director

Dr. David Hart, PhD, University of Calgary, McCaig Institute

Executive Director

Mel Slomp

Key Partners

Alberta Bone and Joint Health Institute (ABJHI)

Senior Medical Director

Dr. Jason Werle, MD, FRCPC, University of Calgary, AHS

Assistant Scientific Director

Dr. Ania Kania-Richmond, PhD, University of Calgary

SCN Manager

Sheila Kelly, RN, BN, MN, ONC(C)

McCaig Institute for Bone and Joint Health

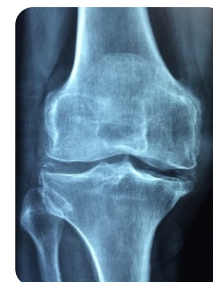
Major initiatives and achievements, 2020-2021

The Bone and Joint Health (BJH) SCN continues to partner with the research community to advance care and improve outcomes for patients living with conditions that impact their bones and joints. The SCN Scientific Office has developed two opportunities to support health research in the field of bone, joint and musculoskeletal health and align activities with provincial priorities.

The SCN's Facilitation Funding creates opportunities to build health research capacity within Alberta, provides continuity through funding cycles, and enables researchers to leverage these funds in applying for larger grants. Likewise, its Targeted Seed Grant competition supports research that aligns with identified priorities and knowledge gaps, enabling evidence-informed progress on key initiatives. To date, more than \$70,000 has been disbursed to researchers across Alberta through these competitions, including \$45,000 in the 2020-2021 fiscal year. These funds are supporting research on youth injury prevention, non-surgical services and management strategies for osteoarthritis, and clinical outcomes for specific surgical techniques. [Learn more](#) about projects currently underway in Alberta.

→ Focus on first line, non-surgical treatment of osteoarthritis

Over the past year, the BJH SCN leadership team worked with patient advisors, core committee members, and key health partners and stakeholders such as the Alberta Bone and Joint Health Institute to develop **Quality Standards for Conservative Osteoarthritis Management**. These consensus-based, evidence-informed standards support care for adults with osteoarthritis of the hip and knee, focusing on assessment, diagnosis, treatment, self-management and measurement across all health care settings. The multi-stakeholder working group behind these efforts is now working toward a new objective: knowledge translation and effective uptake of these standards and self-management approaches that can be implemented province-wide, improving quality and standardization of care for all Albertans.



→ The Alberta GLA:D™ Evaluation: Phase 1 completed

The Good Life with osteoArthritis: Denmark ([GLA:D](#)) program is an evidence-based group education and neuromuscular exercise program for individuals living with hip and knee osteoarthritis. Implementation of the GLA:D program in Alberta began in 2016, and is currently offered in five health zones, including urban and rural centres. The evaluation provides important, Alberta-specific insights about program delivery, spread and scale, and patient and provider feedback (expectations and impact).

In 2020/2021, the team expanded the evaluation to incorporate two additional aspects in the assessment:

1. To understand potential variation regarding GLA:D implementation, the team investigated whether outcomes vary by funding model (i.e., public vs private) and geographic setting (i.e., metro, urban, and rural).
2. Due to the COVID-19 pandemic, face-to-face delivery of GLA:D was suspended in spring 2020. Providers quickly adapted provincially, nationally, and internationally to enable virtual delivery of GLA:D (and GLA:D training). These circumstances presented a unique opportunity to capture the experience of providers and patients with the virtual delivery model of GLA:D, which will be included in the Alberta evaluation.

The first phase of the evaluation is now complete, and a report outlining key findings was released in March 2021. Manuscripts for publication are also being prepared.

Supporting innovation in health care

"A huge thanks to Ania Kania-Richmond and BJH SCN for the financial support... through the BJH SCN Facilitation Funding Opportunity. You have always been a great supporter of our endeavours and were the first to introduce Kinetisense to the U of A and specifically Martin Ferguson-Pell. The collaboration between Kinetisense and the U of A has been amazing for us ever since. We will never forget this."

Dr. Ryan D. Comeau, CEO, Co-founder of Kinetisense Inc.



An Alberta-based company specializing in movement science and technology.

Other highlights

→ Cell therapies in osteoarthritis

In March 2021, **Dr. David Hart (SD)** was part of a team who presented Alberta's experience in using bone marrow aspirate concentrate (BMAC) containing mesenchymal stem cells to treat patients with knee and hip osteoarthritis at a virtual Health Canada committee meeting of policy makers, clinicians and researchers.

Dr. Hart and his colleagues from Alberta, including Dr. Rob Burnham (clinician-researcher) and Arla Maier (Alberta College of Physicians and Surgeons) are advancing knowledge in this area of health research and have shared their perspectives on clinical applications of cellular therapies in Alberta, regulation of the use of BMAC, its safety and efficacy through several manuscripts and reviews. [Read recent publication](#)

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. Their work is positively impacting health and care in Alberta through:

- Improved care pathways and patient outcomes for patients following hip fracture.
- Improved measurement and evaluation of key metrics for patients with musculoskeletal (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.
- Efforts to reduce surgical demand, enhancing access to effective first line (conservative) treatments, and empowering Albertans in their self-management.

Actions and areas of focus



- Collaborate with patients, health and community partners to transform MSK care and create a person-centred, integrated system of care that optimizes bone and joint health and improves mobility and function
- Undertake an BJH SCN impact assessment to better understand the value of the network, relationships and collaborations facilitated through the BJH SCN leadership team and SCN activities.
- Support research and implementation of GLA:D Back in Alberta and the low back non-surgical management pathway in primary care.
- Continue pathway development under the MSK transformation strategy, focusing on knee assessment and the shoulder clinical care pathway.

BONE AND JOINT HEALTH



31

Peer-reviewed Publications

3

Research Grants



Value of Grants

\$600K

13

Workshops & Presentations



17

Letters of Support



8

Trainees / Research Personnel

www.ahs.ca/bjhscn

CANCER



Senior Provincial Director

Barbara O'Neill, MBA, RN,
COHN(C)

Scientific Director

Dr. Paula Robson, PhD, CHE,
RNutr(UK), University of Alberta

Executive Director

Angela Estey, MA (Hed), RN

Key Partners

Cancer Care Alberta (CCA)

Alberta Cancer Foundation

**Cancer Research Institute of Northern
Alberta (University of Alberta)**

**Arnie Charbonneau Cancer Research
Institute (University of Calgary)**

Senior Medical Director

Dr. Douglas Stewart, MD, FRCPC,
University of Calgary

Assistant Scientific Director

Dr. Anna Pujadas Botey, PhD, MSc,
University of Alberta

SCN Manager

Tara Bond, MA, CHE

Major initiatives and achievements, 2020-2021

The Cancer SCN (CSCN) advanced a number of initiatives over the past year, including a refresh of its [Transformational Roadmap 2020-2024](#). Our work focuses on improving care across the cancer continuum in Alberta through data, evidence and collaboration.

→ Future of Cancer Impact in Alberta

In 2021, the CSCN established the [Future of Cancer Impact \(FoCI\) in Alberta](#) Working Group to guide the collation and synthesis of what is currently known about cancer in Alberta, and project and plan for the future state. Its goal is to identify priority areas that are likely to need attention in the next 5-10 years. The FoCI Working Group includes patient and family advisors, physicians, clinicians, academic partners and representatives from pharmacy, diagnostic imaging and laboratory services. The group and its co-chairs, Dr. Paula Robson and Dr. Darren Brenner, are developing a report on future cancer incidence, mortality, and survival, and discuss topics related to the provision of cancer care across the continuum, including prevention, screening, early diagnosis, treatment, survivorship and end-of-life care. This report (anticipated release in early 2022) will be used to stimulate discussion with health leaders and strategic partners across Alberta, with the goal of achieving consensus on future cancer-related priorities.

→ Cancer SCN Innovation Pipeline: Investments in priority research

The CSCN continues to refine processes to support the generation of ideas and proof-of-concept projects that can improve outcomes and experiences for people in Alberta who are facing cancer. Bringing together patient and family advisors, physicians, clinicians and experts in innovation, we developed guiding principles and a robust process to solicit and select ideas aligned with our Transformational Roadmap. In January 2021, we launched the [Cancer SCN Innovation Pipeline Grant Competition](#) to identify and invest in early-stage innovations in cancer that align with three areas of focus: 1) priorities in cancer identified through James Lind Alliance (JLA) Priority Setting Partnerships, 2) virtual care and support for patients with cancer, 3) appropriateness of cancer care and supports. The competition will fund both performance gap identification and proof-of-concept projects.

→ Signs and symptoms of cancer: Public health campaign

Since the start of the COVID-19 pandemic, Alberta has experienced a decline in overall numbers of cancers being diagnosed. Together with CCA, we launched a public health campaign to encourage the public to seek advice from healthcare providers when they have unexplained, new, worsening or persistent health changes ([Listen to Your Body](#)). In addition, and in collaboration with CCA Research and Analytics, we developed an interactive Tableau dashboard to monitor cancer case registrations on an ongoing basis, and completed two scientific manuscripts describing the use of administrative health data to model potential future surges in cancer cases. [Read first publication](#) (second not yet available)



→ Cancer Treatment Prioritization Framework during the pandemic

To support Alberta's pandemic response, the Cancer SCN worked with provincial tumor teams and supportive care leads to co-develop [CancerControl Alberta's Cancer Treatment Prioritization Framework](#). This framework guides the delivery of CCA services (systemic therapy, radiation therapy and supportive care services) in the event of staff shortages during a pandemic and is an important tool for contingency planning and decision making. The SCN engaged provincial stakeholders and coordinated input from patient and family advisors, relevant departments, cancer centre operations, CCA executive, clinical ethics and legal teams.

Other highlights

➔ Alberta Cancer Diagnosis (ACD) Initiative

Alberta's cancer community (Albertans, health care providers, and community supports) has identified and endorsed an opportunity to improve cancer diagnosis by coordinating and streamlining processes at a provincial scale. The ACD Initiative will anchor all clinical pathways for cancer diagnosis, establishing a single point of access for patients and providers. The CSCN secured funding for this important initiative in 2020-2021, and work is underway.

➔ Lymphoma & Colorectal Diagnosis Pathways

The CSCN is supporting symptomatic patients suspected of having colorectal cancer and lymphoma by creating a lymphoma pathway and a colorectal cancer pathway with Health Innovation Implementation and Spread (HIIS) funds. The **Lymphoma Diagnostic Pathway** has been implemented at many sites in the province, and implementation of the **Colorectal Cancer Diagnostic Pathway** is underway in Edmonton and Calgary, and almost ready for spread to other locations. These pathways support standardized, high quality care for all Albertans.

Impact on health and care

The Cancer SCN is leading transformation to improve care across the cancer continuum in Alberta by developing strong relationships with patients, families, research institutes, clinicians and operational partners to leverage available resources and expertise. We work together with these stakeholders 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

Quality indicators

The CSCN has defined a series of quality indicators to measure progress and outcomes. This process involved extensive literature reviews, consultation with experts, and facilitated discussions with relevant stakeholders including our core committee. The core committee also participated by completing an indicator prioritization survey.



Actions and areas of focus

- Build a community that strategically transforms cancer care
Launch a coalition of researchers to answer questions important to patients & providers; establish partnerships to maximize community support close to home
- Translate evidence and data to inform priorities, practice, policy and planning
Build capacity to analyze and interpret cancer-related data; advance the Cancer SCN Innovation Pipeline
- 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



16

Peer-reviewed Publications

3

Research Grants



Value of Grants

\$2.6M

4

Workshops & Presentations



190

Research Members

5

Trainees / Research Personnel



www.ahs.ca/cancerscn

CARDIOVASCULAR HEALTH & STROKE



Senior Provincial Director

Shelley Valaire, MA

Scientific Director

Dr. Colleen Norris, PhD, MSc, BScN,
RN, University of Alberta

Executive Director

Balraj Mann, MS/MBA, RN

Key Partners

Campus Alberta Neuroscience

Heart and Stroke Foundation

Hotchkiss Brain Institute [University of
Calgary]

Libin Cardiovascular Institute [University
of Calgary]

Mazankowski Alberta Heart Institute

Senior Medical Directors

Stroke: Dr. Michael Hill, MD, MSc,
FRCPC, University of Calgary

Cardiac: Dr. Michelle Graham,
MD, FRCPC University of Alberta

Assistant Scientific Director

Dr. Christiane Job McIntosh, PhD,
University of Calgary

SCN Manager

Agnes Lehman, BScOT, MScHP

Major initiatives and achievements, 2020-2021

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 and cardiovascular event outcomes continue to be a priority across Alberta. The SCN is actively engaged in strategic partnerships to optimize cardiovascular and stroke care, prioritize research and mobilize knowledge from clinical trials into practice.

The COVID-19 pandemic directly impacted the CvHS SCN as many members were called to increase their service in various capacities. We would like to acknowledge and thank our frontline clinicians, operational leaders, and patient and family partners who actively served the cardiovascular and stroke communities and participated in task forces provincially, nationally and internationally.

→ Provincial Clinical Pathways Support Unit (CPSU) supports integrated care for HF/COPD

AHS has identified heart failure (HF) and chronic obstructive pulmonary disease (COPD) as priority areas for clinical pathway development given the high cost of clinical variation for these populations. In 2020, the CvHS SCN established a provincial team to support clinical pathway development and identify opportunities to integrate care across the continuum.

Early work focused on understanding factors influencing the uptake of clinical pathways. We conducted 51 semi-structured interviews with stakeholders involved in clinical pathway implementation and analyzed transcripts using an implementation framework. Results identified barriers and facilitators to successful implementation. These results, along with a literature review on the topic, were used to make recommendations to improve implementation in Alberta. The CPSU will use this information to create an evidence-based REFRAME plan that includes implementation strategies and an evaluation plan. Results also informed key changes to the existing pathway that will support uptake.

→ Improved screening identifies Albertans at risk of cardiovascular disease



Enhanced lipid reporting provides an opportunity for increased screening and treatment of patients at risk of cardiovascular disease (CVD) by providing primary care physicians with a lab-based screening tool. The lab uses an algorithm to calculate the patient's chance of having a heart attack in the next 10 years and sends a report to the referring physician that explains the patient's risk score and provides up-to-date treatment guidelines.

A [pilot study in the South Zone](#) showed this process to successfully increase identification and treatment of patients at-risk of CVD. The SCN is now working to spread this innovation across the province. It has secured a Health Innovation, Implementation and Spread (HIIS) grant to support its implementation in all zones, including strategies to support primary care physicians and patients.

→ Optimizing stroke care and cardiovascular investigations for every Albertan

Endovascular therapy (EVT) is a highly effective treatment for stroke that dramatically reduces death, disability and long-term care costs. The CvHS SCN continues to develop a comprehensive system to increase timely, equitable and safe access to EVT for all Albertans. Over the past year, this work has involved an EVT expanded time window position statement, return on investment analysis, and ongoing provincial strategy to increase access to EVT for patients with acute ischemic stroke.

The SCN and its partners are also exploring low-value cardiac investigations in Alberta with the goal of improving appropriateness, patient safety and value. Evidence synthesis is underway from a pilot study that reduced low-value ECG testing to analyze how these lessons might transfer to other cardiovascular investigations such as echocardiography, stress testing and nuclear imaging.

Other highlights

➔ Leadership in acute cardiovascular care during the pandemic

CvHS SCN leadership contributed to the development of provincial and national guidelines to support acute cardiovascular care during the pandemic and provided expert advice to maintain high quality care amid pandemic-related restrictions. Working with operational leaders, medical leaders and clinical researchers, the team has provided guidance on outpatient services, testing and virtual care for cardiovascular patients during lockdowns, and epidemiological predictors of COVID infections in Alberta. Key deliverables included:

- Cardiac diagnostics and cardiac ambulatory clinic COVID-19 recommendations
- Cardiac Catheterization Lab (CCL) COVID-19 recommendations
- Rapid review of virtual visits in cardiovascular disease ([Full publication](#))
- Evidence review of global studies on clinical characteristics and outcomes in adult inpatients admitted to ER/hospital/ICU with confirmed COVID-19
- Risk factors associated with hospitalization, ICU admission and mortality among COVID-19 cases in Alberta ([Full publication](#))

These reports were shared with health leaders and decision makers, provincially and outside Alberta, and some have been submitted for publication.

SCN leaders were also part of a team of experts who drew attention to reduced numbers of patients presenting to ERs with myocardial infarctions and strokes and reduced calls to 911 for these conditions. This led to a report to the Ministry of Health, a series of focus groups, and a targeted [media campaign](#) to urge anyone with symptoms to seek medical assistance. A Data Analysis Working Group has continued to monitor the frequency of cardiac and stroke presentations and report on these and other indirect impacts of COVID-19.

Impact on health and care

Alberta is home to some of the most forward-thinking and comprehensive prevention, treatment and disease management strategies for cardiovascular health and stroke.

SCN leaders continue to advance the standard of care and work with zone and operational leaders and community partners to improve access to screening, treatment and rehabilitation services.

Our partnerships with patient and family advisors, clinicians, leading research institutes, scientists, and other diverse stakeholders support scientific rigour and the advancement of research and innovation of high value to Albertans.

"We are experiencing a true paradigm shift since COVID. There is an upside in terms of systems and the ways we deliver care."

Dr. Andrew Demchuk,
Director, Calgary Stroke Program, FMC



Actions and areas of focus

- Optimizing patient care (reducing low-value activities, improving access, etc.)
- 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



99

Peer-reviewed Publications

15

Research Grants



Value of Grants

\$11.5M

11

Workshops & Presentations



184

Research Members

13

Letters of Support





Senior Provincial Director

Nancy Fraser, MSc

Scientific Director

Dr. Sean Bagshaw, MD, MSc, FRCPC,
University of Alberta

Executive Director

To 01/2021: Sherri Kashuba,
B.Comm, MHSA
From 02/2021: Selvi Sinnadurai

Key Partners

Department of Critical Care Medicine,
University of Alberta

Senior Medical Director

Dr. Dan Zuege, MD, MSc, FRCPC,
University of Calgary

Assistant Scientific Director

Dr. Samantha Bowker, PhD,
University of Alberta

SCN Manager

Jeanna Morrissey, RN, MN

Department of Critical Care Medicine,
University of Calgary

Major initiatives and achievements, 2020-2021

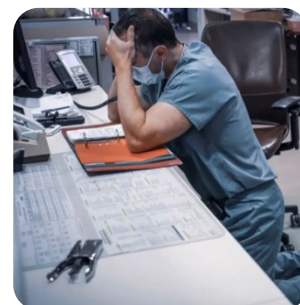
Over the past year, the Critical Care SCN has actively contributed to provincial coordination of critical care resources, advising and guiding the implementation of clinical protocols and practices that support patient care amid Alberta's pandemic response. Network leaders and members have provided guidance on emerging evidence while supporting front-line clinical care of critically ill patients throughout the COVID-19 pandemic. In addition, the SCN Scientific Office has continued to advance clinical best practices that benefit patients, families and healthcare providers in the area of critical care medicine.

→ Understanding the impact of restricted visitation policies on families and healthcare providers of critically ill patients

Family members of critically ill patients often act as surrogate decision makers and assist with patients' emotional and mental well-being. During the COVID-19 pandemic, hospitals in Canada took precautions to keep patients, families and healthcare providers safe, which included temporary visitor restrictions such as no visitor policies. These policies impacted the care experiences of patients, families and providers, and in many cases, restrictions required that healthcare providers conduct difficult patient care discussions with family members (e.g., goals of care and medical decision making) over the phone.

"We all felt badly that we couldn't see him, and we felt badly that he must have suffered through his last few days and not understanding what was going on around him and why no one was coming to see him. We feel guilty about that." - Family member

"At one point I just remember having to tell a family that only two loved ones could come in and see the patient. That just broke their hearts. That was a real big challenge. Then for any family that was out of country where you had to say, 'If you could even find a flight and fly in, you'd have to quarantine yourself, isolate for 14 days so you just can't come. There's no way that this is going to be feasible for your loved one.' I found that to be quite morally distressing." - Physician



The SCN Scientific Office is co-leading a CIHR-funded research project to rigorously study the impact of these policies and develop evidence-informed consensus statements to support family members and healthcare providers of critically ill patients in dealing with visitor restrictions. The impact of this new knowledge will be realized as it is translated into practice. The goal is to improve health outcomes for hospitalized Canadians, and the experience of family members and healthcare providers affected by temporary visitor restrictions. The knowledge will be transferable to future pandemics and will inform strategies to improve the delivery of difficult discussions over videoconference, when in-person visits are not possible.

→ Improving respiratory functioning in mechanically ventilated patients with acute respiratory distress syndrome (ARDS)

The SCN Scientific Office is collaborating on a research study led by Dr. Ken Parhar (University of Calgary), evaluating a PRONE Positioning Knowledge Translation (KT) Toolkit for acute respiratory distress syndrome (ARDS). The **PRONTO Study** aims to improve respiratory functioning and outcomes of mechanically ventilated patients with COVID-19 ARDS through the use of an evidence-informed toolkit that helps translates knowledge into practice for life-saving prone positioning.

Prone positioning has broad value for patients with ARDS, and the continuous improvement and adoption of clinical best practices is a key deliverable. The main impact of this research is improving health outcomes (respiratory functioning) while reducing dependency on mechanical ventilation. It also has potential to inform future work, including scaling the KT toolkit nationally and internationally and supporting the development of international guidelines for prone positioning.

→ Implementing clinical best practices that improve patient safety, outcomes, quality and value



Despite the challenges of the past year, the Critical Care SCN continued to advance work on quality improvement initiatives underway provincially, including:

Venting Wisely – Work continues to progress toward provincial implementation of this evidence-based, stakeholder-informed care pathway for patients with respiratory failure who require mechanical ventilation. The pathway is expected to improve outcomes for critically ill patients, resource utilization in ICUs, and patient, family and clinician perceptions of care by optimizing and standardizing mechanical ventilation strategies and practices.

RATIONALE (Critical Care Optimization of Albumin Ordering) – Albumin is a donated blood product and commonly used intravenous fluid. However, there is strong evidence that albumin use provides no benefit for most patients, and harm in others. Inappropriate use puts patients at risk of avoidable complications, contributes to unnecessary healthcare spending (\$2.2M in Alberta in 2018), and adds to the environmental impact of healthcare waste. Clinical audit data show that albumin is overused in Alberta ICUs. Since implementing changes in albumin ordering, Alberta has seen a 39% decrease in unnecessary albumin usage and 678 patients being spared unnecessary exposure to a blood product. RATIONALE has been implemented in 16 adult ICUs across Alberta between November 2019 and January 2021. [Read more](#)

Other highlights

→ Supporting front-line healthcare providers through Psychological First Aid (PFA)

Health care provider burnout and moral distress are recognized issues in critical care, and the challenges of the COVID-19 pandemic have further heightened concern for critical care providers' well-being.

In April 2020, the Critical Care SCN adapted the World Health Organization model for PFA and created a course specific to critical care. The course provides opportunities to strengthen existing peer supports amid the pressures of the COVID-19 pandemic and has had broad uptake within Alberta's critical care community. To date, 520 frontline health care providers from across Alberta have accessed and completed the course.

Impact on health and care in Alberta

System transformation, clinical best practices, and evolving as a learning healthcare system aim to positively impact patient care in Alberta ICUs and areas upstream and downstream from critical care. Achieved and anticipated impacts focus on:

- Management care pathways that improve patient outcomes, resource utilization, and patient, family, and clinician perceptions of care.
- Improving respiratory functioning while reducing dependency on mechanical ventilation
- 39% decrease in critically ill Albertans receiving low-value albumin & 97.8 kg waste saved
- Improved patient, family, and healthcare provider experience and satisfaction

Actions and areas of focus

- Optimizing care and reducing low-value care for critically ill Albertans
- Optimal utilization of blood products and ventilation strategies for patients with Acute Respiratory Distress Syndrome (ARDS)
- Implementing clinical best practices to improve patient safety & outcomes
- Ensuring appropriate care and use of health resources
- Ensuring evidence-based, quality care through innovation and collaboration
- Development of clinical pathways, guidelines, and dashboards

CRITICAL CARE



49

Peer-reviewed Publications

8

Research Grants



Value of Grants

\$9.0M

12

Workshops & Presentations



16

Letters of Support

9

Trainees / Research Personnel



DIABETES, OBESITY & NUTRITION



Senior Provincial Director

Petra O'Connell, BSc, MHA

Scientific Director

To 06/2020: Dr. Catherine Chan,
PhD, Nutrition and Physiology,
University of Alberta
From 09/2020: Dr. Sonia Butalia,
MD, FRCPC, MSc, Cumming School of
Medicine, University of Calgary

Executive Director

Lene Jorgensen, B.Kin

Key Partners

Alberta Blue Cross

AHS, Nutrition and Food Services

Neurosciences, Rehabilitation & Vision
SCN

Senior Medical Director

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

Assistant Scientific Director

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

SCN Manager

Catherine Joseph, MSc

Major initiatives and achievements, 2020-2021

The Diabetes, Obesity & Nutrition (DON) SCN has advanced several projects that improve access to provincial diabetes data, diabetes prevention and interventions in the community for people living with, or at risk of, diabetes, obesity and malnutrition.

➔ Diabetes Infrastructure for Surveillance, Evaluation & Research (DISER)

Diabetes is a chronic illness that impacts the health and well-being of many Albertans. It also adds significant financial burden on our healthcare system as it often comes with co-morbidities and complications. Our data suggests more than 360,000 Albertans were living with diabetes in 2021; a 62% increase over the past decade.

The DON SCN has been collaborating with numerous stakeholders to improve access to healthcare data that supports diabetes research, resource planning, and decision making. Currently, much of the data needed to conduct evaluations, research and quality improvement initiatives is stored in separate databases. [DISER](#) is an innovative, population-based data platform that integrates individual-level records from several clinical and administrative databases maintained by provincial and national data custodians. For each patient, DISER includes demographics, vital statistics, migration or moving into or out of the province, prescription drugs, lab results, medical visits, emergency department use, and hospitalizations.



Diabetes
Infrastructure for
Surveillance
Evaluation &
Research

Created in collaboration with Novo Nordisk, Alberta Innovates, the Alliance of Canadian Health Outcomes Research in Diabetes and the DON SCN, DISER facilitates access to health data, enabling researchers and health providers to better understand diabetes trends, patient outcomes and complications, and the effectiveness of diabetes prevention, care and management efforts.

Currently, the DISER platform is being used to inform population-based studies with Indigenous communities in Alberta and quality improvement initiatives that focus on improving health outcomes, chronic disease management and prevention. One example of the kind of reporting DISER facilitates is our [interactive infographic on Diabetes in Alberta](#) over the last decade, where users can explore the prevalence of diabetes in Alberta over time, by sex and age

DISER is an example of a health innovation that is helping improve diabetes care in Alberta. It enables projects to access multiple databases in one source, perform complex analyses faster than before, and perform public surveillance with up to date, province-wide data. Using DISER, it's possible to dig deeper into existing data and capture self-reported patient outcomes, which supports a clearer, more complete picture of diabetes in Alberta.

➔ New clinical pathway helps prevent diabetes-related vision loss

Early identification of diabetic retinopathy is essential to prevent vision loss, and this can be achieved through regular diabetes eye health exams by an optometrist or ophthalmologist. The DON SCN has partnered with the Neurosciences, Rehabilitation and Vision (NRV) SCN to develop a [Diabetes Eye Care Clinical Pathway](#) that supports prevention, early detection, and timely treatment of diabetic retinopathy with the goal of reducing the number of Albertans who experience diabetes-related vision loss.

In addition to the pathway, the team has developed a series of patient and provider resources (video, handouts, poster, and presentations) to increase awareness about the importance of regular diabetes eye health screening. It has also created an inventory of optometrists in Alberta who offer mobile services for patients who have challenges accessing optometrist care. These resources support high quality care and ensure people with diabetes can readily access the information and care they need to reduce their risk of diabetes-related vision loss.

The [diabetes eye care video](#), produced in partnership with Health Unlimited Television, is available on YouTube and has been streaming in 100 AHS locations throughout the province. The awareness [poster](#), which will be translated in various languages, has been circulated to primary care networks throughout Alberta, and handouts are available on [MyHealth Alberta.ca](#).

Other highlights

PARTNERSHIP: The DON SCN and AHS have partnered with Alberta Blue Cross and several Primary Care Networks to implement a Virtual Diabetes Prevention Program (vDPP). This program provides virtual support to individuals at risk for type 2 diabetes and fitness and nutrition monitoring using an app to encourage healthy living and diabetes prevention. Evaluation will focus on health outcomes and the program's implementation, viability and economic benefits.

ENGAGEMENT: The Scientific Office engages twice monthly with Alberta's diabetes, obesity and nutrition scientific community to share educational and funding opportunities, conferences and seminars.

CO-DESIGN: The Scientific Office co-designed a web-based interactive tool ([EQUIP](#): Evaluation of Quality and Implementation) to help teams build robust evaluations that incorporate the Alberta Quality Matrix for Health Outcomes (AQMH) into evaluation planning for implementation research and qualitative improvement projects.

Impact on health and care in Alberta

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. These efforts impact health and care in Alberta by:

- Informing and helping people with diabetes and their primary care providers understand the importance of eye screening to reduce vision loss.
- Standardizing clinical practice using the evidence-based Basal Bolus Insulin Therapy order set in Connect Care, ensuring safe, appropriate patient care while in hospital.
- Collaborating with partners and developing educational resources that address weight bias and stigma to improve patients' experience in hospital.
- Enhancing understanding of seniors' experiences with malnutrition, including perceived barriers to healthy eating and supports needed to improve nutrition status.

"It is (was) a very painful experience to realize how serious malnutrition is for some seniors. Our PaCER intern project has become a passionate search for better understanding the circumstances of senior's and malnutrition with focus of implementing changes to support improved nutrition in the community." - PaCER Team



Actions and areas of focus

- Preventing the onset and progression of diabetes, obesity and malnutrition
- Creating Harmony in Care with communities including primary care, continuing care and Indigenous populations | [Video](#)
- Understanding the impact of COVID-19 on nutritional health of seniors in the community
- Building capacity for research, evaluation and knowledge translation

DIABETES, OBESITY & NUTRITION

21

Peer-reviewed Publications

5

Research Grants



Value of Grants

\$1.0M

10

Workshops & Presentations



13

Abstracts and Contributions to Scientific Meetings

16

Letters of Support



DIGESTIVE HEALTH



Senior Provincial Director

Louise Morrin, BSc (PT), MBA

Scientific Director

Dr. Gilaad Kaplan, MD, MPH, FRCPC,
University of Calgary
From 02/2021: Dr. Steven
Heitman, MD, MSc, FRCPC, University
of Calgary

Executive Director

Leanne Reeb, BSW, MBA

Key Partners

Alberta Colorectal Cancer Screening
Program

50 Endoscopy teams from across Alberta

Senior Medical Director

Dr. Sander Veldhuyzen van
Zanten, MD, FRCPC, MSc, MPH, PhD,
University of Alberta

Assistant Scientific Director

Dr. Susan Jelinski, BSc, MSc, PhD,
DVM, University of Alberta

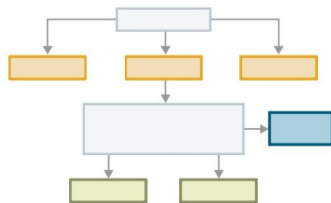
SCN Manager

Malanie Greenaway, BScOT

Major initiatives and achievements, 2020-2021

→ Expanding Primary Care Supports for Gastroenterology (PCS-GI)

Access to specialty care is a significant issue for Albertans with digestive health conditions. 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. The **PCS-GI project** builds on previous successes with primary care integration efforts across Alberta, focusing on development of standardized primary care pathways, patient pathways, a provincial model for telephone advice, eReferral advice requests, and creation of an online platform so primary care providers can readily access these supports. The goal is to enhance capacity within primary care, optimize capacity and referrals to specialty care by ensuring timely, high quality care for patients with digestive health conditions within their medical homes.



Over the past year, the Digestive Health (DH) SCN has progressed this work, completing seven primary care pathways that address common digestive health conditions (Hepatitis C, dyspepsia, IBS, chronic constipation, non-alcoholic fatty liver disease, H. pylori and gastro-esophageal reflux disease). The SCN also worked with the Physician Learning Program to develop a model for patient pathways. These tools help primary care providers discuss the care plan with patients and empower patients to enhance self-management. Eight patient pathways have been developed to date that align with the clinical pathways. Physicians can access these pathways at www.ahs.ca/dhpathways.

Early evaluation of the use of these pathways for 3,435 patients in the Calgary Zone demonstrated their safety and effectiveness. Only 11% of patients were re-referred to GI specialists, and only 25 had clinically actionable diagnoses (0.8% of originally referred patients). There was a net healthcare cost avoidance of \$835,000 over one year.

→ Improving endoscopy quality in Alberta, including patient experience

Endoscopy plays an important role in the diagnosis and treatment of many digestive diseases. A key priority for the DH SCN is improving the quality of endoscopy procedures, including patient experience. To this end, the SCN has partnered with 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 and support continuous improvement at local endoscopy units. The C-GRS provides a comprehensive and systematic way of measuring endoscopy quality as well as guidance to ensure high quality, patient-centred care.



In 2020, AHS approved a C-GRS policy requiring all 50 endoscopy units in Alberta to submit the C-GRS semi-annually. Virtual learning sessions were held in November 2020 to help sites implement the C-GRS. Participation increased from 25 (50%) to 34 (68%) sites in 2020, with the COVID-19 pandemic affecting participation nationally.

An electronic version of the **Provincial Endoscopy Patient Experience Survey (PEPES)** launched in September 2020, and 2,080 patients provided feedback about their endoscopy experience. Nine patient volunteers provided valuable insight into the survey and questions important to them. A revised patient-focused version was finalized in March 2021.

C-GRS and PEPES Summary Reports were sent to Zone leaders (fall 2020 and spring 2021, respectively) with information about site progress. C-GRS reports identified participating sites and shared key findings for the Zone and province, and the PEPES report shared patient feedback, including areas for improvement, and an overwhelmingly high number of positive comments.

Other highlights

RESEARCH: The DH SCN provided funding to advance knowledge and improve the quality of digestive health care delivery in Alberta. Dr. Nauzer Forbes, a gastroenterologist with the University of Calgary's Division of Gastroenterology, conducted a systematic literature review to determine if there is an association between endoscopist annual procedural volume and clinical outcomes.

Dr. Forbes and his colleagues found that an increased annual number of colonoscopies performed by endoscopists is associated with improved cecal intubation rates (CIRs), an important quality indicator for colonoscopy that measures procedural completeness. Likewise, performing more colonoscopies per year is associated with fewer adverse events such as colonic perforation.

This study contributes to the collective evidence-based knowledge regarding colonoscopy quality standards at the endoscopist and endoscopy unit level, both provincially and nationally.

[Full publication](#)

Impact on health and care in Alberta

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

- Improve 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



34

Peer-reviewed Publications

5

Research Grants



Value of Grants

\$3.7M

20

Workshops & Presentations



5

Letters of Support



6

Trainees / Research Personnel



www.ahs.ca/dhscn

EMERGENCY



Senior Provincial Director

Sherri Kashuba, BComm, MHSA
CHE, AHS

Scientific Director

Dr. Eddy Lang, MD, CCFP(EM),
CSQM, University of Calgary, AHS

Executive Director

Marlene Wheaton-Chaston,
RN, BScN, ENCC, AHS

Key Partners

**Alberta First Nations Information Governance
Centre**

Alberta Medical Association

Health Quality Council of Alberta

**University of Alberta, Dept. of Emergency
Medicine**

**University of Calgary, Dept. of Emergency
Medicine**

**Plus many AHS teams, community programs
& services**

Senior Medical Director

Dr. Brian Holroyd, MD, MBA,
FACEP, FRCPC, University of
Alberta, AHS

Assistant Scientific Director

Dr. Patrick McLane, MA, PhD, AHS,
University of Alberta

SCN Manager

Andrew Fisher, BTh, ACP, AHS

Major initiatives and achievements, 2020-2021

→ Equity in emergency care

The Emergency SCN (ESCN) is committed to advancing health equity and has led several studies that focus on equity in emergency care. Three ESCN-supported publications are listed as recommended reading on the Canadian Association of Emergency Physicians' newly established [Equity, Diversity and Inclusion resources website](#). This demonstrates the national impact of innovative ESCN-supported work in Alberta.

The Scientific Office is currently leading a new, CIHR-funded study examining how the COVID-19 pandemic may have exacerbated existing healthcare disparities. COVID-19 caused a large drop in ED visits at a population level, and any negative impacts (e.g. missed or delayed needed care) are expected to be greater for those who already face healthcare barriers and rely disproportionately upon EDs. Using administrative data and a pre-post design, the study considers how ED visit patterns in Alberta changed during COVID-19 for equity-seeking population groups; namely, people living in socially and materially deprived areas, women, seniors, and remote populations. Research agreements are also being developed with First Nations partners.

→ Partnerships with First Nations organizations advance knowledge and research in emergency care



The Emergency SCN and its Scientific Office continue to partner with First Nations organizations on projects that address the care of First Nations members in emergency departments. This work is supported by an Elder Advisory Group that includes members from the three Treaty areas in Alberta.

Results published in the [Canadian Journal of Emergency Medicine \(2020\)](#) show that 9.4% of all emergency care visits in Alberta are made by First Nations patients with federally recognized "status" (2012-2017 Alberta Health data). To the best of our knowledge, this publication provides the first comprehensive, peer-reviewed descriptive examination of First Nations members' ED visit statistics in any Canadian jurisdiction. The work

provides First Nations partners with evidence that will help them advocate for resources and improvements to health services within the ED and beyond.

Qualitatively, using sharing circle methods guided by Indigenous researcher Lea Bill, we found that First Nations members' experiences of stereotyping and discrimination impact their choices about when, where and even whether to seek emergency care. A related manuscript documenting the experiences of 46 participants was published in 2020. ([CJEM, 23: 63-74](#)).

With the support of community partners, results of these studies have been shared widely, within and outside the health system, via invited presentations. This work is informed by the Truth and Reconciliation Commission of Canada's Calls to Action No. 24 (for education on Indigenous issues within medical education) and No. 57 (for anti-racist education for public servants).

→ Provincial coordination and support during the COVID-19 pandemic

Over the past year, members of the ESCN supported AHS' response to the COVID-19 pandemic in numerous ways. These efforts helped ensure patient and provider safety, high-quality care and efficient use of clinical resources. For example, the SCN:

- convened a COVID-19 expert working group (50+ members) with representation from emergency operations around the province, EMS, RAAPID, Infection Prevention and Control, Pharmacy, Analytics, Public Health, Health Professions Strategy and Practice and the Primary Health Care Integration Network.
- coordinated creation of COVID-19 case definitions and flow maps, directives to remove barriers to nurses providing testing, stratification definitions and guidance on ED patient COVID-19 risk, and a triage diversion directive (intended for situations where EDs were overwhelmed and fortunately never activated)
- supported provincial surge capacity planning and contributed to team staffing model development
- collaborated with the Provincial Vaccination Task Force related to ED management and reporting of patients with adverse events following immunization, and potential for EDs to be a venue for COVID-19 vaccination
- worked with critical care teams on development of the Critical Care Triage Plan and planning related to ED operations

Other highlights

➔ Building the Pan-SCN research environment

Dr. Eddy Lang, Scientific Director for the Emergency SCN (ESCN) has taken on the role of Pan-SCN Academic Liaison to the Cumming School of Medicine, responsible for building bridges between the SCNs and the University of Calgary.

Dr. Lang also co-chairs the Clinical Inquiry Research Working Group for Connect Care, responsible for building research processes and functionality into the new provincial electronic medical record system.

Impact on health and care in Alberta

Through its partnerships with key stakeholders and commitment to embed research into clinical practice, the ESCN is improving emergency care in Alberta. Over the past year, its work has focused on:

- Removing barriers to care and discrimination in EDs, and improving care interactions for First Nations patients
- Preparing for and supporting AHS' response to the COVID-19 pandemic
- Ensuring patient and provider safety in EDs
- Addressing gaps in knowledge around health equity and emergency care



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



25

Peer-reviewed Publications

7

Research Grants



Value of Grants

\$4.4M

17

Letters of Support



\$69K

in Grants & Studentships
Awarded to Incent Research in
Emergency Medicine

3

Trainees /
Research Personnel



www.ahs.ca/escn

MATERNAL, NEWBORN, CHILD & YOUTH



Senior Provincial Director

Shelley Valaire, MA

Scientific Director

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

Executive Director

Pamela Baines, BSc PT, MHS

Key Partners

Alberta Perinatal Health Program
(APHP)

Senior Medical Director

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

Assistant Scientific Director

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

SCN Manager

Stacey Nyl, RN, MN

Alberta Children's Hospital Research
Institute (ACHRI), University of Calgary

Women and Children's Health
Research Institute (WCHRI), University
of Alberta

Major initiatives and achievements, 2020-2021

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

→ Supporting research on COVID-19 and pregnancy & rapid uptake of evidence into practice

As with many networks, the MNCY SCN has contributed to pandemic response planning, including contingency planning and development and rapid uptake of provincial guidelines and protocols to support clinical care of patients with COVID-19 and those with other conditions that might be indirectly impacted by the pandemic.

Pregnant women and infants are often at high-risk of complications if exposed to infectious diseases, including COVID-19. The MNCY SCN has been working with leading Alberta researchers to (i) better understand the impact of COVID-19 on Alberta's maternal population and the risk of adverse outcomes from COVID-19 for mothers and their babies, and (ii) to rapidly get evidence into clinical practice.

Dr. Eliana Castillo is a member of the MNCY SCN Maternal, Fetal, Newborn (MFN) Standing Committee with expertise in infectious diseases and vaccination during pregnancy. Dr. Verena Kuret is a maternal fetal medicine specialist with an interest in infectious disease in pregnancy. Drs. Castillo and Kuret are currently leading the Alberta component of the national **CANCOVID-PREG** study, endorsed and funded by the Public Health Agency of Canada and the Canadian Institutes for Health Research (CIHR).



The study involves creating a registry of pregnant women and babies affected by COVID-19. Using epidemiology and clinical outcomes associated with COVID-19 in pregnancy, the registry captures critical data needed to inform recommendations for the care of pregnant women and their infants. This includes real-time data about the number of pregnant women who have contracted COVID-19, the number admitted to hospital and ICU due to COVID-19, lengths of stay in hospital and ICU, vaccination status, and rates of pre-term birth.

Over the past year, this registry has already informed clinical care in Alberta in real-time. The MNCY SCN has endorsed the study and helped communicate its recommendations to all obstetrical providers in Alberta. The SCN has provided a forum for stakeholder engagement and supported knowledge translation on a provincial scale. Dr. Castillo and Dr. Kuret have created a COVID-19 and Antenatal Care Clinic in Calgary and continue to develop and update clinical recommendations based on learnings and evidence, including the need to collect biological samples at time of birth for testing. This work continues to inform decision making, clinical practices and recommendations for maternal and newborn care.

→ Tele-health Rounding and Consultation for Kids (TRaC-K)

This project coincided with the increased need for virtual care due to the COVID-19 pandemic. It was designed to allow pediatric patients to stay close to home (at their regional hospital) while enabling virtual access to pediatric specialists in tertiary centres through a collaborative care model that includes clinicians at both the regional and tertiary hospital.

Dr. Michelle Bailey is a member of the MNCY SCN Child and Youth Standing Committee with expertise in clinical care for children with complex health needs. She is the principal investigator for TRaC-K, the research project implementing and evaluating this approach. The project involves a virtual and collaborative inpatient care model between Alberta Children's Hospital (ACH) and the Medicine Hat Regional Hospital (MHRH) and was funded by the Health Outcomes Improvement Fund (Alberta Health Services).



TRaC-K involves use of a mobile cart that goes wherever it is needed, including a patient's room (e.g., to allow direct visualization of the child and communication with the family). It can also be used for family and clinician education.

From August 2020 to March 2021, 47 TRaC-K clinical care sessions (about 1 to 4 sessions per week) occurred with about 50% including family participation. Based on a preliminary evaluation, that parents and clinicians reported that access to healthcare services improved, patient care was supported, and the system was easy to learn and use. Some parents and clinicians reported that TRaC-K was the same as in-person care; others reported that it was not. Even so, respondents felt it was an acceptable way to receive healthcare services and they were satisfied with the telehealth system. Parents who reported positive experiences with TRaC-K sessions indicated they: "Feel connected and part of my child's care" and "Lucky to have this kind of access to specialists."

This work has potential to improve patient care and patient/family experiences in Alberta's acute care system. TRaC-K appears to reduce barriers to specialized care and help break down silos by enhancing collaboration and communication between tertiary and regional acute care teams. Enabling pediatric patients and their parent(s) to stay closer to home and their support system (e.g., extended family, friends), reducing time away from work, and reducing travel and associated expenses to access healthcare services are significant benefits of virtual collaborative care.

Other highlights

The [Alberta Perinatal Health Program](#) (APHP) merged with the MNCY SCN in 2020-2021, bringing together two longstanding provincial teams with a common goal: improving health outcomes for mothers and infants. APHP's focus on education and consultation, information management, research and quality, and innovation complements the MNCY SCN's work, and the merger will strengthen each group.

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
- Integrated and facilitated care transitions for children with complex needs

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 evidence dissemination about reducing risks of COVID-19 for pregnant women and infants; consistent, high-quality care and rapid uptake of evidence-informed recommendations
- Virtual, collaborative inpatient care for pediatric patients, enabling them to stay closer to home at regional care centres while having access to specialist care without having to travel to tertiary centres
- Evidence-informed decision making to support patients, families and providers.

MATERNAL, NEWBORN, CHILD & YOUTH



26

Peer-reviewed Publications

3

Research Grants



Value of Grants

\$1.2M

28

Letters of Support



\$23K

in Grants & Studentships
Awarded to Incent Research in
Maternal & Child Health

4

Trainees /
Research Personnel



www.ahs.ca/mncyscn

MEDICINE

Hospital Medicine, Kidney Health, Respiratory Health



Shared Leadership	Senior Provincial Director Louise Morrin , BSc (PT), MBA	Senior Medical Director Dr. Jeffrey Schaefer , MD, University of Calgary	Executive Director Anita Kozinski , BSc, MHA	Assistant Scientific Directors Dr. Marni Armstrong , PhD Dr. Lesley Soril , PhD
Hospital Medicine	Section Leads Dr. Jim Eisner , MD, University of Calgary	Scientific Directors Dr. Raj Padwal , MD, MSc, University of Alberta	Managers Chris Roach , BSc, Dip HEP	
Kidney Health	Dr. Jennifer MacRae , MD, MSc, University of Calgary	Dr. Neesh Pannu , MD, SM, University of Alberta Dr. Scott Klarenbach , MD, MSc, University of Alberta	Terry Smith , BSc, MN	
Respiratory Health	Dr. Ron Damant , MD, University of Alberta	Dr. Michael Stickland , PhD, University of Alberta	Eileen Young , BSc	

Major initiatives and achievements, 2020-2021

The Medicine Strategic Clinical Network brings together the expertise of clinicians, researchers, patient advisors, operational leaders, nurses, allied health providers, community partners and others to ensure integrated, high-quality care and patient and family-centered solutions. Each Section has a specific area of focus and is united by a shared Medicine SCN mission to partner with Albertans to achieve sustainable quality care through integration, innovation, research and evidence-based practice.



Hospital Medicine



Applying research-based strategies to improve quality of care

Audit and feedback models have been shown to help support change in practice. The Hospital Medicine Section is working to pilot the [“Know Your Data” initiative](#) in the South Zone and Calgary Zone where teams and individual physicians will receive personalized data on quality indicators aimed to improve hospital medicine care. Evaluation of the pilot project will inform the wide-spread dissemination of audit and feedback reporting in hospitals.



Kidney Health



Supporting mental health for patients on dialysis

Depression and anxiety undermines quality of life for people on dialysis. Patients have identified mental well-being as an important priority in dialysis care. With support from the Kidney Health Section, Dr. Kara Schick-Makaroff and her team are investigating how best to support the mental health for people on dialysis through patient surveys, systematic reviews of the literature, and the development of best practices specific to Alberta.

→ Using evidence to support living donor kidney transplants

Patients indicate that they find it difficult to approach potential living donors. The PRIHS-funded [Multidisciplinary Support To Access living donor Kidney Transplant \(MuST AKT\)](#); PI: Soroush Shojai) project aims to bridge these gaps by adapting evidence-based strategies to the Alberta context. The goal is to increase the number of living kidney donors using a patient-centered intervention designed to help potential kidney transplant recipients identify and communicate more effectively with potential kidney donors and donor advocates. The intervention will provide targeted education to potential recipients and their social network.



Respiratory Health



COPD Pathway

Chronic Obstructive Pulmonary Disease (COPD) remains one of the leading reasons for hospitalizations and hospital re-admissions in Alberta. The PRIHS-funded [COPD Discharge Bundle and Pathway project](#) was completed this past year. Findings from this work indicate

that COPD patients who received the discharge bundle had lower 7- and 30-day readmissions to hospital relative to those who did not, and this finding was also associated with considerable savings to the healthcare system.

→ Long COVID

With increasing identification of prolonged symptoms following acute COVID-19 infection (i.e. long COVID), the Respiratory Health Section has supported the harmonization of provincial referral criteria and development of a standard data collection and evaluation system for the respiratory long-COVID clinics. Data gathered through this work will be key in understanding the trajectory of the ongoing symptoms associated with this condition and informing the optimal long-term approaches to managing long COVID patients.

Other highlights

→ Capacity building, quality indicators and opportunities to improve care

The Medicine SCN hosted a 2-session virtual series on Implementation Science Methods targeted to university researchers in the Departments of Nephrology and Respiriology.

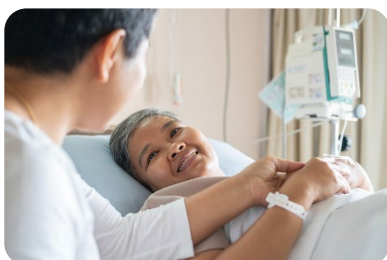
The Kidney Section, in collaboration with the Alberta Medical Association, disseminated another audit and feedback report to Alberta Nephrologist with individualized data on appropriate medication use in nephrology patients.

With the rapid development of COVID-19, the Respiratory Health Section led many of the scientific reviews to provide cutting edge information about reducing transmission and improving treatment once infected.

Impact on health and care in Alberta

The Medicine SCN collaborates with clinical and research partners to positively impact patient care for Albertans. Over the past year, this work has contributed to:

- Improved understanding of care gaps in mental health
- Improved management of COPD hospitalizations
- Increased provincial access to best-practice pulmonary rehabilitation
- 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



Actions and areas of focus

- Enhance integration to improve acute and chronic disease management and transitions between the community and the hospital
- Identify opportunities and address gaps in care, enable clinical best practices and reduce unwarranted variation to support sustainable, quality health care
- Empower patients to improve their experience and health outcomes

MEDICINE



31

Peer-reviewed Publications

10

Research Grants



Value of Grants

\$4.7M



10

Workshops & Presentations

26

Letters of Support



15

Trainees / Research Personnel



www.ahs.ca/medicinescn

NEUROSCIENCES, REHABILITATION & VISION



Senior Provincial Director

Petra O'Connell, BSc, MHA

Scientific Director

Dr. Elisavet Papathanassoglou,
PhD, MSc, RN, University of Alberta

Executive Director

Paul Wright, RN, BScN, CNNC

Key Partners

Campus Alberta Neuroscience

Eye Institute of Alberta (Univ. of Alberta)

Faculty of Rehabilitation Sciences (Univ. of Alberta)

Hotchkiss Brain Institute (Univ. of Calgary)

Neuroscience & Mental Health Institute (Univ. of Alberta)

Senior Medical Director

Dr. Chester Ho, MD, University of Alberta

Assistant Scientific Director

Dr. Kiran Pohar Manhas, PhD, JD,
MSc, BSc (Pharm), University of Alberta, University of Calgary
(Community Health Sciences)

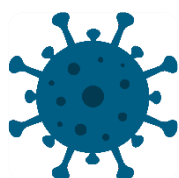
SCN Manager

Nicole McKenzie, BSc, MSc

Major initiatives and achievements, 2020-2021

Over the past year, the Neurosciences, Rehabilitation and Vision (NRV) SCN tackled strategic priorities within the neurosciences, rehabilitation and vision streams, as well as unmet rehabilitation needs resulting from the COVID-19 pandemic. Through knowledge syntheses and empirical investigations, the Scientific Office provided evidence to inform recommendations and actions, and improve patient experiences and outcomes with NRV-related care.

→ Leading a provincial rehabilitation response to Post-COVID Syndrome



Since April 2020, the NRV SCN led two major provincial taskforces to inform a provincial approach to timely, standardized, and coordinated rehabilitation for adult patients recovering from COVID-19 (n=129 stakeholders). Both taskforces were co-chaired by Petra O'Connell (SPD) and received significant planning, research, coordination and writing support from the NRV SCN, including its Scientific Office. Taskforce stakeholders represented all 5 AHS Zones, Covenant Health, acute care, primary care, continuing care, health professionals and service providers, allied health, addictions and mental health, Health Link®, Rehabilitation Advice Line, Alberta Health, researchers, and patient and family advisors. [Final Report, Post-COVID Rehab Taskforce](#)

Taskforce outputs included recommendations and implementation strategies, all part of a [Post-COVID-19 Rehabilitation Response Framework](#) that included clinical pathways, tools and supports to determine the level of functional impairment and patient-specific rehabilitation needs across the care continuum. This work also led to an Alberta-Health-funded collaboration with Drs. Colleen Norris and Jeffrey Bakal to conduct a provincial retrospective, case-control study of Albertans to examine the association between testing positive for COVID-19 and reporting long-term physical, psychological, and psychosocial health outcomes.

→ Advancing patient-centred, provincially standardized care plans for people with spinal cord injuries

The NRV SCN is co-leading a working group that is developing and implementing provincially standardized care plans for nursing and allied health professionals in the acute and post-acute care of persons with spinal cord injury (SCI). To inform this work, the Scientific Office completed a scoping review of best practice recommendations for acute and post-acute care in SCI and has nearly completed an externally funded, qualitative study of the in-patient versus health care experiences of persons living with SCI in Alberta.

The Scientific Office also garnered external funding to develop a provincial quality improvement strategy for SCI care that mobilizes independent registry data currently collected mostly for research purposes: the Rick Hanson SCI Registry. This work involves extensive collaboration with front-line clinicians, operational leadership, provincial community organizations (SCI-Alberta, Alberta Paraplegic Foundation) and national centres (PRAXIS Spinal Cord Institute).

"As my body disintegrated, I was so scared and frustrated that me and my doctor could not figure out why. In desperation, I sent a letter to Alberta Health. And four weeks later, I was invited to come share my story to the Post COVID Working Group with Alberta Health Services. As I read my story, I was so nervous and all the emotion of the last couple of months came tumbling out. When I was done sharing, I waited for the same old dismissive questions that I had been asked so many times before by people around me. But instead I was met with compassion and a deep desire to understand and help people like me. Over the coming weeks, I became a patient advisor with the working group and I began to learn about different access points to recovery that I did not need a doctor's referral for. I learned that there is a COVID-19 rehab advice line and website, [and] that I could self-refer to a dietician and physiotherapist for help with my symptoms. I was given a recovery guide with many more resources and supports that neither me nor my family doctor knew about. Suddenly this mountain seemed much less daunting. I wasn't alone anymore. COVID had taken a lot from me. But, I am slowly taking things back."

38-year-old Alberta athlete recovering from COVID-19 and post-COVID syndrome

Other highlights

→ Virtual research summits

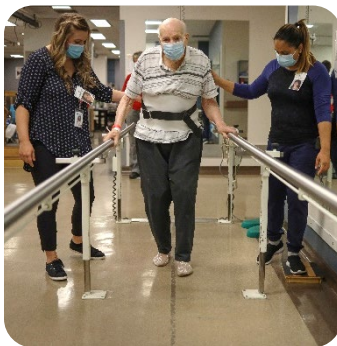
Between December 2020 and January 2021, the NRV Scientific Office hosted three virtual research summits for researchers, SCN leadership and core committee members. Approximately 127 people attended and participated in breakout discussions to clarify how the NRV SCN can support the NRV research community.

Each summit focused on an individual NRV stream (neurosciences, rehabilitation and vision), with 27 presenters sharing their research and engaging with stakeholders from across Alberta.

Impact on health and care in Alberta

The NRV SCN continues to build relationships with patients, families, research institutes, academics, clinicians and operational partners to leverage available resources and expertise. Together, this collaborative is actively working to:

- Clarify patient experiences with the health system, particularly in spinal cord injury and visual impairment
- Better integrate care across the patient journey, including in the contexts of post COVID syndrome, spinal cord injury, and pressure injury prevention
- Improve care through research and innovation, including preventing pressure injuries using rigorous implementation innovations
- Further support evidence-informed decision-making, including mobilizing data for quality improvement
- Ensure timely and equitable access to care, including supporting access to cataract surgeries and appropriate vision screening in diabetes



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



21

Peer-reviewed Publications

6

Research Grants



Value of Grants

\$0.95M



19

Workshops & Presentations

6

Letters of Support



11

Trainees / Research Personnel



www.ahs.ca/nrvscn

SURGERY



Senior Provincial Director

Jill Robert, RN, CHE, AHS

Scientific Director

Dr. Mary Brindle, MD, University of Calgary

Executive Director

Tim Baron, MBA, MScPT

Research Scientist, Surgery & Research Priorities & Implementation

Tara Klassen, BSc, PhD

Senior Medical Director

Dr. Jonathan White, MMed. Ed., MD, University of Alberta

Assistant Scientific Director

Dr. Sanjay Beesoon, PhD, MPH, University of Alberta

SCN Manager

Lesley Barker, RN

Key Partners

Enhanced Recovery After Surgery (ERAS) International

National Surgery Quality Improvement Program (NSQIP)

Major initiatives and achievements, 2020-2021

The Surgery SCN continues to support quality improvement and strategies that improve access to surgical care in Alberta.

→ Research program supports rigorous evaluation of the Alberta Surgical Initiative and access improvements through centralized access and triage of referrals for surgical consults

The Surgery SCN led 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. These strategies span the patient's journey through all phases from referral to surgery and recovery, and include:

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

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

The Surgery SCN is leading a Health Innovation Implementation and Spread (HIIS)-funded project to improve specialty access for patients through centralized access and triage of referrals for surgical consultation. This work applies implementation science principles, includes broad stakeholder engagement, and is poised to roll out provincially. Implementation will occur over the next two years, aiming for completion by December 2023.

The Scientific Office is also working with ASI, primary care and Alberta Health to develop a robust evaluation framework for strategies to address the surgical backlog due to the COVID-19 pandemic.

→ Advancing knowledge and optimizing surgical practice, quality and safety



The Surgery SCN Scientific Office continues to lead work that supports implementation of the National Surgical Quality Improvement Program (NSQIP), Surgical Safety Checklist, and Enhanced Recovery After Surgery in Alberta. We completed a systematic review on the impact of NSQIP, published in the Journal of American College of Surgeons, that reinforces the business case for NSQIP implementation across Alberta and strengthens how NSQIP data are used to promote quality and safety of surgical care in the province. [Read full publication](#)

The SCN has also collaborated with the Physician Learning Program to explore barriers and facilitators of NSQIP implementation. This study sheds light on important, but often ignored, human factors that affect (positively or adversely) implementation of quality improvement programs like NSQIP. [Read full publication](#)

The SCN is supporting a province-wide initiative to redesign and reimplement the Surgical Safety Checklist to achieve high performance. It has recently undertaken a province-wide initiative to reduce surgical site infections at hospitals across Alberta, guided by NSQIP data and using bundled approaches.

"I feel very involved in the Surgery SCN. There are no egos or hierarchies, and everyone is just there to do the job and make a difference. I feel that I understand what we are doing, that I can talk to the people doing it, and that my opinion is valued and as valuable as any other member. I feel like I can talk to the surgeons, that they are engaged and are willing to learn. I like that everyone just pushes up their sleeves and gets to work, if it needs doing, do it, if you can help, help, and there is the sense that we all own the successes in the program."

Susan Ruddick, Patient and Family Advisor, Surgery SC

Other highlights

- Rigorous evaluation of new health technologies and their impact on safety, efficacy, patient outcomes & value

The Surgery SCN's **Evidence Decision Support Program (EDSP)** supports evidence-informed decision making about the introduction of new health technologies into Alberta's health system.

The EDSP provides a consistent, transparent process for evaluating new technologies (i.e., devices, procedures, drugs, medications and processes of care) before their implementation or purchase. It supports health innovation by providing a means of collecting and assessing information on clinical and financial impact as well as a streamlined process for acquiring new technology and supporting rapid uptake of proven innovations.

Evaluations were completed or initiated for 13 new health technologies over the past year. Evidence is reviewed and synthesized by an interdisciplinary team that includes clinical leaders, scientists, operations and program leaders, patient care and operating room managers. For details on the type of technologies evaluated and recommendations, see the [2020 EDSP Report](#).

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
- Improve outcomes, safety, value 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, and supporting implementation and evaluation of ASI and strategies to address surgical wait times
- 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



19

Peer-reviewed Publications

5

Research Grants



Value of Grants

\$4.4M



11

Workshops & Presentations

10

Letters of Support



8

New EDSP Health Technology Evaluations Completed



Provincial Programs

In spring 2020, several Strategic Clinical Networks combined with their corresponding provincial health program to form a single integrated portfolio. Since that time, leadership has been working to bring activities and structures together and define a structure that best serves the needs of Albertans. The Primary Health Care Integration Network was the first to adopt and operate with a shared provincial leadership model (since 2017).

Although the organizational structure of individual teams varies, all teams have retained the capability and function of the SCN Scientific Offices, partnerships with the research community, and quality improvement projects and initiatives of the SCN, its patient and family advisors, community partners and advisory committees.

In some cases, the Scientific Office has been integrated as part of a Program Knowledge, Evidence and Innovation Division, supporting clinical and program excellence through evidence generation and synthesis, engagement with the research community, testing and implementation science. These functions intersect with health surveillance, informatics, program performance and impact.

Information provided in this report focuses on the research and innovation function within the provincial program over the past fiscal year. It does NOT include major initiatives or deliverables related to program operations.

Information on performance indicators is provided in [Appendix A](#). Please note: Reporting will continue to evolve as the integrated provincial programs continue their transition. Shared strategic planning is expected to commence in 2022.

INDIGENOUS WELLNESS CORE

Integrated Provincial Program



Senior Program Officer

Val Austen-Wiebe, MSc, Med, BHEc

Scientific Director

Dr. Melissa Potestio, PhD, MSc,
University of Calgary

Executive Director

Marty Landrie, MSc, RPN

Senior Medical Director

Dr. Esther Tailfeathers, MD,
University of Alberta

Assistant Scientific Director

Kienan Williams, MPH

Key Partners

Indigenous communities

Indigenous organizations

Indigenous Services Canada

AHS Clinical Operations

Primary Care Networks

Alberta Medical Association

Alberta Universities (UA, UC, UL)

Major initiatives and achievements, 2020-2021

Over the past year, the Population, Public and Indigenous Health (PPIH) SCN joined forces with their respective provincial programs to create integrated provincial teams focused on Population and Public Health and Indigenous Health. The latter has evolved to become the Indigenous Wellness Core (IWC). While the name and structure has changed, the IWC continues to advance health system improvements that support Indigenous health and wellness and align with health-related recommendations of the Truth and Reconciliation Commission of Canada.

Because 2020-2021 was the transition year, impact metrics are not reported separately for these two provincial teams. Rather, they reflect the combined contributions of the PPIH SCN, IWC and Provincial Population and Public Health (PPPH). The activities described below highlight some Indigenous-specific work undertaken in 2020-2021.

→ Enhancing the patient experience for Indigenous Peoples through navigation and cultural supports



The **Four Winds Project** supports Indigenous patients and their families in navigating the complexities of the health system and helps them through transitions during their journey in and out of care. The project involves an Indigenous Patient Navigation (IPN) model that has been co-designed with Indigenous communities and partners. The Indigenous Patient Navigator is a registered nurse who works alongside the clinical and community care team to promote

continuity of care and health equity for Indigenous Peoples in the South Zone.

The IPN service launched in October 2020 and received approximately 75 referrals between October 2020 and March 2021. A mixed-methods evaluation has begun that includes service tracking and qualitative interviews with Indigenous patients who have accessed the service. Working groups were reinstated in February 2021 and have co-designed several deliverables to support the IPN service (i.e., an IPN Resource Guide, patient passport, brochure, Indigenous Culture Guide and translated materials into Blackfoot Body Chart). The project will be evaluated over three years and potentially spread to other health zones. [Read more](#)

→ Cancer prevention and improved health screening for Indigenous Peoples and vulnerable populations

The IWC led the **Indigenous Healthy Innovation and Cancer Prevention (HICP)** Grant Program, working in partnership with Indigenous communities and organizations to develop and fund 12 community-led cancer prevention and screening projects across the province (totaling nearly \$3.5 million over 3 years). Community grants were originally slated to conclude in March 2021, but 10 out of 12 projects were extended to February 2022 as a result of pandemic-related delays. Teams have shifted to virtual engagement and supported those with cancer or chronic diseases by delivering medications and food security hampers. An evaluation plan has been developed and will be rolled out in early 2022.

The IWC has helped three Indigenous primary care sites—the Saddle Lake Health Centre (Treaty 8, North Zone), Indigenous Wellness Clinic (Edmonton), and Siksika Health Services (Treaty 7, Calgary Zone)—implement the **Alberta Screening and Prevention (ASaP)** model with the goal of improving community-based cancer screening and prevention. An evaluation report on ASaP in Indigenous primary care settings was released in May 2021 that identified opportunities to spread and scale the program to additional settings and improve the experience of Indigenous patients.

Twelve (12) Indigenous learners completed the **Patient and Community Engagement Research (PaCER)** training approach offered through the University of Calgary. The PaCER program is a 12-month, three-course training model to learn the research design and facilitation process for health-based initiatives, with the final goal of implementing student-led health research. Supporting Indigenous Peoples in the internship to design and develop a community-based research project that incorporates Indigenous Ways of Knowing and Western World Views to help inform culturally appropriate and safe approaches to cancer prevention and screening.

➔ Health Innovation Implementation and Spread (HIIS) project

Work has also continued on the **ECHO+ program** (Extension for Community Healthcare Outcomes), which provides Hepatitis C treatment and specialist care to Indigenous Peoples in their communities plus information on screening and treatment options. ECHO+ connects a specialist to practitioners that serve Indigenous communities using technology and a hub-and-spoke approach. The program operates in all five Zones and the number of participating communities continues to grow as a result of ongoing engagement and support from local health providers and community leaders. To date, the program has significantly increased Hepatitis C awareness, access to care, and antiviral use, and contributed to increased screening, treatment and support for people with Hepatitis C and other sexually transmitted blood-borne infections, improving health outcomes. [Read more](#)

Other highlights

➔ Radon ReconciliACTION

This work involved testing 70 homes in Samson Cree Nation for radon gas and was a collaboration led by the Maskwacis Health Services with support from AHS and Indigenous Services Canada. Data showed four homes (6%) had radon levels that exceeded Health Canada guidelines. These homes were mitigated for radon and retested to ensure safety. This work has resulted in several publications, increased health literacy regarding radon gas, and positive relationships for future engagement with Alberta's Indigenous communities.

➔ PaCER Cohort with Honouring Life

The IWC sponsored six Indigenous young adults (18-24 years) to complete the 12-month PaCER program at the University of Calgary. Funding was provided by Honouring Life, a life promotion and suicide prevention program that supports First Nation, Métis and Inuit Peoples by building capacity in mental wellness and resiliency, and promoting a healthy lifestyle. Participants started in January 2021 and will finish their PaCER certification in January 2022.

Impact on health and care in Alberta



The IWC's commitment to reconciliation and to partnering with Indigenous communities, organizations, health and community stakeholders throughout the province is helping advance and positively impact patient care and health outcomes Indigenous Peoples.

Listening, co-design and active engagement and collaboration are key factors in successfully developing and refining programs and practices to improve Indigenous health outcomes and experiences. Over the past year, this work has included:

- Piloting IPN supports in the South Zone
- Improving community-based cancer prevention / screening for Indigenous Peoples and vulnerable populations
- Supporting Indigenous-led evaluations of radon gas, mitigation and capacity-building for future study
- Ongoing efforts to build trust and positive relationships with Indigenous Peoples, organizations, community leaders and partners, primary care providers, and other stakeholders through targeted engagement

Actions and areas of focus

- **People:** Building a workforce equipped with the mindset and tools to listen, understand, act, and be so we can support Indigenous health and wellness and advance reconciliation.
- **Processes:** Listening to and understand the specific priorities and needs of Indigenous communities; developing clear roles, responsibilities and accountabilities to respond to these needs.
- **Wise practices:** Working with Indigenous people and communities to develop and advance quality programs, services and policy, and undertake research and evaluation initiatives.
- **Quality outcomes:** Identifying and securing sustainable investments in culturally competent programs and services across AHS; supporting capacity within Indigenous organizations and communities.

INDIGENOUS WELLNESS CORE + PROVINCIAL POPULATION AND PUBLIC HEALTH



1

Peer-reviewed Publications

1

Research Grant



Value of Grants

\$0.1M



31

Workshops & Presentations

7

Letters of Support



7

Trainees / Research Personnel



PRIMARY HEALTH CARE INTEGRATION NETWORK

Integrated Provincial Program



Senior Provincial Director

Rob Skrypnik, MPH, BSc

Scientific Director

Dr. Judy Seidel, PhD, University of Calgary

Executive Director

Mona Delisle (acting) (MRT T) BA, MA

SCN Manager

Soraya Haynes, MSc, BA (Hons)

Assistant Scientific Director

Dr. Ceara Cunningham, PhD, University of Calgary

Dr. Robin Walker, PhD, University of Calgary

Key Partners

Virtual Patient Engagement Network

Alberta Medical Association

Accelerating Change Transformation Team, Primary Care Networks

Senior Medical Director

Dr. Linda Slocombe, MD

Associate Medical Director

Dr. John Hagens, MD

Major initiatives and achievements, 2020-2021

The Primary Health Care Integration Network (PHCIN) continues to focus on priorities outlined in its Transformational Roadmap (i.e., Transitioning from Home to Hospital to Home, Linking to Specialists and Back, Keeping Care in the Community). The PHCIN has also undertaken some key pieces of work to support the AHS COVID-19 pandemic response.

→ Implementation of Alberta's Home-to-Hospital-to-Home (H2H2H) Transition Guideline

Over the past year, the Provincial H2H2H Implementation team has continued to raise awareness about the H2H2H change management plan, support implementation of the guideline provincially, and collaborate with zone operations in primary and acute care. Each zone has established a Transitions of Care Committee to plan implementation activities with support from the provincial team.

In response to recommendations from the AHS Review, AHS is working to integrate programs that will enable it to reduce length of stay, readmissions, and alternative level of care days. Provincially, H2H2H has been identified as a foundational enabler to achieve these outcomes and will be implemented in acute care via this integrated approach. Engagement is underway with 14 of the largest AHS acute care sites to support guideline implementation. To learn more, see [Alberta's H2H2H initiative](#).



Implementation of the H2H2H Transition Guideline will support a number of provincial health priorities and is expected to have a cascading impact. For example, the Alberta Surgical Initiative requires the H2H2H guideline be implemented as a component of the specialty access bundle to enable more timely access to surgical care and improved patient experience. Additionally, rollout of Community Information Integration (CII), the Central Patient Attachment Register (CPAR) and Connect Care across Alberta will support aspects of automation, integration and guideline adoption. Having these components functioning together will enable family physicians to receive automatic notifications of hospital admissions, discharges, and patient discharge summaries that include critical follow-up information. The enhanced coordination and integration enabled by these initiatives will result in improved care and information continuity for Albertans.

→ Co-design in action: Work of the Patient Transitions Resources Team

Partnering with patient and family advisors (PFAs) to ensure the patient voice was at the heart of the H2H2H guideline has been an essential part of the PHCIN approach. One way this has been achieved is through the formation of the Patient Transitions Resources Team, which includes four PFAs and three PHCIN staff members from across Alberta. AHS tasked this team to work in alignment with the H2H2H guideline and explore what patients and families need for a safe and patient-centred home-to-hospital-to-home journey. The team authored a report titled "[Transitions through patients' eyes: Recommendations to support patients and families](#)" which outlines six recommendations for health leaders to use in implementing the guideline.

To support Albertans during the pandemic, the Patient Transitions Resources Team also developed a patient resource for people hospitalized with COVID-19 to help them prepare for discharge. In June 2020, the team launched the [COVID-19: My Discharge Checklist](#) as part of the Safe Discharge Home Package for acute care teams. This resource was co-designed with patients, for patients, and will continue to be refined based on feedback from patients and providers.

→ Supporting AHS in evaluating virtual care and indirect impacts of COVID-19

During the pandemic, AHS and many healthcare providers quickly adapted to enable health services to be delivered virtually. The PHCIN Scientific Office has co-lead a **Virtual Care Evaluation Advisory Committee** in developing a virtual care evaluation framework and shared data model. Implementation of this framework will provide AHS with the opportunity to learn more about the impact of virtual care from both a patient and provider perspective.

Besides spurring a rapid increase in virtual care, the COVID-19 pandemic has also created ripple effects in the healthcare system – not only in caring for patients affected by the virus, but also those receiving healthcare services for conditions unrelated to COVID-19. The PHCIN, with other SCNs and Provincial Programs, has conducted analyses to explore the impact of the pandemic on non-COVID patients and their use of health services in Alberta. Through this process, it is expected that we will be better able to anticipate the future needs of Albertans to plan services accordingly post pandemic.

Other highlights

➔ Reducing the impact of financial strain and other social determinants of health

One of the most important factors known to impact health is financial strain. The PHCIN is a partner in the **Reducing the Impact of Financial Strain (RIFS)** grant with Provincial Population and Public Health (PPPH), the Alberta Medical Association, AHS Zones, Primary Care Networks (PCNs), and communities across Alberta.

This ground-breaking collaboration tested ways to introduce conversations and action toward financial wellbeing in community and primary care settings. Patients screened as having financial strain are offered supports through PCNs and community agencies, and teams work to impact change at the community level. In 2021, RIFS work by the Life Medical Clinic and McLeod River PCN was recognized with an award by the Health Quality Council of Alberta for [Patient Experience](#).

Patients, providers and partners have created compelling digital stories as a powerful way to create a meaningful discussion and simulate thoughtful change. The PHCIN ChangeMaker series highlighted this work, its relevance to H2H2H and some of the stories. To view, visit [Together4Health](#).

Impact on health and care in Alberta

Working collaboratively, the PHCIN strives to create an environment where Albertans feel supported as they navigate the healthcare system. In addition, the goal is that healthcare providers will be better equipped to address and support the complex needs of their patients in the following areas:

- More coordinated transitions, especially from home to hospital to back to home
- Better coordinated, faster access to specialist care when needed
- Community-based healthcare and social services are available when needed and more coordinated, resulting in less need for emergency department and hospital visits
- Patients, families, caregivers and community members will be actively engaged with care providers and other partners to co-create innovative solutions for care coordination challenges

Actions and areas of focus

- Transitions from Home to Hospital to Home
- Linking to Specialists and Back
- Keeping Care in the Community

We move this work forward by:

- Finding and sharing leading practices to achieve integration across Alberta

- Collaboratively seeking and desinging solutions for current integration problems
- Accelerate spread and scale of initiatives in order to achieve significant system improvement Advancing innovation to create the health neighbourhood
- Engaging patients, families and caregivers in all PHCIN work through the Virtual Patient Engagement Network (VPEN)

PRIMARY HEALTH CARE INTEGRATION NETWORK



3

Peer-reviewed Publications

5

Research Grants



Value of Grants

\$1.3M

9

Workshops,
Presentations
and Webinars



118

Patient Advisors
active as part of a Virtual
Patient Engagement Network



9

Trainees /
Research Personnel



PROVINCIAL ADDICTION & MENTAL HEALTH

Integrated Provincial Program



Senior Program Officer

Kerry Bales, RN, BScN, MA

Scientific Director

Dr. Frank MacMaster, PhD, University of Calgary

Executive Director

To 09/2020: Marni Bercov, MA, BSW

Key Partners

Addiction & Mental Health Provincial Advisory Council

Senior Medical Director

Dr. Nicholas Mitchell, MD, MSc, University of Alberta

Assistant Scientific Director

Dr. Katherine (Kay) Rittenbach, PhD, University of Alberta, University of Calgary

Senior Consultant (and Implementation Lead, CanREACH)

To 02/2021: Jennifer Gallivan, MPH, CHE

Major initiatives and achievements, 2020-2021

→ CanREACH Implementation: Canadian Research and Education for the Advancement of Child Health

In Alberta, one in five children meets the diagnostic criteria for a mental health disorder, equating to over 150,000 Albertans, yet less than 20% of those receive mental health services. The cost of this gap in care is high, and demand for child mental health services has further increased during the COVID-19 pandemic.

CanREACH is an innovative program that builds much-needed mental health literacy and practice supports for primary care providers through the delivery of evidence-based training in pediatric mental health. In addition to the training primary care physicians receive, the program also provides mentors to help them translate these skills into practice and implement service changes that improve care for children and youth mental health.

First piloted in Alberta in the Calgary Zone (2014-2019), CanREACH improves the overall efficiency and efficacy of pediatric mental health services, benefitting patients, families, physicians, and the healthcare system. Evidence shows the CanREACH program results in:

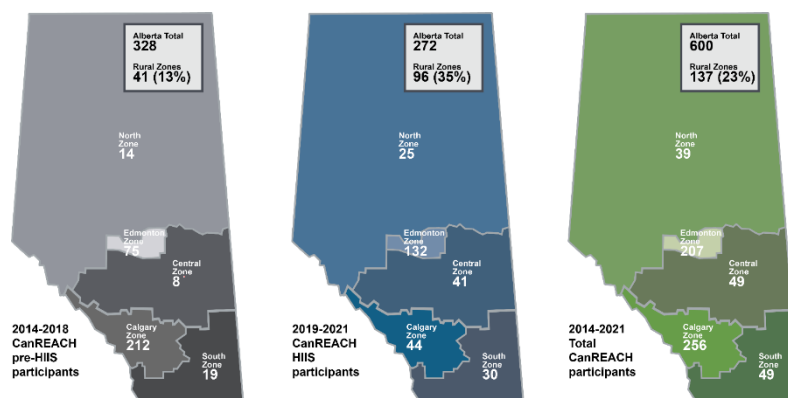
- More appropriate referrals for child and youth mental health services by CanREACH-trained physicians
- Enhanced physician knowledge regarding assessment, diagnosis and treatment for child and youth mental health disorders
- Practice changes at the community level (e.g., establishment of youth hubs, specialized clinics, consultation services)

Provincial Addiction and Mental Health (PAMH) is supporting the expansion and ongoing evaluation of the CanREACH program in Alberta through a Health Innovation, Implementation and Spread (HIIS) grant. With a move to a virtual format in Fall 2020 to adjust to pandemic-related restrictions, the program has seen a 25% increase in participants per session as the virtual delivery model has enabled rural physicians and health care providers easier access to the training.

Since September 2019:

- 272 Alberta participants have been trained over 8 sessions
- 79% of participants are family physicians and pediatricians
- 36% of Alberta participants are from rural (North, Central and South) Zones where mental health services are limited

Survey data indicates participants see value in the training, with 40% of participants rating the course in the top 5 to 10% compared to other continuing education courses, and nearly all participants saying they would recommend CanREACH training to a colleague.



Prior to CanREACH training, most participants felt that they had a small or moderate amount of knowledge and comfort assessing and diagnosing mental health disorders and symptoms. The number who reported a great deal of knowledge and comfort increased immediately after CanREACH training and at the six-month follow-up for each type of mental health disorder/symptom.

Other positive impacts and outcomes of CanREACH to date in Alberta:

18

pediatric mental health initiatives developed by CanREACH alumni

(youth hubs, specialized clinics, videos, consultation services)



Increased practice time allocated to child and youth mental health.

More appropriate use of referrals to specialized services.

\$3.22 million

estimated cumulative net value* to Alberta's health system to date

* based on research from Calgary Zone

Feedback from CanREACH participants

I want to specially thank the entire CanREACH team for your relentless dedication in facilitating this program. The work you do is highly appreciated. I also thank all the presenters for bringing up challenging cases which I personally could relate to in one way or the other, and I thank the entire team for amazing feedback by way of tips and resources available to help navigate these challenges. I have personally learnt so much and this has already changed my practice resulting in better outcomes for my clients. – Dr. Aneke Njideka

Most useful and practice changing CME I have ever been to. I have helped many children and families with my new knowledge and comfort around pediatric mental health. Thank you! – CanREACH participant

Excellent program, I can't say enough about the value of the interactive format and the following teleconferences. I would highly recommend to all of my colleagues and many of my colleagues in allied health (psychology, social work, nursing). – CanREACH participant

Impact on health and care in Alberta

PAMH is supporting many facets of addition and mental health care 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 through patient's primary care practitioner or pediatrician.
- Improved access to treatment and health outcomes for patients with addiction and mental health needs.
- 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

PROVINCIAL ADDICTION AND MENTAL HEALTH



31

Peer-reviewed Publications

12

Research Grants



Value of Grants

\$2.4M

10

Workshops & Presentations



248

Research Members

\$20K

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

PROVINCIAL POPULATION & PUBLIC HEALTH

Integrated Provincial Program



Senior Program Officer

To 09/2021: Peter Mackinnon, MHSA, CHE

Current (Acting): Maureen Devolin, RN, BScN, MEd

Senior Medical Director

Dr. Laura McDougall, MD, University of Calgary, AHS

Scientific Director

To 02/2021: Dr. Melissa Potestio, PhD, MSc, University of Calgary

Current: Dr. Gary Teare, PhD, MSc, DVM, University of Calgary

Assistant Scientific Director

Jamie Boyd, MSc (previous)
TBD (current)

Executive Director

To 02/2021: Jan Tatlock, MSc, RPN

Current: Vacant (Functions to be distributed among three support divisions)

Key Partners

AHS Zone Public Health Operations

AHS Clinical Operations

Primary Care Networks

Alberta Medical Association

Alberta Universities (UA, UC, UL)

Major initiatives and achievements, 2020-2021

Over the past year, the Population, Public and Indigenous Health (PPIH) SCN joined forces with their respective provincial programs to create integrated provincial teams focused on Population and Public Health and Indigenous Health. The Provincial Population and Public Health (PPPH) team has played a central role in coordinating and providing evidence to inform Alberta's COVID-19 response while continuing to advance health system improvements that support population and public health. Since 2020-2021 was the transition year, impact metrics are not reported separately for these provincial teams. Rather, they reflect the combined contributions of PPPH, the Indigenous Wellness Core (IWC) and the PPIH SCN for 2020-2021.

→ Supporting Alberta's public health response to the COVID-19 pandemic

Since March 2020, PPPH has providing support and coordination across zones, and with Indigenous communities across the province. These efforts have significantly contributed to the province's public health response. Network leaders and members have reviewed emerging evidence and continued to develop, implement, monitor, and refine public health measures.



In February 2021, PPPH launched a responsive data analysis collaboration to support senior leadership decision-making based on Alberta COVID-19 data. The **COVID-19 Responsive Analysis Group (CRAG)** provides responsive analysis of Alberta data sources and fills evidence gaps that cannot be addressed using research literature synthesis alone. This initiative enables policy and practice decisions to be based on data that is specific to the Alberta context and will help strengthen and expand collaborations between PPPH and university-based public health researchers.

CRAG initiatives are collaborations between scientists and data analysts within PPPH's Program Knowledge, Evidence and Innovation (PKEI) and Public Health Surveillance and Informatics (PHSI) teams and university or other AHS-based researchers. Their expertise enables advanced data analysis on priority projects requested by the Scientific Advisory Group (SAG), the Emergency Command Centre, Alberta's Chief Medical Officer of Health or the PPPH Leadership Team. The CRAG steering group, with clinical and scientific membership from SAG and PPPH, launched its first project in March, examining the infectiousness of post-vaccination ("breakthrough") cases of COVID-19.

→ Reducing the impact of financial strain and other social determinants of health

Reducing the Impact of Financial Strain (RIFS) is a partnership between AHS Provincial Primary Health Care Integration Network, Provincial Population and Public Health (PPPH), the Alberta Medical Association, AHS Zones, Primary Care Networks (PCNs) and clinics, and local communities. This project has improved understanding of how to screen for financial strain and other social determinants of health (SDoH) in primary care.

To date, screening has been integrated into clinical workflow at three pilot sites (Whitecourt, Morinville, Vermillion/Viking), including screening questions, EMR documentation, referrals, and connections to community resources. Patients who screen positive are offered supports through PCNs and community agencies. Local communities and PCNs are following the 5-step Alberta Healthy Communities Approach and creating community action and sustainability plans to address financial strain at a local level and maintain relationships between PCNs and communities.

Communities are currently at the implementation stage for their prioritized actions. Through this work, a Population Health Needs Framework and User Guide was created to help identify population health needs and plan primary care services based what matters to communities, local needs and priorities for improving population health outcomes and supporting health equity. Originally a three-year project, this work was extended due to COVID-19 priorities to September 2021. [Read more](#)

Other highlights

➔ Embedding social determinants of health (SDoH) into clinical information systems and care

PPPH is co-chairing the SDoH in Connect Care Working Group, which is developing a provincial approach for including social determinants of health (e.g., behavioural and other risk factors) as part of patients' medical record. This information will support integrated, patient-centred care by healthcare providers throughout the province.

The group will provide evidence-based recommendations about which SDoH domains to include, screening tools and questions, risk classifications, interventions and referral mechanisms. Currently, SDoH domains within Connect Care include tobacco, alcohol and substance use, employment, poverty/financial strain, transportation, physical activity, stress, depression, social connections, and intimate partner violence.

In 2020-2021, the Working Group developed a detailed work plan that includes a content development and review schedule (including the addition of housing and post-partum depression domains) and an implementation plan for additional domains, pathways and flowsheets within a variety of care settings.

Impact on health and care in Alberta



Over the past year, PPPH's work has impacted all Albertans. Their contributions to the COVID-19 response have reduced the risk of viral transmission and helped assure health care capacity. Specifically, their work in 2020-2021 has:

- Supported Alberta's emergency response, public health measures, data analysis and surveillance throughout the COVID-19 pandemic
- Improved screening, data collection, health literacy and health promotion for Indigenous patients, people experiencing financial strain and vulnerable populations
- Improved awareness of underlying social needs, supports and coordination by primary care clinicians and community partners
- Contributed to 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

Strengthen community action: Communities and intersectional partners to take action to improve health outcomes and reduce inequities.

- Routinely measure population health and its determinants and translate findings with communities to set priorities and monitor progress
- Develop and promote pathways to healthy communities
- Support and enhance communities' capacity to create opportunities and conditions for health

Reorient health services: Firmly embed shared responsibility for promoting health and well-being across health services

- AHS adopts a "Promoting Health" strategy
- Health services address unjust and avoidable differences in health outcomes within and between populations
- Routinely identify social and preventative risk factors, address them compassionately and coordinate follow-up seamlessly with community partners

INDIGENOUS WELLNESS CORE + PROVINCIAL POPULATION AND PUBLIC HEALTH



1

Peer-reviewed Publications

1

Research Grant



Value of Grants

\$0.1M



31

Workshops & Presentations

7

Letters of Support



7

Trainees / Research Personnel



www.ahs.ca/ppihscn

PROVINCIAL SENIORS HEALTH & CONTINUING CARE

Integrated Provincial Program



Senior Program Officer

David O'Brien, CPA CMA

Scientific Director

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

Executive Director

Reverdi Darda, RN, BSCN, CHE

Key Partners

Zone operators

Contracted care providers

Senior Medical Director

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

Assistant Scientific Director

Dr. Heather Hanson, PhD,
University of Calgary

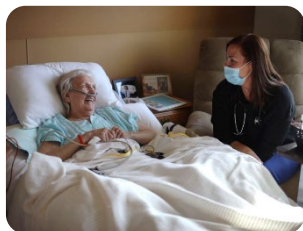
Manager

Abram Gutscher, BHSc, MHA

Major initiatives and achievements, 2020-2021

→ Meeting evidence and decision-making needs during the COVID-19 pandemic

The arrival and early spread of the coronavirus pandemic disproportionately affected older Albertans. The age groups with highest proportion of individuals hospitalized or dying from coronavirus were individuals 65 years of age and older. However, the adverse effects of the pandemic were not limited to those who contracted the virus. Older Albertans residing in continuing care facilities were affected by visitation restrictions and outbreaks, while disruptions to services and supports across health and social care provision affected older Albertans and caregivers of older persons needing access to them.



Provincial Seniors Health and Continuing Care (PSHCC) supported the pandemic response with timely evidence generation and decision-making. We identified and synthesized evidence on strategies to address acute care length of stay and alternative level of care days. We led the development of guidelines to better enable long-term care staff to provide safe and resident-centred care within the restrictions of a pandemic outbreak at their site and in compliance with public health orders. We also led the Scientific Advisory Group evidence synthesis for feasible strategies to enhance hospital capacity with a particular emphasis on those with complex health needs and the elderly. Our leaders played critical roles in the province-wide pandemic response. We participated in

the AHS Emergency Coordination Centre to ensure the needs of older Albertans and continuing care clients were addressed within the pandemic response. And finally, we led the development and review of the Continuing Care Visitation Guidelines in response to the need to balance the risks and benefits to residents, families, and staff within the changing circumstances of the pandemic.

→ Advancing new knowledge through research and capacity building

The pandemic has highlighted areas of need and we have worked with our research community and partners to respond, learn, and improve. In partnership with AHS Infection Prevention and Control, we are collaborating on the province-wide rollout of the PPE Safety Coach Program in long-term care and designated supportive living. This initiative will support the appropriate selection and consistent use of personal protective equipment by site staff to reduce the spread of COVID-19 and other respiratory viruses. The widespread implementation and evaluation of this initiative will be supported as one of the objectives outlined in funding received from Healthcare Excellence Canada (\$1.47M). Our efforts to support new research continue with collaborations with academic researchers, exemplified by our participation in and support of grant applications to COVID-19 opportunities. We have also served in a research advisory capacity to supported adaptation of projects influenced by the pandemic as well as projects aiming to better understand its persistent gaps and repercussions.

Beyond the COVID-19 response, we continue to enable and sponsor research across a variety of topics. The Scientific Office dedicated funds to support competitively awarded opportunities for pursuing the production of new knowledge and capacity building related to seniors' health. The funding served to incentivize research in our priority areas. In effort to continue to build capacity for research on seniors' health, we awarded four summer studentship stipends to undergraduate students. The trainees undertake their research projects with the guidance of their university supervisors at the University of Alberta, University of Calgary, and University of Lethbridge.

We also funded two research teams within a Knowledge Synthesis competition. The objective of the competition was to enable the production of valid and trustworthy knowledge syntheses in content areas aligned with the topics prioritized by research end-users as being of greatest priority to address (for additional details on the prioritization, please see the prior [Seniors Health Research Priority Setting Partnership](#)). This project was the subject of a province-wide engagement event and symposium funded by the O'Brien Institute for Public Health with the goal of fostering collaborations in areas identified by older Albertans as being important areas for research.

"The last year saw many challenges in the seniors' health and continuing care sector. In addition to the enormous amount of work required to manage the pandemic, we also saw the amalgamation of two strong provincial programs into the new Provincial Seniors Health and Continuing Care portfolio. This portfolio brings together the perspectives and expertise developed in each to the other and, as we work through the mechanics of working together, is enabling and augmenting the work we do to support excellence in care. The vision of a synergistic, rather than an additive, merger is increasingly being realized."

Dr. James Silvius, Senior Medical Director, Provincial Seniors Health and Continuing Care

Other highlights

➔ Elder Friendly Care expanding to more acute care sites

Practices to protect cognitive and physical function, decrease adverse outcomes, and support quality transitions from acute care have been part of our elder friendly care toolkit. With practice change support provided by the Elder Friendly Care (EFC) project team, and a companion toolkit of resources, EFC units have demonstrated reductions in length of stay of approximately 1 day for patients 65+ years of age and approximately 2 days for patients 85+ years of age.

Given these system improvements, EFC was selected for funding within the Health Innovation Implementation and Spread (HIIS) opportunity. The two-year expansion will support the EFC team to engage additional facilities (8 large hospitals and 3 smaller hospital sites) in Alberta that have large numbers of older patients.

Impact on health and care in Alberta

As we organize into an integrated team, leveraging the strengths of each prior group, we continue our work together to improve health outcomes and healthcare for older Albertans and Continuing Care clients. Over the past year, this work has contributed to:

- ➔ Evidence-informed decisions on how to prepare the health system to meet the needs of Albertans with and without COVID-19
- ➔ Working with leaders and staff in long term care and designated supportive living to implement targeted quality improvement interventions
- ➔ Supporting communities to strengthen their readiness to support older Albertans with dementia and their family caregivers



Actions and areas of focus

- ➔ Mobilization of research in end-user identified areas of priority for seniors' health
- ➔ Expansion of elder-friendly care practices in acute care settings
- ➔ Supporting Albertans living with dementia and their caregivers

PROVINCIAL SENIORS HEALTH & CONTINUING CARE



11

Peer-reviewed Publications

2

Research Grants



Value of Grants

\$2.6M



103

Research Members

\$28K

in Grants & Studentships
Awarded to Incent Research in
Seniors Health

11

Trainees /
Research Personnel



www.ahs.ca/seniorshhealthscn