

2020-2021 Research Collaborations and Funding Support by SCNs and Provincial Programs

Alberta's SCNs and Integrated Provincial Programs facilitate and support collaborations with Alberta universities and research institutes. They provide funding support through studentships, seed grants, and learning opportunities for undergraduate, graduate trainees and early-career researchers to gain research experience while contributing toward strategic health research priorities. These partnerships support a thriving research community, advance priorities that benefit the people of Alberta, and build local capacity for health research and innovation.

This document summarizes project support for the 2020-2021 reporting period. A series of profiles are included that highlight the goals and outcomes of this work.

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- ▶ [By Area of Health or Keyword](#)
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- ▶ [By Affiliation \(Research Institute or University\)](#)
- see Abbreviations in Note 1 below

Notes

1. Name of researcher(s), their academic affiliation and SCN or Provincial Program supporting the work are provided. Academic affiliations include the University of Calgary (UC), University of Alberta (UA), University of Lethbridge (UL), University of British Columbia (UBC), University of Western Ontario (UWO), Dalhousie University (DAL), and McGill University (McGill).
2. Projects profiled here were active and/or completed during the annual reporting period (April 1, 2020 to March 31, 2021).
3. Further detail on performance indicators related to student or patient research is provided in the SCN 2020-2021 Impact Report, Appendix A.
4. Information on patient research is provided in the [2020-2021 Patient Research Summary](#).

Studentships, Seed Grants and Other Funding Support

SCNs and integrated Provincial Programs offer studentships, grants and funding to incent health research in Alberta and provide learning opportunities for students and trainees. These opportunities support capacity building, enabling students to gain research experience while advancing knowledge and quality improvements in patient care and health services research of value to Albertans.

Studies vary in their complexity and stage of completion. In 2020-2021, this work spanned many health disciplines, supporting knowledge generation and translation in areas such as injury prevention, population health, critical care, rehabilitation, virtual care, investments in home care, patient preferences and experiences.

\$690,606

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

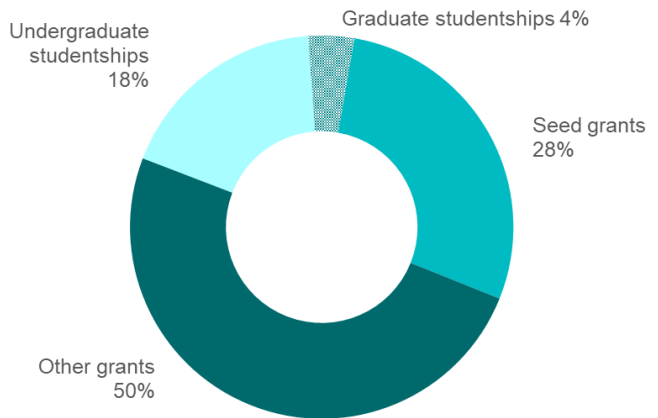
39

studentships & seed grants awarded to
support health research at Alberta's 3
major research universities

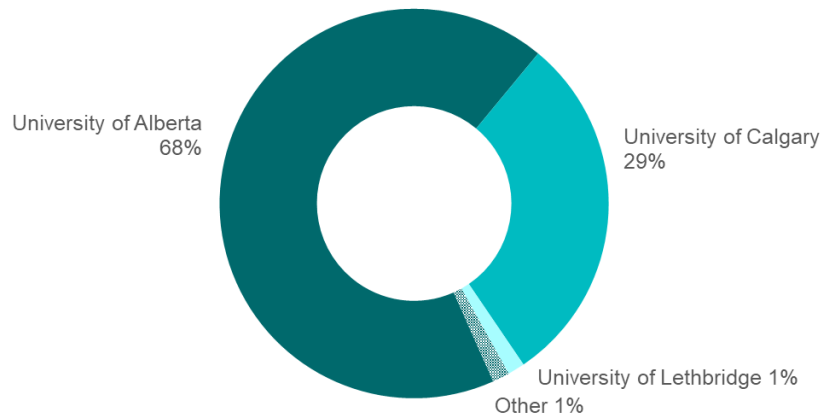
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additional grants awarded for research
collaborations in priority areas

FUNDING TYPE



FUNDING BY RECIPIENT AFFILIATION



Grants awarded through the SCN Scientific Offices

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*

| | |
|-----------|------------------|
| 13 | \$150,783 |
| 2 | \$45,000 |
| 0 | -- |
| 0 | -- |
| 14 | \$195,783 |

Other Grants

N *Funds Awarded*

| | |
|-----------|------------------|
| 7 | \$231,713 |
| 6 | \$102,858 |
| 0 | -- |
| 2 | \$9,000 |
| 15 | \$343,571 |

Grant details – area of health, competition, recipient and value

| Area of Health | Competition | Recipient (Affiliation) | Value |
|--------------------------------|--|---|----------|
| Strategic Clinical Networks | | | |
| Bone & Joint Health | Targeted seed grant | Anu Räisänen (UC) | \$30,000 |
| Cancer | Innovation pipeline grant* (performance gap identification) | Sangjune Laurence Lee (UC) | \$15,000 |
| Cardiovascular Health & Stroke | Undergraduate summer studentship | Susanna McDermott (UA) | \$6,000 |
| | Graduate studentship | Alexandra Ansell (UA) | \$6,000 |
| Critical Care | Undergraduate summer studentship | Muhammad Saahim Salman (UC) | \$7,500 |
| | | Thérèse Poulin (UC) | \$5,625 |
| | | Rachel Livergant (UA) | \$7,500 |
| | | Sophia Lu (UC) | \$7,500 |
| | | Harleen Cheema (UA) | \$7,500 |
| | | Sara Cui (UC) | \$7,500 |
| Diabetes, Obesity & Nutrition | Undergraduate summer studentship | (UA) | \$7,000 |
| | | (UA) | \$7,000 |
| Emergency | Undergraduate summer studentship | Anjola Adeboye (UC) | \$6,000 |
| | | Sharan Preet Aulakh (UA) | \$6,000 |
| | | Kate Ukrainetz (UC) | \$6,000 |
| | | Muna Mohammed (UA) | \$6,000 |

| Area of Health | Competition | Recipient (Affiliation) | Value |
|---|---|--|----------------------------------|
| | Seed grants / Systematic review competition | Jeff Franc (UA) Shawn Dowling (UC) Lisa Hartling (UA) | \$15,000 \$15,000 \$15,000 |
| Maternal, Newborn, Child & Youth | Graduate studentship | Yuba Raj Paudel (UA) Samantha Louie-Poon (UA) | \$11,000 \$2,000 |
| Medicine | <i>Kidney Health Section</i> , Strategic priorities research support / seed grant | Kara Schick-Makaroff (UA) Darren Lau (UA) | \$22,000 \$9,000 |
| | <i>Respiratory Health Section</i> , Undergraduate summer studentship | Alexandra Kellington (UC) David Li (UA) | \$6,000 \$6,000 |
| | <i>Respiratory Health Section</i> , Research and innovation seed grant | Maria Castro-Codesal (UA) Cheryl Laratta (UA) Hayley Turnbull (UA) and Sarah Forgie (UA) | \$10,000 \$10,000 \$10,000 |
| Neurosciences, Rehabilitation & Vision | Seed grant | Jane Porter (UA) Katelyn Brehon (UA) | \$6,000 \$8,000 |
| | CVS SCN research grant | Katelyn Brehon (UA) | \$3,100 |
| | PRAXIS Spinal Cord Institute COVID-19 award | Katelyn Brehon (UA) | \$15,000 |
| | Alberta Paraplegic Foundation | Jacqueline Krysa (UA) | \$50,000 |
| | University of Alberta, Faculty of Nursing summer research studentship | Marianne Pearl Gregorio (UA) | \$7,500 |
| Surgery | Facilitation funding* | Dr Neil White (UC) | \$5,000 |
| Provincial Programs | | | |
| Primary Health Care Integration Network | Community Health Sciences graduate Internship | Adrijana D'Silva (UC) | \$7,627 |
| | TUTOR-PHC* | Nolan Schaaf (AHS) | \$3,000 |
| | TUTOR-PHC* | Rachel Talavlikar (AHS) | \$3,000 |
| Provincial Seniors Health & Continuing Care | Undergraduate summer studentship | Jane Mathew (UC) | \$6,000 |
| | | Jordan Overwater (UA) | \$1,500 |
| | | Riley Schaaf (UA) | \$4,500 |
| | Knowledge synthesis grant | Kate Takeda (UL) | \$6,000 |
| | | Dr. Kathleen Hunter (UA) Dr. Jordana Salma (UA) | \$13,000 \$14,683 |

Notes:

* Included as "Other Grants".

1. Grant recipients whose names are underlined link to project profiles.

2. Table does not include details for 10 additional awards classified as "Other Grants" (total value \$239,888). These grants are included in summary metrics and were dispersed by six SCNs (Bone and Joint, Cancer, Cardiovascular Health and Stroke, Diabetes, Obesity and Nutrition, Maternal, Newborn, Child and Youth, and Medicine) to UA and UC recipients.

Selected studentship and seed grant project profiles

Bone & Joint Health



Predictors of response to neuromuscular training program targeting injury prevention in youth

Anu Räsänen

Post-doctoral fellow, Dr. Carolyn Emery's Lab
University of Calgary, Faculty of Kinesiology

Supported by the Bone and Joint Health SCN Targeted Seed Grant Competition (2020)

In Canada, unintentional injuries are the leading cause of disability in youth (ages 10-19). Injuries account for >30% of youth emergency room visits and >50% occur in sport/recreation settings. Annually, 1 in 3 Alberta youth seek medical attention for a sport/recreation injury. Injuries in youth may lead to reduced physical inactivity, obesity, osteoarthritis, and chronic illness, together with associated health care costs.

Neuromuscular training (NMT) warm-up programs have been recognized as an effective method for preventing sport-related injuries and their recurrence, and supporting rehabilitation in individuals with osteoarthritis. However, there is great deal of variability in individuals' response to NMT. To ensure that everyone benefits from participating in NMT, it is important to explore what influences non-response to NMT.

Using a well-established database of NMT outcomes, this research aims to determine predictors of response (no injury) and non-response (injury) to NMT.

Critical Care



Developing a metabolomic biomarker for early detection of Acute Respiratory Distress Syndrome (ARDS)

Saahim Salman

University of Calgary

With support from the Critical Care SCN, Summer Studentship

This project explores various statistical and computational analyses of serum metabolites detected from samples of Calgary Zone ICU patients to determine an accurate biomarker or biopattern for Acute Respiratory Distress Syndrome (ARDS). Using samples from ICU-ventilated control patients allows for more accurate statistical analysis towards developing a biomarker(s) specifically directed towards ARDS.

Outcomes:

Due to the high morbidity and mortality rates caused by ARDS in the ICU, this project is a crucial step towards examining ARDS using a systems biological approach that may eventually result in lowering morbidity and mortality. The biomarker(s) will not only improve early detection and diagnosis, but also provide insight into the prognosis of ARDS. Early detection biomarkers and prognostic biomarker identification could have a substantial impact on the future of ARDS diagnosis and treatment.



Clinical practice guideline recommendations for diagnosis and management of anxiety and depression in critically ill adults with delirium: A systematic review

Thérèse G. Poulin

University of Calgary

With support from the Critical Care SCN, Summer Studentship

Given the burden of anxiety and depression in intensive care unit (ICU) patients with delirium, it is important to advance clinical practice guidelines to improve care for critically ill populations. This systematic review will provide a comprehensive synthesis and quality assessment of the relevant guidelines for depression and anxiety in adult critically ill patients with delirium with the goal of improving care for critically ill patients with delirium.

Outcomes:

In synthesizing these guidelines and recommendations, Thérèse will identify areas of knowledge that may be ready to translate into practice and areas where evidence gaps exist. Results will be evaluated in a subsequent focus group study to understand potential barriers and facilitators to consider in implementing these guidelines.

Medicine



Geographic inequalities of respiratory health services utilization during childhood in Edmonton and Calgary, Canada: A tale of two cities

Dr Maria Ospina, PhD

University of Alberta

With support from the Respiratory Health Section, Medicine SCN Research and Innovation Grant

This study aims to identify what geographic inequalities in respiratory health services utilization may exist for those in early childhood living in Calgary and Edmonton. For all singleton live births between 2005 and 2010, the study examined the total number of episodes of respiratory care (hospitalizations and emergency department visits) that occurred during the first five years of life for bronchiolitis, pneumonia, lower/upper respiratory tract infections, influenza, and asthma-wheezing. Spatial filters were applied to identify geographic inequalities in the prevalence of acute paediatric respiratory health services utilization in Calgary and Edmonton.

Outcomes:

The average health gap, between geographic areas with the highest and the lowest prevalence of respiratory health services utilization, was 1.5-fold in Calgary and 1.4-fold in Edmonton. However, geographic inequalities were not completely explained by the spatial distribution of socioeconomic status, suggesting that other unmeasured factors with the neighbourhoods of these individuals may explain local variability in the use of acute respiratory health services in early childhood.

Primary Health Care Integration Network



Community health sciences internship

Adrijana D'Silva, PhD-HSR student

University of Calgary, Community Health Sciences

With support from the Primary Health Care Integration Network (PHCIN)

Adrijana worked with the PHCIN to co-design and implement the ADAPT pathway: A Disease-Inclusive Pathway for Transitions in Care. This 3-year grant-funded initiative aims to improve transitions in care for patients with heart failure, chronic obstructive pulmonary disease (COPD), cirrhosis, end-stage kidney disease, and stage 3-4 cancers.

The internship involves coordinating and conducting focus groups and in-depth interviews with primary care physicians, and identifying and mapping key data infrastructure, analytics and measurement supports for acute care sites and Primary Care Network clinics participating in the ADAPT study.

Outcomes:

This work supports quality improvement and patient-centered care. Outcomes will include a standardized process and materials for follow-up primary care for patients living with the five aforementioned chronic diseases as they transition from hospital back to their communities. Results and findings from this internship will be presented to PHCIN leadership and the provincial Primary Care Program and shared in a summary report and potential publications.

Student-Led Research (Undergraduate, Graduate, and Early-Career Researchers and Trainees)

Many SCNs and integrated Provincial Programs supervised and mentored undergraduate, graduate and post-doctorate students and provided practicums, guidance and collaborative research opportunities as part of their commitment to capacity building and to health research and innovation.

In turn, medical students, trainees and research assistants in community health sciences, nursing, and other disciplines participated in projects that supported knowledge synthesis, helped advance health services research, and contributed to quality improvements and healthcare solutions in Alberta and beyond.

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

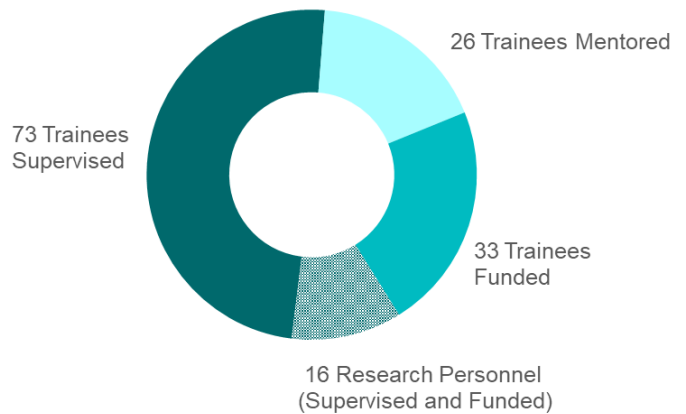
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funded through seed grants and research funding

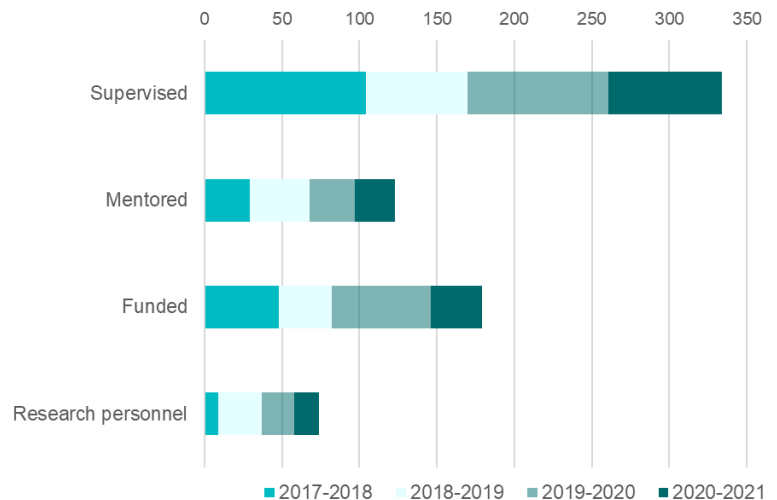
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research personnel collaborated with SCNs in priority areas

TRAINEES SUPPORTED
FY 2020-2021



SUPPORT BY TYPE AND YEAR



Student Researchers by Institution and Faculty Affiliation

| | N | School or Faculty |
|----------------------------------|----|---|
| University of Alberta | 65 | Medicine & Dentistry; Family Medicine; Critical Care Medicine; Public Health; Surgery; Faculty of Nursing; Rehabilitation Medicine; Agriculture, Life and Environmental Sciences; Faculty of Science; Faculty of Kinesiology, Sport and Recreation; Faculty of Arts |
| University of Calgary | 33 | Cumming School of Medicine; Community Health Sciences; Surgery; Orthopedics, Faculty of Nursing |
| Other (DAL, UBC, UWO, McGill) | 5 | Faculty of Nursing; Faculty of Health |

Notes:

Data reflects known affiliations at the time of reporting. N includes number of trainees funded, supervised and/or mentored in FY 2020-2021 (see table below for additional information).

| SCN / Area of Health | Student Researcher/Trainee | Affiliation | Supervisor |
|------------------------------------|--|--|---|
| Strategic Clinical Networks | | | |
| Bone & Joint Health | Danika Tribo MSc student | University of Western Ontario (UWO), Faculty of Nursing (course 1) | Dr. Ania Kania-Richmond (ASD) & Dr. Tina Hurlock-Chorostecki |
| | | UWO, Faculty of Nursing (course 2) | Dr. Ania Kania-Richmond (ASD) & Mary van Soeren |
| | Sara Orenstein MSc student | University of Calgary, Dept. of Community Health Sciences | Dr. Ania Kania-Richmond (ASD) |
| | Bryanne Kennedy MSc student | University of Calgary, Dept. of Community Health Sciences | Dr. Ania Kania-Richmond (ASD) (MSc committee member) (Supervisors: D. Marshall & G. Currie) |
| | J Bourget-Murray , J Lukenchuk Orthopedic residents & S Kearns Pre-med student | University of Calgary, Cumming School of Medicine (CSM) & Section of Orthopedics | Jason Werle (SMD) & Kelly Johnson |
| | D. Gusnowski Orthopedic resident | University of Calgary CSM & Section of Orthopedics | Jason Werle (SMD) |
| | Ganesh Swamy | University of Calgary, CSM, Dept. of Surgery | David A. Hart (SD) , co-supervisor |
| Cancer | Xin Grevers Masters' student | University of Alberta, School of Public Health | Dr. Anna Pujadas Botey (ASD) |

| SCN / Area of Health | Student Researcher/Trainee | Affiliation | Supervisor |
|--|--|--|---|
| Cancer | Hyejun Kim Masters' student | University of Alberta, School of Public Health | Dr. Anna Pujadas Botey (ASD) |
| | Darian Recoskie Undergraduate student | University of Alberta, Faculty of Agricultural, Life and Environmental Sciences | |
| | Avery Towle Undergraduate student | | |
| Cardiovascular Health & Stroke | Alexandra Ansell MN/NP student | University of Alberta, Faculty of Nursing | Dr. Christiane Job McIntosh (ASD), Dr. Colleen Norris (SD) |
| | Susanna McDermott Undergraduate student | | |
| | Kyle Kemp PhD student | University of Calgary | |
| | Emad Awad PhD student | University of British Columbia | |
| | Uri Bender Master's student | Faculty of Medicine, McGill University | |
| | Teresa Slade PhD student | University of Alberta, Rehabilitation Medicine | |
| | Upinder Sarker PhD student, Nursing | | |
| | Christopher Picard Master's student | | |
| | Usha Pant Master's student | | |
| | Andrea Van damme PhD student, Medicine | | Dr. Colleen Norris (SD) |
| | Brandi Haessel Master's student, Nurse Practitioner | | |
| | Shelby, Sluchinski Master's student, Nurse Practitioner | University of Alberta | |
| | Krysta Thomsen Master's student, Nursing | | |
| | Michelle McCasin Master's student, Nursing | | |
| | Nicole Tegg Master's student, Nursing | | |
| | Roel Malemit Master's student, Nursing | | |
| Monica Sutherland MSN student, Nurse Practitioner | | | |

| SCN / Area of Health | Student Researcher/Trainee | Affiliation | Supervisor | | |
|--------------------------------|---|--|--------------------------------|--|------------------------------|
| Cardiovascular Health & Stroke | Jaspreet Dosanjh MSN student, Nurse Practitioner | University of Alberta, Faculty of Nursing | Dr. Colleen Norris (SD) | | |
| | Monica Kneller MSN, Nurse Practitioner | | | | |
| | Lindsey Komar MSN student | | | | |
| Critical Care | Erin Hessey Medical student | University of Alberta Department of Critical Care Medicine | Dr. Sean Bagshaw (SD) | | |
| | Carmel Montgomery Postdoc fellow | | | | |
| | Sarah Andersen Postdoc critical care medicine resident | | | | |
| | Jean Deschamps Postdoc critical care medicine resident | | | | |
| | Megan Surkan Postdoc geriatric medicine resident | | | | |
| | Jeremy Katulka Postdoc critical care medicine resident | | | | |
| | Lu Guiyang Critical care medicine physician postdoc clinical trainee | | | | |
| | Emma Ulrich MSc student | | | University of Alberta School of Public Health | Dr. Sean Bagshaw (SD) |
| | Giovanni Tagliabue PhD student | | | University of Calgary CSM | Dr. Dan Zuege (SMD) |
| Digestive Health | Joseph Windsor Postdoc fellow | University of Calgary, Department of Medicine | Dr. Gilaad Kaplan (SD) | | |
| | Dr. Jared Cooper Clinical fellow | | | | |
| | Dr. Jordan Iannuzzi Clinical fellow | | | | |
| | Tawnya Hansen MSc student | | | | |
| | Joshua Quan MSc student | | | University of Calgary Dept. of Community Health Sciences | |
| | Michael Buie MSc student | | | | |

| SCN / Area of Health | Student Researcher/Trainee | Affiliation | Supervisor |
|--------------------------------------|--|--|--|
| Diabetes, Obesity & Nutrition SCN | Michelle Capicio Dietitian intern | University of Alberta, Faculty of Agricultural, Life and Environmental Sciences | Dr. Cathy Chan (SD) , Dr. Heather Keller, Dr. Naomi Popeski (ASD) , Dr. Leah Gramlich, Marlis Atkins, and Carlota Basualdo-Hammond |
| | Laura Mushumanski | | |
| Emergency | Matthew Yeung | University of Calgary | Dr. Eddy Lang (SD) |
| | Dominic Alaazi | University of Alberta | Dr. Patrick McLane (ASD) (supervising qualitative methods for PRIHS IV) Dr. Ginetta Salvalaggio |
| | Cindy Xue | | |
| Maternal, Newborn, Child & Youth | Yuba Raj Paudel | University of Alberta, School of Public Health | Dr. Deborah McNeil (SD) Dr. Seija Kromm (ASD) |
| | Samantha Louie-Poon | University of Alberta, Faculty of Nursing | Stacey Nyl, Dr. Deborah McNeil (SD) , Dr. Seija Kromm (ASD) |
| Medicine, Kidney Health Section | Anita Dahiya MSc student in Translational Medicine | University of Alberta, Faculty of Medicine & Dentistry | Dr. Neesh Pannu (Co-SD) |
| | Jarom Stevenson Graduate Research Assistant Fellowship | University of Alberta, Faculty of Medicine & Dentistry | |
| Medicine, Respiratory Health Section | Zarah Rampuri, MSc student | University of Alberta, Faculty of Rehabilitation Medicine | Dr. Mike Stickland (SD) |
| | Sophie Collins, PhD student | | |
| | Evelyn Etruw PhD student | | |
| | Clifford Linderman PhD student | University of Alberta, Faculty of Kinesiology, Sport and Recreation | |
| | Samira Rowland Undergraduate student | | |
| | Jordan Bennett Undergraduate student | | |
| | Andra Scott Undergraduate student | | |
| | Eli Bok Undergraduate research practicum student | | |
| | Benjamin Mickelsen, Undergraduate research practicum student | | |

| SCN / Area of Health | Student Researcher/Trainee | Affiliation | Supervisor | |
|--|--|--|---|--|
| Medicine, Respiratory Health Section | Thomas McMurtry Undergraduate student | Dalhousie University, Faculty of Health | Dr. Mike Stickland (SD) | |
| | Takeisha Wang Undergraduate student | University of Alberta, Faculty of Sciences | | |
| Neurosciences, Rehabilitation & Vision | Amanda Walsh Undergraduate student | University of Alberta, Faculty of Nursing | Dr. E. Papathanasoglou (SD) and Dr, Kiran Pohar Manhas (ASD) | |
| | Anabel Escadon Ali Undergraduate student | | | |
| | Cassidy Mansell-Reagan Undergraduate student | | | |
| | Keri Morrison Undergraduate student | | | |
| | Marianne Pearl Gregorio Undergraduate student | | Dr. E. Papathanasoglou (SD) | |
| | Emily Checkwitch Undergraduate student | | | |
| | Lydia Antwi Undergraduate student | | | |
| | Jacqueline Krysa Post-doctoral fellow | | University of Alberta | Dr. Chester Ho (SMD) and Dr, Kiran Pohar Manhas (ASD) |
| | Katelyn Brehon Graduate student | | University of Alberta, School of Public Health | Dr. Kiran Pohar Manhas (ASD) |
| | Jennis Jiang Undergraduate practicum | | University of Calgary | |
| Surgery | Dr. Murod Akhrorov Masters student (Surgical Education) | University of Alberta Department of Surgery | Dr. Jonathan White (SMD) | |
| | Dylan Viste & Asher Khan Undergraduate students | University of Calgary | Dr Trafford Crump | |

| SCN / Area of Health | Student Researcher/Trainee | Affiliation | Supervisor |
|--------------------------------------|--|-----------------------|---------------------------------------|
| Provincial Programs | | | |
| Provincial Addiction & Mental Health | Sharon Ann Foster PhD student | | Dr. Jennifer Leason |
| | Clara Tapia Palacio MSc student | University of Calgary | Dr. Frank MacMaster (SD) |
| | Jessica Van Dyke MSc student | | Dr. Ariel Ducey |
| | Ashley Corneet-Benoit PhD student | | Drs. Lindsay Crowshoe and David Hogan |

| SCN / Area of Health | Student Researcher/Trainee | Affiliation | Supervisor | | |
|---|---|---|---------------------------------|---|--|
| Indigenous Wellness Core | Megan Oulette-Johannsen | University of British Columbia (UBC) | Kienan Williams (ASD) | | |
| | Shaylene Scarrett | | | | |
| | Larissa Heron | | | | |
| | Erik Morgan | | | | |
| | Shayla Scott | | | | |
| | Latoya Healy | | | | |
| | Chenoa Cardinal | | | | |
| Primary Health Care Integration Network | Sharon Tahir Masters student | University of Alberta, Public Health | Dr. Mary Modayil | | |
| | Folakemi Jolaoso Masters student | | | | |
| | Max Jajszczok PhD student | | | Dr. Ceara Cunningham (co-ASD) | |
| | Yuanchao Feng Masters student | | | University of Calgary, Dept. of Community Health Sciences | Dr. Robin Walker (co-ASD) |
| | Lucia Varela Masters student | | | | |
| | Stepanie Garies PhD student | | | Dr. Judy Seidel (SD) | |
| | Provincial Seniors Health & Continuing Care | | | Anahat Juynaja Undergraduate student | University of Alberta, Faculty of Arts |
| Marina Krillovich Undergraduate student | | | | | |
| Michelle Knox Doctoral student | | | | | |
| Saima Rajabali Doctoral student | | | | | |
| Mehri Karimi-Dehkordi Postdoctoral Trainee | | | | | |
| Rosmin Esmail Doctoral student | | University of Calgary, Dept. of Community Health Sciences | Dr. Heather Hanson (ASD) | | |

NOTES:

1. This list and the profiles that follow highlight examples of student research, but do not include all student researchers currently working with SCNs.
2. Names that are underlined link to project profiles.

Selected trainee research profiles

Provincial Addiction and Mental Health



e-Mental Health Implementation

Sharon Foster, MACP, CCC, ACTA-CCTA

PhD Student and Researcher, University of Calgary, Department of Anthropology
Provincial Addiction and Mental Health

As an educator, counselor, consultant and researcher, my work aims to improve individual and group health and wellness agency. Together with the Siksika AHS eMental Health Implementation Team, Ashley [Cornect-Benoit] and I supported the development of new health domains measurements for spiritual health, cultural connectedness, grief and loss. This involved intense literature reviews, rigorous team discussions, and selection and adaptation of current, reliable and valid psychometric measures.

Outcomes:

The measures are ready to pilot for youth and young adults participating in the eMental Health study in July 2021. With participants' feedback, these measurements can be refined to be made more relevant for youth and clinicians working with them. It is expected that with more community feedback, these new domains will inform future community-driven research priorities within mental health, both community and provincial-wide.



e-Mental Health Implementation

Ashley Marie Cornect-Benoit, BSc, MSc

PhD Student, University of Calgary, Community Health Sciences
Provincial Addiction and Mental Health

In addition to the development of the new health domains within the InnoWell Platform, Sharon [Foster] and I have helped consult on and finalize sections of the ethics application that pertain to participating Indigenous communities. This process involved community meetings and in-depth conversations with community leadership involved in this project. Through these conversations, we have been privileged to learn more about how participating Indigenous communities foresee their engagement with this project.

Outcomes:

This work has led to the development of conversation guides, focus group methodologies, youth roles, and culturally appropriate adaptations with the larger research team to ensure that approaches of engagement are mindful of the lived experiences of Indigenous communities and peoples.

Efficacy of connectivity-based targeting in TMS for adolescents with treatment-resistant depression

Clara Tapia, University of Calgary, Graduate Program in Neuroscience
Provincial Addiction and Mental Health

Previous research demonstrated that the strength of connection between the location of repetitive transcranial magnetic stimulation (rTMS) and the dorsolateral prefrontal cortex influences clinical efficacy. However, the seminal paper reported on research in adults, with no investigation in the pediatric population.

Clara's Master's thesis analyzed data from a previous clinical trial in adolescents with treatment-resistant depression to investigate whether the relationship was similar in adolescents to what was reported for adults.

Outcomes:

This project provided insight into the impact of brain stimulation location in adolescent populations with treatment-resistant depression and highlighted several areas for further investigation as the results did not affirm the results shown in adult populations. This work will be built upon and ultimately may lead to more effective treatment in Alberta.

Bone and Joint Health



Danika Tribo
MSc student

The GLA:D Program – Albertans' experience with an evidence-informed, group-based neuromuscular exercise program for individuals living with osteoarthritis

University of Western Ontario, Faculty of Nursing
Bone & Joint Health SCN

An evidence-based group program, Good Life with Arthritis in Denmark (GLA:D), was developed and successfully implemented in Denmark for patients with osteoarthritis (OA) of the hip and knee. Benefits of GLA:D have been demonstrated in individuals with mild to severe OA.

The program consists of two educational sessions and 12 neuromuscular exercise group sessions taught by a GLA:D trained rehabilitation practitioner (e.g. physiotherapist). In partnership with Bone and Joint Canada, GLA:D is now being implemented across Canadian provinces to help people with OA better manage symptoms. With the support of the Bone and Joint Health SCN, GLA:D training and the GLA:D program have been made available in Alberta.

Outcomes:

This work supported the SCN's evaluation of the GLA:D program in Alberta and its understanding of patients' experience with the program and its perceived benefits from a patient perspective.

Most participants had a positive experience and appeared to find value and empowerment through an assortment of physical gains, formation of better habits, new learnings, and attaining goals. Although valued, it did not benefit all and for some it was comparable to gym costs and services. After program completion, certain aspects from GLA:D are selectively translated into participants' lives.



Sara Orenstein
MSc student

Musculoskeletal care in Alberta's primary care networks (PCNs)

University of Calgary, Department of Community Health Sciences

CHS Internship Program

Bone & Joint Health SCN in partnership with the Primary Health Care Integration Network

Helping Albertans maximize their musculoskeletal (MSK) health, mitigate MSK issues and mend from MSK injuries or conditions are strategic areas of focus for the Bone & Joint Health SCN. This includes enabling access to effective non-surgical, or first-line interventions and self management resources.

Primary care (family physicians and primary care networks) plays an important role in effectively supporting Albertans living with MSK conditions. This project aimed to better understand what MSK care – services, programs, clinics and/or education – are provided within Alberta's PCNs specific to MSK conditions and health.

Outcomes:

Sara conducted a detailed review and identified the types of MSK services, programs, clinics, and education across PCNs in Alberta's 5 health zones. Overall, there is high variation across PCNs in the type of care available to Albertans to support their bone and joint health. Further, there appears to be an opportunity to enhance bone and joint care within the primary care space for the benefit of Albertans.



Bryanne Kennedy
MSc student

Exploring health locus of control and patient preferences for the non-surgical management of osteoarthritis

University of Calgary, Department of Community Health Sciences

Supervisory committee: Drs Gillian Currie, Deborah Marshall, Carolyn Emery, **Ania Kania-Richmond (ASD)**

Bone & Joint Health SCN

Despite well established and high-quality evidence of the benefits of non-surgical management strategies for hip and knee osteoarthritis, not all patients have tried non-surgical management prior to being referred for a surgical consultation. There are many factors that affect uptake. As such, why more individuals with osteoarthritis are not trying the recommended non-surgical management strategies needs to be understood from the patient perspective, with the consideration of the information available to them.

This study aimed to (i) understand what people with hip and knee osteoarthritis consider when choosing non-surgical management strategies, and (ii) explore their beliefs about who and what influences their osteoarthritis symptoms and progression. It involved formative qualitative work, including semi-structured interviews with patients that will inform a subsequent discrete choice experiment.

Other student research highlights and capacity building in Alberta

University of Calgary, Department of Community Health Sciences
Bone & Joint Health SCN

- **Clinical outcomes and metal ion analysis of the Birmingham Hip Resurfacing System – A retrospective cohort study with a minimum ten-year follow-up**
This project was completed by Drs J Bourget-Murray and J Lukenchuk, both orthopedic residents at the Cumming School of Medicine, University of Calgary, and Scott Kearns, who is a pre-med university student. The project was completed under the supervision of **Dr. Jason Werle (SMD)** and Dr. Kelly Johnson.
- **Appropriateness and accuracy of Computed Tomography Pulmonary Embolism (CTPE) investigations in arthroplasty patients in Alberta**
Dr. Gusnowski is an orthopedic resident (graduated in 2020) who completed this project under the supervision of **Dr. Jason Werle (SMD)**.

Cancer



Hyejun Kim
MPH student

Emerging trends in cancer treatment

University of Alberta, School of Public Health
Cancer SCN

Hyejun completed a practicum placement with the Cancer SCN as part of her Master's in Public Health. Her practicum focused on carrying out research activities to support the Cancer SCN's collaborative project: the Future of Cancer Impact (FoCI) in Alberta. She conducted a literature review on the trends and patterns in cancer treatment and care models, consulted with experts, and prepared a comprehensive summary report. The report provides an overview of the cancer treatment patterns, describes changing care models for cancer care, and highlights ethical, practical and policy implications of these emerging trends in the Alberta context.

Outcomes:

This work will inform discussions with cancer leaders and key strategic partners of the Cancer SCN, and help identify gaps and opportunities for knowledge generation and implementation that may define key priorities for cancer research and cancer care during and after treatment.

Cardiovascular Health & Stroke



Alexandra Ansell
MN/NP student

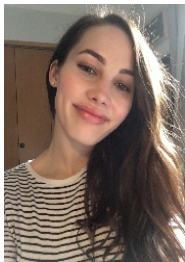
Rural cardia survivors: Exploring the patient journey in Alberta

University of Alberta, Faculty of Nursing
Cardiovascular Health & Stroke SCN

This project involved connecting with rural cardiac survivors about their experiences with the healthcare system and illustrating their experiences using a combination of journey mapping techniques and traditional qualitative analysis. Twenty-nine participants from five rural Alberta centres (Lethbridge, Medicine Hat, Red Deer, Fort McMurray and Grand Prairie) shared perspectives on their cardiac healthcare experiences.

Outcomes:

Results from this study will help inform future care for Albertans in rural and small urban centers.



Susanna
McDermott
Undergraduate
Nursing student

Virtual visits in cardiovascular disease: A rapid review of the evidence

University of Alberta, Faculty of Nursing
Cardiovascular Health & Stroke SCN

Given the high prevalence of cardiovascular disease (CVD) in Canada and globally, and its staggering cost to human life and health systems, there is a need to better understand successful applications of telemedicine in cardiovascular medicine. Although telemedicine in cardiology is well documented, reports on virtual care in the form of synchronous, real-time communication between healthcare providers and patients are limited.

With the immediate suspension of ambulatory services for cardiology in Alberta, Canada, due to the COVID-19 pandemic, the CvHS SCN Scientific Office collaborated with Susanna to conduct a rapid review on the impact of virtual visits in cardiovascular ambulatory settings on patients' healthcare utilization and mortality.

Outcomes:

This review is in press in the European Journal of Cardiovascular Nursing and will help advance knowledge in the area of virtual care for cardiology patients.

Critical Care



Carmel Montgomery
PhD Student

Impact of frailty on clinical and cost outcomes of ICU admission

University of Alberta, Department of Critical Care Medicine

Critical Care SCN

Carmel's PhD evaluated the clinical and cost outcomes of frailty in patients admitted to ICU across the province. Results from all ICU admissions showed frailty was associated with higher risk of morbidity, mortality and health services use compared to non-frail patients. Additional research on ICU admissions post cardiac surgery showed frail patients had additional risk of post-operative complications, prolonged hospitalization, death, impaired health related to quality of life and higher costs compared to non-frail patients.

Outcomes:

Findings demonstrated that routine frailty screening provides an opportunity to improve outcomes in the context of our aging population with growing prevalence of frailty. Work is underway to identify frailty-specific multi-component interventions to inform innovative frailty care pathway development in Alberta.



Erin Hessey
Medical Student

Sex-specific prevalence and outcomes of frailty in critically ill patients

University of Alberta, Faculty of Medicine and Dentistry

Critical Care SCN

Frailty is an important risk factor for short- and long-term outcomes in critically ill patients, and its prevalence differs by sex. Previous studies have demonstrated that mortality and organ support rates in critically ill patients also differ by frailty and by sex. A better understanding of the relationship between sex, frailty and outcomes in critically ill adults will help develop more targeted decision-making and risk stratification models.

This research aimed to determine if the observed differences in mortality and organ support rates can be explained by sex and frailty alone, or if the interaction between sex and frailty is an important risk factor.

Outcomes:

This research showed that although frailty and sex have been individually associated with mortality and differences in organ support rates in the intensive care unit, the interaction between these two features does not appear to be an important risk factor for these outcomes.

Digestive Health



Michelle Capicio
Dietetic intern

Frailty and malnutrition in Alberta older adults during the COVID-19 outbreak

University of Alberta, Faculty of Agricultural, Life and Environmental Sciences
Digestive Health SCN

Michelle worked as a research assistant studying the impact of COVID-19 on resilience and nutrition risk among community-dwelling seniors (age 65+) in Alberta. The study also aimed to understand food-related resources and services that were most used by older Albertans since pandemic-related restrictions were imposed. Participants were surveyed before and 3 months after receiving educational handouts about healthy eating (developed by AHS Registered Dietitians) and information about services & resources available in Alberta.

Outcomes:

Results showed that, at baseline, seniors participating in the study had normal resilience, and very few reported experiencing poverty or food insecurity. Despite this, the participants were still at high nutrition risk given that many still were eating alone. At baseline, older adults had high awareness (>90%) of services such as restaurant meal or grocery delivery or Meals on Wheels but few used them (<30%). The most used resources (approximately 40% of participants) were Health Link 811 and the MyHealth.Alberta.ca website.

Overall, the study demonstrated that older adults in Alberta have high nutrition risk (similar to other Canadian studies) that did not worsen over 3 months of the COVID-19 pandemic; resilience was also stable. A better understanding of what services and resources older adults find acceptable and accessible is needed to better support their nutrition during the pandemic.

Michelle presented findings from this work at a Dietetics Specialization Research Projects Virtual Poster Symposium at the University of Alberta, March 31, 2021.

Emergency Medicine



Cindy Xue
Medical student

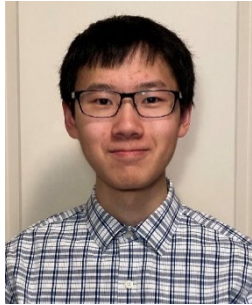
Physicians' perspectives on buprenorphine/Naloxone (bup/nal) initiation for opioid use disorder treatment in emergency departments

University of Alberta, Department of Family Medicine
Emergency SCN

Cindy Xue is medical student with academic and clinical aspirations in addiction medicine and issues of health inequity. She worked with the Inner City Health and Wellness Program research team under the supervision of Dr. Ginetta Salvalaggio, with the support of an ESCN Summer Studentship Award.

Outcomes:

Results of this work were published and show that “Although there remains practice variability among Canadian emergency physicians, successful implementation of ED bup/nal prescribing has occurred in some locations. Jurisdictions wanting to facilitate bup/nal uptake should consider providing incentivized training, treatment protocols, dedicated human resources, and streamlined access to follow-up care.”



Matthew Yeung
BHSc student

Scoping review of neurocognitive rehabilitation after critical care

University of Calgary, Department of Community Health Sciences
Emergency SCN

Matthew worked with Dr. Eddy Lang, Scientific Director of the ESCN, to expand existing research on the impact of weather on fall-related visits to Calgary emergency departments. After completing that work, Matthew was offered the unique opportunity to develop an original research project comparing cannabis-related ED visits pre- and post-legalization, facilitated by an ESCN summer studentship. This later expanded to include analysis of opioid-related ED visits. Though initiated in 2019, research on the original dataset continues, with new components and increasingly complex analysis being conducted.

Outcomes:

As a result of the ESCN studentship and subsequent support from supervisors Dr. Lang and Dr. Rebecca Haines-Saah, Matthew has published three articles in the *American Journal of Emergency Medicine*, the *Canadian Journal of Emergency Medicine*, and *Pediatrics*. These publications have contributed to his success applying for additional research grants, and for further education at the graduate level.

Maternal, Newborn, Child and Youth Health

The following projects were funded by MNCY SCN studentships and provided graduate students the opportunity to work with AHS on research that aligns with and supports key priorities for maternal and pediatric health.

Hyperbilirubinemia: A database study in Alberta to examine testing and treatment of neonatal jaundice in healthy term infants before and after implementation of a new clinical practice guideline

Yuba Raj Paudel, PhD Candidate

University of Alberta, School of Public Health

Maternal, Newborn, Child & Youth SCN

Jaundice is caused by an elevation of bilirubin in the blood (hyperbilirubinemia) and occurs in 60% to 80% of term and near-term newborns. Hyperbilirubinemia is the most common cause of neonatal hospital readmissions in Alberta. Without treatment, high levels of bilirubin can lead to the development of acute or even chronic bilirubin encephalopathy, each with its own morbidities.

AHS developed and implemented a clinical practice guideline (CPG) in 2019 that recommends that all

newborn infants be screened for hyperbilirubinemia within 72 hours following birth in acute care, or within 24 hours of discharge in the community if the infant is discharged before 24 hours of age. Prior to this, there was no standardized provincial guideline for screening and management of hyperbilirubinemia. Implementation of the guideline provided an opportunity to evaluate practices around hyperbilirubinemia screening across the province.

This study examines variation in practice in newborn hyperbilirubinemia assessment and management across Alberta based on the CPG, and monitors incidence of hyperbilirubinemia and bilirubin encephalopathy over time. The work is ongoing as administrative data is released and interviews are carried out with public health nurses and acute care nurses/managers in postpartum units, and surveys collect data from physicians and laboratory staff.

Preliminary outcomes:

In Alberta, many hospitals have access to transcutaneous bilirubin meters for screening (no blood collection required); however, public health nurses have limited access to these meters (in only two health zones). Therefore, most infants screened in the community need to travel to community laboratories to have blood drawn. Some non-urban communities do not have a laboratory, requiring parents to travel with their newborn to another community for blood collection.

Even with these challenges, public health nurses considered the AHS' Jaundice CPG an important tool to standardize screening and management of newborn jaundice. There was strong engagement from and focus on educating public health nurses about the CPG, even though the CPG was more focused on acute care.

Informing the development of a foundational acute care pediatric nursing orientation program across Alberta

Samantha Louie-Poon, PhD Student
University of Alberta, Faculty of Nursing
Maternal, Newborn, Child & Youth SCN

Pediatrics is a specialty in which few nurses have previous training. Pediatric orientation would fill this gap by providing nurses with pediatric specific knowledge and competencies. Practicing pediatric nurses in Alberta identified the need for a province-wide pediatric nursing orientation to support foundational competencies. This project involved conducting an environmental scan to identify: (i) foundational pediatric nursing orientation content, and (ii) gaps between current orientation practices in Alberta and best practice guidelines.

Secondary data (existing orientation packages) was collected from two tertiary-level pediatric hospitals and four regional hospitals with pediatric units in Alberta. This work involved close collaboration with clinical nurse educators from each hospital. Orientation data was assessed for structure and content, with comparisons between hospitals. Extracted data was organized by clinical and family/patient-centred nursing skills covered during orientation, the corresponding national Pediatric Nursing Standard, and time allocated by each hospital to each skill.

Outcomes:

Acute care pediatric nursing orientation across Alberta varies between sites in both content and time allotted. Findings were presented to the stakeholders for validation and consideration of next steps towards development and implementation of an acute care provincial pediatric nursing orientation program in AHS to increase consistency and alignment with national standards.

Neurosciences, Rehabilitation and Vision



Katelyn Brehon
Graduate student

Burden of vision care following stroke: Barriers to care experienced by stroke survivors in Alberta

University of Alberta, School of Public Health
Neurosciences, Rehabilitation and Vision SCN

Visual impairment (VI) affects between 30% and 85% of stroke survivors^{1,2} and is associated with decreased quality of life, loss of independence, increased risk of falls (and injury), social isolation, and depression³⁻⁵. Some studies have examined barriers to care in other settings but little is known about this phenomena in Alberta. This study will inform future clinical pathway development, including partnerships across sectors involved in supporting patient function with VI.

This study aimed to identify gaps in care experienced by stroke survivors with VI across the care continuum, including acute, tertiary and community care settings. We sought the perspectives of stroke survivors as well as health care providers (from neurology, vision care and rehabilitation). Phase 1 (completed April 2020 to March 2021) involved 1:1 qualitative interviews with stroke survivors and providers from 13 in-patient and out-patient sites across Alberta. Interview questions sought to (a) clarify stroke survivors' experience of VI diagnosis and management in acute, tertiary and community settings; and (b) understand provider perceptions of health services delivery and inter-professional collaboration in these settings. Phase 2 (April to November 2021) will involve surveys to further clarify experiences and priorities related to VI diagnosis, management and rehabilitation post-stroke.

Outcomes:

To date, we completed 31 provider and 19 survivor interviews. Stroke survivors spoke of care experiences across the continuum despite site of recruitment. Both providers and survivors spoke to the key themes of early experience, living in the real-world, barriers and facilitators to low vision care, access, providers, and resources. These findings illuminate perceived barriers to low vision care including sub-optimal communication and collaboration between teams; lack of clarity on professional scope of practice related to VI rehabilitation; lack of educational opportunities for patients, families and providers on resources for VI; sub-optimal psychosocial supports for patients and families; and perceived deficiencies in approaches to return-to-driving (or lack thereof) for survivors.

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3 Leissner J, Coenen M, Froehlich S, Loyola D, Cieza A. What explains health in persons with visual impairment? Health Quality Life Outcomes. 2014;12:1-16.

4 Crewe JM, Morlet N, Morgan WH, Spilsbury K, Mukhtar A, Clark A, et al. Quality of life in the most severely vision-impaired. Clin. Exp. Ophthalmol. 2011;39:336-343.

5 Sand KM, Midelfart A, Thomassen L, Melms A, Wilhelm H, Hoff JM. Visual impairment in stroke patients – A review. Acta Neurol. Scand. 2013;127:52-56.



Jacqueline Krysa
Post-Doctoral Fellow

Experience of patients with acute spinal cord injury: From acute hospitalization to inpatient rehabilitation

Physical Medicine & Rehabilitation, Faculty of Medicine & Dentistry, University of Alberta
Neurosciences, Rehabilitation and Vision SCN

Spinal cord injury (SCI) is a highly disruptive chronic condition that can arise from trauma (e.g., injuries from falls) or non-traumatic conditions (e.g., a degenerative disease). Care for individual's living with SCI is complex and involves multiple transitions in care across diverse disciplines. SCI clinical practice guidelines in Alberta are neither completely agreed upon, consistently applied nor uniformly followed. This prevents consistent quality of SCI care across the province.

A provincial working group supported by the NRV SCN is developing a provincially standardized care plan for nursing and allied health professions in acute and post-acute care of patients with spinal cord injury. Patient perspectives and preferences are critical to ensure the developed care plan is patient and family centred. There is limited research investigating the patient perception of in-hospital care following an SCI.

This study aims to understand the care experiences of persons living with SCI (or their primary caregivers) at acute hospital and inpatient rehabilitation centres across Alberta. This study is mixed-methods, using qualitative interviews and secondary analyses of a provincial patient experience survey of in-hospital care.

Outcomes:

This study will inform the creation of common themes about hospital and rehabilitation care including what went well or what needs improvement. These themes will be used support the development of standardized nursing care plans, which will enable health care providers to improve the consistency and quality of care provided to persons with SCI in Alberta.



Jacqueline Krysa
Post-Doctoral Fellow

Mobilizing the Rick Hansen Spinal Cord Injury Registry for provincial quality improvement in Alberta.

Neurosciences, Rehabilitation and Vision SCN

Care for individuals living with spinal cord injury (SCI) is diverse and complex. Secondary medical complications such as urinary tract infections and pressure injuries are highly prevalent in persons living with SCI. Reducing variation in SCI care delivery across the province would improve care quality and outcomes, including reducing the rates of preventable secondary medical complications.

The Rick Hansen Spinal Cord Injury Registry (RHSCIR) captures long-term data from persons living with SCI across Canada including information on clinical, demographic, and well-being issues. There are no consistent approaches on how Alberta's health care system might use information from the RHSCIR to inform quality of care for persons living with SCI. This study aims to develop an evidence-informed strategy to use information from the RHSCIR to inform quality improvement (QI) and health service delivery for persons living with SCI in Alberta. Methods include an environmental scan (including literature review and stakeholder interviews); secondary analysis of RHSCIR data to demonstrate opportunities and early differences in care provincially; convening a multi-stakeholder steering committee; and development of the QI strategy.

Outcomes:

This will be the first QI initiative to support and standardize SCI care in Alberta. It is expected that learnings from this work will greatly increase the understanding of how provincial healthcare systems can systemically adopt and mobilize registry data for QI of care for complex, chronic conditions. Current progress on this study includes completion of an environmental scan; receipt of ethics approval and access to the provincial dataset from PRAXIS Spinal Cord Institute; and initiation of recruitment for stakeholder interviews and steering committee membership.

Primary Health Care



Max Jajszczok
PhD-HSR student

Impacts of increased home care investments on client outcomes and health system service utilization within Alberta

University of Calgary, Community Health Sciences
Primary Health Care Integration Network SCN

Healthcare systems across Canada are investing in community-based programs such as home care with the goals of increasing quality of care, improving client experiences, and reducing use of expensive, often unnecessary emergency department and hospital care.

To accelerate the shift from hospital-based care to the community setting, the federal government has targeted \$11 billion in funds to enhance home and community care programs provided by provincial and territorial governments.

This switch to a targeted funding method of transfer payments is a novel approach to guiding provinces, territories and health authorities to invest in and shape care delivery for Canadians.

Outcomes:

A national home care measurement framework does not currently exist. The primary objectives of this study are to identify key measures and apply these in assessing the impacts of investments on client health outcomes, system use, cost impacts, and provider experiences within Alberta. This research will conclude with publications of the content analysis findings, the measurement framework, and a series of reports specific to client and program outcomes.



Folakemi Jolaoso
MPH student

Evaluation support for Edmonton Zone and North Zone

University of Alberta, School of Public Health
Primary Health Care Integration Network SCN

Folakemi's practicum had multiple components. She supported the evaluation of Edmonton Zone and North Zone service plan activities and processes in relation to Zone's priority outcomes for learning and improvement for future Zone service planning. She also completed an evidence synthesis for social prescribing to synthesize publicly available social determinants of health data for seniors in the Edmonton Zone. The practicum also involved creating an evaluability assessment for the Level of Care Utilization System (LOCUS) tool, which supports the efficient intake and assessment of people experiencing addiction and mental health crises. This assessment helped determine the readiness an evaluation of the LOCUS tool as implemented in Edmonton Zone.

Outcomes:

Using a developmental evaluation approach, primary care service planning evaluation frameworks were developed for Edmonton Zone and North Zone, and results of the evidence synthesis were presented to the Edmonton Seniors Stewardship Roundtable Social Prescribing Group.

The evaluability assessment will be used by the Addiction and Mental Health Working Group in the Edmonton Zone to inform decisions regarding future evaluation of the LOCUS tool.



Sharon Tahir
MPH student

Edmonton North Primary Care Network population health needs

University of Alberta, School of Public Health
Primary Health Care Integration Network SCN

Primary health care is often referred to as the entry-point into the healthcare system, founded on principles of disease prevention and health promotion. Unfortunately, healthcare providers often focus on assessing patients' medical needs without adequately considering the impact social, economic and built environments have on patient health.

To address questions that clinical managers had raised about reaching patients living in surrounding communities, the Edmonton North Primary Care Network (ENPCN) asked Sharon to help create a comprehensive picture of population health needs (beyond medical needs) of those residing in north Edmonton geographical area. As part of her practicum, Sharon partnered with the ENPCN to identify the broader health needs of this population and inform the use of population health principles in ENPCN service planning.

Outcomes:

This work culminated in to a report detailing the population living in communities being served by ENPCN clinics. The report addressed diversity, equity and health, and included provider interviews to validate quantitative data presented in the report. The work also led to the development of recommendations for embedding population health principles in business planning and providing respectful, holistic, integrated care to address social determinants of health.

Seniors Health & Continuing Care



Rosmin Esmail, PhD

Understanding the relationship between health technology reassessment and knowledge translation

University of Calgary, Community Health Sciences, Health Services Research
Provincial Seniors Health and Continuing Care

Dr. Esmail's PhD thesis examined the relationship between health technology reassessment (HTR), which is the process of re-evaluating current technologies for optimal use, and knowledge translation (KT), which is the process of putting knowledge into action. The work involved three interrelated studies to determine how KT approaches are used to translate HTR outputs to achieve the desired outcomes: (1) a scoping review of full-spectrum (phases of planning/design, evaluation, implementation, sustainability/scalability) KT theories, models, and frameworks (TMFs); (2) a modified Delphi process and international expert

survey to examine which KT TMFs could be used for HTR; and (3) a qualitative exploration that interrogated the characteristics of KT TMFs to consider for HTR.

Outcomes:

Under the co-supervision of Drs. Fiona Clement and Heather Hanson (ASD, PSHCC), Dr. Esmail successfully defended her thesis in October 2020. External examiners noted the quality of the thesis as “a foundational contribution to the field.” Resulting in four high-impact publications, the findings from this work are foundational to advance KT within HTR. The scoping review presents a concise synthesis and categorization of full-spectrum KT TMFs that can be used as a resource to users undertaking a KT project. Identified characteristics of KT TMFs (four foundational principles, three levers of change, and five steps for knowledge to action) provide a roadmap to consider when selecting KT TMFs for HTR projects. Practical use of these KT TMFs will provide further advancement in HTR implementation.

Other Research Collaborations

SCNs have also collaborated with research associates, Indigenous communities, community pharmacists and addiction service clinics, and many other stakeholders to:

- improve care delivery, value and patient and provider experience
- advance knowledge
- inform decision making and health policy in many areas of health, including areas that span multiple health disciplines

Several of these collaborations are profiled below, including efforts to:

| | | |
|---|--|---|
| Improve care and outcomes for patients with liver cirrhosis | Increase access to diabetes foot care examinations in the community | Initiate opioid-agonist treatment in hospital EDs and track care patterns and outcomes for Albertans with opioid use disorder |
| Improve patient experience in emergency departments | Understand the long-term physical & psychological impacts post-COVID | Understand the relationship between weather, time of year, and orthopedic trauma volumes |

Digestive Health

Cirrhosis Care Alberta Program (CCAB)

Dr. Puneeta Tandon, University of Alberta
Digestive Health SCN

Liver cirrhosis care places high demands on acute care resources in Alberta with over 7,100 hospital admissions each year where the average length of stay is 12 days. Within 90 days of discharge, 44% of these patients are readmitted to hospital. Implementation of a cirrhosis care pathway in Alberta, combined with resources for patients and providers, is expected to decrease hospital admissions and their concomitant length of stay, 90-day readmissions and emergency department visits. The return on the investment for these initiatives is estimated at \$16M each year.

Led by Dr. Puneeta Tandon from the University of Alberta, the [Cirrhosis Care Alberta Program \(CCAB\)](#) is a PRIHS 4-funded initiative that seeks to improve the care and outcomes for patients with cirrhosis at eight participating sites across Alberta. Louise Morrin (SPD, DHSCN) and Leanne Reeb (ED, DHSCN) provide operational leadership and expertise for this project by serving as members of the project steering committee.

Outcomes:

This project achieved significant milestones in 2020/2021, including the development and implementation of liver cirrhosis order sets for the care of patients admitted to hospital. These order sets are now embedded within Connect Care and were launched for use in March 2021. Extensive resources including clinical decision supports, disease-specific information and handouts for patients and providers, and a series of patient education videos were developed and consolidated on the www.cirrhosiscare.ca website, where they are easily accessible for patients and providers.

Diabetes, Obesity & Nutrition

Community pharmacists' perspectives on interventions to increase foot care examinations for people with Type 2 diabetes

Dr. S. Johnson, Athabasca University
Diabetes, Obesity & Nutrition SCN

Pharmacists are community-based and highly accessible because individuals do not require appointments and pharmacies are often open after-hours. As such, pharmacists are ideally positioned to provide a wide range of foot care interventions.

The DON SCN Scientific Office has provided funding to support research that explores the perspectives of community pharmacists on the most feasible and appropriate type of intervention to increase foot care examinations for people with type 2 diabetes. Understanding the perceptions of community pharmacists on promoting and facilitating foot care practices for people living with diabetes in a community pharmacy setting will help fulfill a significant research knowledge gap.

Emergency Medicine

Evaluation results of efforts to initiate opioid agonist treatment in Alberta emergency departments

Metro City Addiction Clinic Network, Blackfoot Confederacy and Indigenous Services Canada
Emergency SCN

The ESCN has published evaluation results of provincial efforts to initiate opioid agonist treatment (OAT) with buprenorphine/naloxone for opioid use disorder in EDs. Pilot results based on data from three sites are published in the [Canadian Journal of Emergency Medicine](#) (CJEM, Sept 2020), and reports for the health system have been utilized to further physician and ED acceptance of this treatment option.

Building on the above work has led to a successful CIHR grant application (“Opioid Use Disorder Care during COVID-19 Disruptions”) involving diverse health system stakeholders, including the Metro City Addiction Clinic Network, Blackfoot Confederacy and Indigenous Services Canada. This project has created a unique dataset that combines data from EDs, publicly run addiction clinics, and an independent addiction clinic network. The integrated dataset enables researchers to examine care patterns and outcomes for patients receiving OAT across different health system providers and components of Alberta’s health system. The study is being conducted at a time of unprecedented opioid-related deaths, exacerbated by the COVID-19 pandemic.

Improving the patient experience in the emergency department

A partnership with the Indigenous Health Program, Population, Public and Indigenous Health SCN, AHS Community Engagement and Communications team, AHS Human Factors and the University of Alberta Visual Art and Design
Emergency SCN

This work involved numerous stakeholders and focused on three specific deliverables.

1. Indigenous Acknowledgement Signage

Signage was developed in collaboration with the partners listed above and, with feedback from the AHS Wisdom Council, Tribal Councils, and Indigenous Patient Liaisons. Signs were piloted at AHS and Covenant Health sites and Indigenous health fairs. Based on the evaluation report, signage was developed to meet the needs of Indigenous populations across the province, with seven geographically distinct posters developed. It has since been implemented provincially.

2. Patient Journey Map

A draft patient journey map was developed using feedback received in focus groups and patient/staff consultations. Based on research objectives and a survey developed by Dr. Stephanie Vandenberg, the patient journey map was piloted across multiple AHS and Covenant Health sites. Dr. Vandenberg analyzed the data and results were used to develop a final version. The patient journey map is currently being implemented provincially, and an abstract has been submitted to the *Canadian Journal of Emergency Nursing*.

3. Emergency Department Wayfinding

The ESCN sponsored research by AHS Human Factors and the University of Alberta to develop a methodology for evaluating and optimizing design of wayfinding systems in healthcare facilities prior to implementation. A pilot was successfully conducted at Grey Nuns Community Hospital and the initiative was published in the [Health Environments Research & Design Journal](#) (Sept 2020).

Neurosciences, Rehabilitation & Vision

The Alberta Post-COVID Follow-Up Study

PIs: Dr. Collen Norris (CvHS SCN, Alberta Health Services), Dr. Jeff Bakal (Director – Provincial Research Data Services, Alberta Health Services)

Co-I: Dr. Chester Ho (SMD NRV SCN, Alberta Health Services), Petra O’Connell (SPD NRV SCN, Alberta Health Services), Dr Elisavet Papathanassoglou (SD NRV SCN)

The long-term physical and psychological outcomes that may persist after resolution of the acute Coronavirus Disease 2019 (COVID-19) remain unknown. A recent longitudinal cohort from Italy (COVID & Group, 2020; Sigfrid et al, 2020) reported that 87% of people who were hospitalized for COVID-19 had at least one ongoing symptom at 60-day follow-up and Thorton et al suggest that patients with COVID-19 discharged from intensive care units may need even more psychological support related to survivors guilt and post-traumatic stress disorder (PTSD) than typical intensive care unit patients (Thorton et al, 2020).

The prevalence of long-term symptoms in COVID-19 survivors in Alberta and risk factors for longer term consequences requires further study. The primary aim of this study is to examine the association between a positive COVID-19 test and post-acute resolution and reporting of physical and psychological health outcomes (Post-COVID). The secondary aims include estimating risk factors and health care use associated with longer term symptomatology/adverse outcomes.

This is a retrospective, case-control study of Albertans to examine the association between testing positive for COVID-19 and the reporting of long-term physical, psychological, and psychosocial health outcomes. A cohort of approximately 8,000 Albertans with a laboratory confirmed COVID-19 diagnosis from March 1, 2020 to February 28, 2021 will be compared to a randomly selected cohort of 2,000 Albertans who tested negative (and remain negative) for COVID-19 during the same time period. The control group will allow for the assessment of symptoms and health care use in the population for the same time frame.

Deliverables from the study will include:

1. Standardized description of reported physical and psychological consequences in Albertans post COVID-19 infection, which will be disseminated broadly through peer reviewed publications, presentations at local, provincial, and national meetings, as well as social media through the support of AHS Communications;
2. Estimates of the risk and risk factors associated with developing Post COVID medical and psychosocial health-related outcomes;
3. Use of results to engage broad system stakeholders to develop a standard of care in Alberta for patients with long-term COVID-19 symptoms, including AHS Executive Leadership Team and Emergency Coordination Centre, AHS Strategic Clinical Network leadership, and Primary Care Networks;
4. Strategies to help the health system reduce overall morbidity and improve health outcomes of Albertans who contracted COVID-19; and
5. Training programs for physicians and health care providers through collaboration with the Physician Learning Program

Funding for this multi-SCN study was provided in March 2021. Current progress includes planning and preparation for recruitment and data collection in spring/summer 2021.

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Surgery

Understanding the relationship between weather, time of year, and orthopedic trauma volumes in Calgary, Alberta

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This research collaboration aims to understand the relationship between weather, time of year, and orthopedic trauma volumes in Calgary. The research team reviewed 11 years of data on trauma surgical orthopedic cases (nearly 41,000 cases) from Calgary hospitals and weather information from the Calgary International Airport and Government of Alberta Road Weather Information System (RWIS) sensors. With help from a meteorologist, the team created an ice model (that uses air and surface temperature and precipitation levels) and compared weather data with past orthopedic trauma surgery volumes.

Outcomes:

Our research established a strong relationship: when ice and snow on the ground are present, orthopedic trauma increases and surgeons do more after-hours surgery. We propose these findings be used to guide surgical resource allocation, but further validation of our model is required to determine the consistency of our findings and make a compelling argument to administration. The team is working on building an injury prevention strategy that includes a slip and fall index, which could serve as a public health tool. The index uses multiple weather variables to calculate the overall risk of falling on ice and potential for serious injury.