



UNIVERSITY OF SASKATCHEWAN

Canadian Centre for Rural
and Agricultural Health

CCHSA-CCSSMA.USASK.CA



ANNUAL / 23 REPORT / 24

BE WHAT THE WORLD NEEDS

OUR MISSION

We support rural and agricultural people to live and work healthy and safe.



OUR STRATEGY

We are a developer, collaborator, connector, source, and catalyst to advance research, mobilize knowledge and make an impact for rural and agricultural people.

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Highlighting noteworthy events and important milestones from the year, including our open house and name change, donor funding, meeting the Governor General, awards, scholarships, and connection events.

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Highlighting outreach programs and services, which include hearing and respiratory and hearing clinics, Discovery Days, specialist rural and remote memory clinic, and our rural primary health care memory clinics. These initiatives play a crucial role in promoting health and well-being in rural communities, addressing specific needs related to memory care, respiratory and hearing health, and overall healthcare accessibility.

04

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Highlighting new and existing resources, tradeshow, conferences, and presentations. We are committed to growing and sharing knowledge for rural and agricultural health and safety, engaging with rural and agricultural communities, academic collaborators, and industry peers.

FROM OUR DIRECTOR

In the following pages we are proud to present the 2023-2024 work of USask's Canadian Centre for Rural and Agricultural Health (the Centre). The Centre's strategy is that of a developer, collaborator, connector, partner, source, support, and catalyst to advance research, services, programs, and resources for the health and safety of rural and agricultural people. The focus is on the people. Key messaging this past year included 'there is no agriculture without the people', and 'stronger together in health and safety'.

Centre faculty lead the programs and supporting infrastructure. The Centre's CFI supported National Agricultural Industrial Hygiene Laboratory (NAIHL) infrastructure (nine integrated laboratories, clinics, research and meeting space) in D&E wings of the USask Health Sciences building is the foundation for the Centre. The infrastructure supports 83 collaborators from 12 USask Colleges, 23 collaborators from 16 Canadian Universities, and 21 collaborators from 15 International universities, alongside partnerships and programming with 9 governmental programs and 30 industry partners.

Key highlights this past year were the Centre open house which included the unveiling of the new name and a celebration of a \$1.5M anonymous donation for a mobile unit. During the Governor General's Saskatoon visit, I moderated a roundtable discussion on Farmer and Rancher mental health alongside key Saskatchewan partners of the Agricultural Health and Safety Network, SaskAgMatters and Saskatchewan Polytechnic. The roundtable discussion was hosted at the Kruger farm, outside Aberdeen, an appropriate setting given the farm's location on Ike Thiessen Road. Ike Thiessen, a former Reeve for the RM of Aberdeen, was a key driver in the establishment of the Centre's Agricultural Health and Safety Network. Other highlights included the Building for the Future: Housing and Health Forum, and the Rural Dementia Action Research Team (RaDAR) hosting its 16th annual summit, both held in November 2023.



Dr. Shelley Kirychuk,
*BScN, MSc, MBA, PhD,
Director, Canadian Centre for Rural and
Agricultural Health,
Professor, Department of Medicine*

Central to our work are the collaborations with rural municipalities, communities, and people that we serve. Through our nearly 200 Rural Municipalities as partners in our Agricultural Health & Safety Network, we regularly connect right with producers, at the farmgate, with programming and resources. We proudly partner with various First Nations communities and build connections with Indigenous leadership to identify good paths forward for rural Indigenous health. Our rural complex dementia clinic is returning to its pre-pandemic level of delivery complemented by an ever-growing number of rural primary care memory clinics.

Research continues to drive the services, programs, and resources. This year saw continued growth in Centre research programming highlighted by 25 grants/contracts totaling over \$25M in 2023/24 in our areas of Farmer Health and Safety, Rural Health (occupational hygiene and exposures, rural Indigenous health, rural population health, Omics sciences), Rural Dementia, Musculoskeletal Health and Ergonomics, and Rural Access to Care.

This past year has seen rapid development in research, collaborations, partnerships, and programming as we keep our Boots on the Ground supporting the health and safety of those living and working rural.

OUR PEOPLE



DIRECTOR

Dr. Shelley Kirychuk became the Director of the Canadian Centre for Rural and Agricultural Health in November 2022.

RESEARCH PROGRAM LEADS

Dr. George Katselis	Dr. Debra Morgan
Dr. Niels Koehncke	Dr. Punam Pahwa
Dr. Julie Kosteniuk	Dr. James Dosman
Dr. Angelica Lang	Dr. Brenna Bath
Dr. Josh Lawson	

STAFF

- Iris Rugg
- Lauren Radom
- Dr. Chandima Karunanayake
- Kendra Ulmer
- Duane Minish
- Dr. Merle Massie
- Brooke Thompson
- Sueli Bizetto de Freitas
- Dr. Matthieu Girard
- Katie Thompson
- Nadia Smith
- Shelley Biller
- Shelly Sander
- Valerie Elliot
- Darla Walz

- Chelsie Cameron
- Tora Levinton
- Jean Daku
- Jennifer Fairbairn
- Joan Ulmer
- Tess Kelly
- Charly Nolting
- Dr. Paulos Chumala
- Jeremy Seesequasis
- Sheri Pedersen
- Leanne Schell
- Robyn Gerbrandt
- Marie McKeivitt
- Alison Irvine
- Dr. Upkardeep Singh Pandher
- Jill Dosman

Collaborations & Partnerships

23 Collaborators
from
16 Canadian
Universities

83 Collaborators
from 12 Colleges at the
University of Saskatchewan

21 Collaborators
from
15 International
Universities



9 Government
Supports



30 Industry
Partners

Research



25 New Research Grants totalling

\$25,667,340

Annual Expenditures of

\$2,500,000

\$200,000

in Program & Service funding

\$1,700,000

in Donor Funding



79

research grants
supported by
Centre Program
Leads



35

published
Peer - Reviewed
Papers



36

Conference
attendance &
Abstract
Presentations

Programs & Services

Rural and Remote Memory Clinics

- Delivered to **75 participants**
and **83 family members and
care givers**

Rural Primary Care Memory Clinics

- 23 clinics held**
in **7 locations**

14 Hearing Clinics:

- Delivered to **135 participants**
- 5,779.4 Kms** travelled

23 Discovery Days Presentations:

- Delivered to **937 Students**
- 7,862 Kms** travelled



Knowledge Mobilization & Communications

5 Editions of Boots on the Ground
to over **143 subscribers**

2 Editions of Network News
to over **22,000 farm families**

**7 Interviews, Podcasts, and
News Articles**

5 Trade Shows

4 Presentations

**7 Conferences
and Meetings**



3 New Resources
25 Existing Resources
15 new Bulletins

10 New Videos

39 Existing Videos

1,669 Total Subscribers

275 New Subscribers

44,524 Views

**4,276 Social Media users
reached**

**413 posts to Centre,
Network and RaDAR Twitter,
Facebook, and LinkedIn
accounts**

**24,909 total views of the
Centre Website with a total
of 9212 users, 4423 being
new users**

4 Community Events

- Rural On-reserve Housing & Health Forum
- Rural and Remote Dementia Care Summit
- Governor General Visits Saskatchewan
- Name Change Celebration & Open House

CENTRE



HIGHLIGHTS

CANADIAN CENTRE FOR RURAL AND AGRICULTURAL HEALTH - NAME CHANGE CELEBRATION & OPEN HOUSE

The Canadian Centre for Rural and Agricultural Health welcomed past, present, and future colleagues, community collaborators, non-profit and government colleagues, students, staff, and supporters to celebrate with us on Tuesday, September 26th in the E Wing Atrium of the Health Sciences building at the University of Saskatchewan.

The Centre officially adopted its new name on June 1, 2023, emphasizing its commitment to rural Saskatchewan and a broad range of health and safety initiatives, including agricultural health and safety, dementia care, ergonomics, injury prevention, access to care, and Indigenous community support.

The celebration of the new name coincided with a major announcement. At that event, the University of Saskatchewan shared an amazing, transformative announcement of an anonymous gift to the Centre to purchase, equip, and staff a mobile unit to support increased outreach, engagement, clinical, and research capability for rural communities.



MOBILE UNIT: A TRANSFORMATIVE \$1.5 MILLION GIFT

Thank You

To the anonymous donor for your support!
Your generous gift will help support the health and safety of rural and agricultural communities for generations to come!



The \$1.5 million gift was given to the Canadian Centre for Rural and Agricultural Health by an anonymous donor for the purpose of developing a mobile unit for the Centre. The funding will give the Centre speed and flexibility to travel to rural areas in Saskatchewan to support residents as well as enable more nimble and reactive field research teams.

Over its nearly 38 years of existence, the Centre has continually grown and expanded its research programs and services. The newly announced gift will also significantly impact and expand the Agricultural Health and Safety Network (AHSN), one of the Centre's key programs. This program connects close to 200 rural municipalities in Saskatchewan with services and knowledge mobilization for farmers and their families.

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GOVERNOR GENERAL VISITS SASKATCHEWAN AND MEETS WITH CENTRE COLLABORATORS ON FARMER AND RANCHER MENTAL HEALTH



All photos credit: MCpl Matthieu Racette, Rideau Hall © OSGG, 2024

In April 2024, Her Honour the Governor General Mary Simon visited Saskatchewan. As part of her visit, Her Honour requested to meet with those in Saskatchewan working to address the mental health and wellbeing of farmers and ranchers.

At the Kruger family farm near Aberdeen, outside of Saskatchewan, GG Simon met with collaborators leading Saskatchewan work in this important area. Cynthia Beck, Cyle Stewart, and Sharalee Laventure are directors of SaskAgMatters, a new non-profit which connects farmers and ranchers with free mental health counselling. Dr. Michelle Pavloff (PhD), leads the Farmer and Rancher Mental Health (FARMh) initiative at SaskPolytech and is the research director of SaskAgMatters. Kendra Ulmer (RN) is the Manager of the Agricultural Health and Safety Network here at the Centre and a key promoter of wellness in agriculture. Presiding over the discussion was Dr. Shelley Kirychuk, Director of the Canadian Centre for Rural and Agricultural Health.



Dr. Kirychuk reported: "Having the discussions at the kitchen table with coffee and cookies, and at a multigenerational farm, made for an intimate setting. It set the stage for open and personal discussions about mental health and the dire situation for those living in rural areas. It felt like a discussion with a friend."



The Governor General's visit and roundtable highlighted both the need for the support and celebrated what Saskatchewan partners are doing to meet that need.

SUMMIT OF THE KNOWLEDGE NETWORK IN RURAL AND REMOTE DEMENTIA CARE

The Rural Dementia Action Research (RaDAR) team held its **16th annual Summit meeting virtually on November 21st & 22nd, 2023**. Summit 2023 was the team's fourth to be held as an online only virtual event. More than one hundred eighty attendees joined the two-day event that included an evening poster session and a mix of both live and pre-recorded presentations on a variety of dementia-related topics from a diverse group of presenters from across the globe.

2023 Online Summit



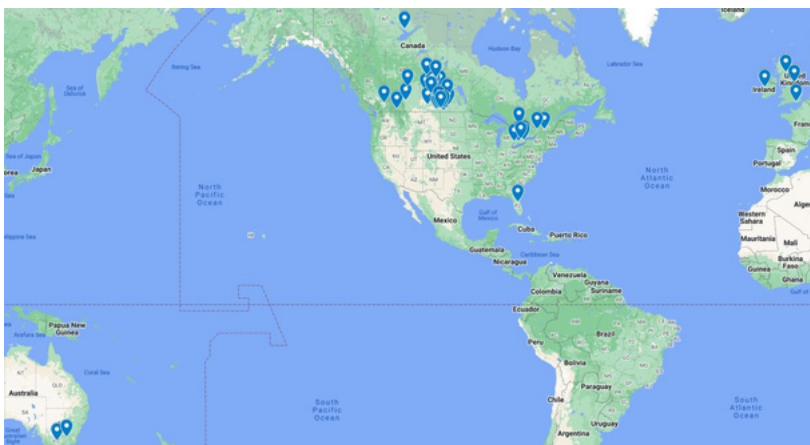
Carmel Geoghegan

Carmel Geoghegan, founder of Dementia Ireland, and **Helen Rochford-Brennan**, a Global Dementia Ambassador, were the Summit's Keynote presenters who joined us from Ireland. Carmel is an advocate and supporter of campaigns that keep the spotlight on Dementia and End of Life Care. Her priority is the development of practice and policies that respect people living with a dementia diagnosis.



Helen Rochford-Brennan

Carmel's advocacy work stems from becoming primary carer for her late Mum Angela in January 2011 until 2014. Helen's involvement in the dementia field began as the Chair and later Vice Chair of the Irish Dementia Working Group. She also served as the Chair of the European Working Group of People with Dementia, where she represented the group on the Board of Alzheimer Europe. In recognition of her dedication and impact, Helen recently received an award for her ten years of active involvement in these organizations.



Summit 2023 Attendees joined from around the world

More information about the Summit, including archived full presentations from many of the sessions, can be found on the RaDAR team's website under the Previous Summits tab on the RaDAR website!



BUILDING FOR THE FUTURE: HOUSING AND HEALTH FORUM

November 21, 2023

Wanuskewin Heritage Park, Saskatoon, SK

The meeting provided a forum for researchers, industry partners, and local/provincial/federal policy writers to listen to First Nations and Metis community members about their lived experience and preferred pathways for changing the built environment that reflects Indigenous ways.

Through this forum, we facilitated knowledge-to-action as determined by First Nations and Metis people. We identified barriers to Indigenous built environment and levers for change. In combination, these outcomes are supporting the development of a framework for research, knowledge blending, policy action, and engagement driven by First Nations and Metis community members, professional builders, policy makers, and researchers working on the built environment.

Key Themes:

Policy & Governance

Training & Transition

Builds & Procurement

Asset Management



COMMUNITIES PRESENT

- Standing Buffalo Dakota Nation
- The Key First Nation
- Beardy's and Okemasis Cree Nation
- Montreal Lake Cree Nation
- Little Red River Reserve
- Whitecap Dakota First Nation
- James Smith Cree Nation
- Fond Du Lac Band & Black Lake Band
- Yorkton Tribal Council
- Saskatoon Tribal Council
- Pinehouse North Village
- Peepeekisis Cree Nation
- Nekaneet First Nation
- Prince Albert Grand Council
- Cote First Nation
- YellowQuill First Nation
- Waterhen Lake First Nation
- Muskeg Lake Cree Nation

11 Organization Partners

36 Community Members

13 Industry Partners

9 Government Members

AGRICULTURAL HEALTH AND SAFETY NETWORK HIGHLIGHTS

The Ike Thiessen: Building a Foundation Award



Isaac (Ike) Thiessen was a farmer in the rural municipality of Aberdeen (RM #373) and president of the Saskatchewan Association of Rural Municipalities (SARM) from 1986 – 1988. Ike was instrumental in recruiting the first RMs in 1988 to join the Agricultural Health and Safety Network, setting the foundation for future growth.

The **Ike Thiessen: Building a Foundation Award** recognizes an individual's support and dedication to the Agricultural Health and Safety Network, helping us further our mission of health and safety for rural and agricultural people in Saskatchewan.

This award is presented annually during the Saskatchewan Association of Rural Municipalities (SARM) annual meeting, honouring the fundamental role SARM plays in helping grow and enhance the activities of the Agricultural Health and Safety Network.

The Ike Thiessen: Building the Foundation Award Winner 2024: Harvey Malanowich

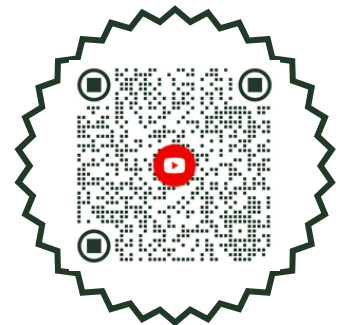
Harvey is the Reeve of Sliding Hills #273, and served as SARM Division #4 Director for the northeast region of Saskatchewan. This award is in recognition of Harvey's exceptional support, dedication, and contribution to promoting health and safety in Saskatchewan.

Congratulations, and thank you, Harvey!



Sleepless in Saskatchewan

Harvey was involved in the Network's Sleepless in Saskatchewan project. This video was developed in response to agricultural producers and shift workers saying they needed better quality sleep.



Saskatchewan Association of Rural Municipalities 90th Anniversary Scholarship

In 1995, the Saskatchewan Association of Rural municipalities (SARM) auctioned off the first copy of their history book, "The Building of a Province: Commemorating the 90th Anniversary of the 90th Anniversary of the Saskatchewan Association of Rural Municipalities and with these funds initiated the "Saskatchewan Association of Rural Municipalities 90th Anniversary \$1,000 Student Scholarship in Agricultural Safety and Rural Health. Since 1996, The Canadian Centre for Rural and Agricultural Health (CCRAH), University of Saskatchewan through its Founding Chairs Program has maintained the Agricultural Safety and Rural Health Scholarship. In the 2013-2014 school year, CCRAH started offering two \$1,500 Student Scholarships.

The winners of the 2022-2023 SARM Scholarship

Thomas Ries of Humboldt, RM of Humboldt, No. 370, Div. 5
Brady Hildebrandt of Limerick, RM of Stonehenge, No. 73, Div. 2

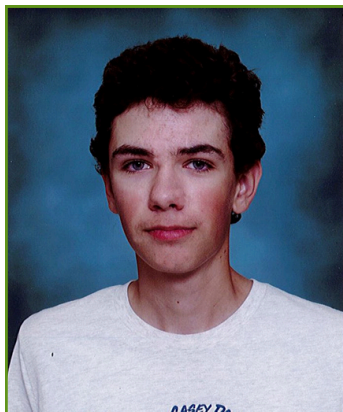


Thomas Ries

Humboldt, RM of
Humboldt No. 370

"I am proud to be a farmer's son and be part of a farming family. I have learned respect for the land, equipment and wildlife. I have learned the value of hard work and accomplishing goals. It has taught me that not every year of farming is rewarded financially, but there is no better work or lifestyle than farming."

Thomas Ries



Brady Hildebrandt

Limerick, RM of
Stonehenge No. 73

"Farmers need to learn ways to improve their safety practices as equipment becomes more complex and chemical use evolves. Teaching the next generation of farmers is important so that we learn to identify these hazards and safety procedures. Even at the busy times of year we need to take time to be safe."

Brady Hildebrandt

The Agricultural Health and Safety Network's Annual General Meeting

The Network convened it's Annual General Meeting on March 14th, 2024, during the SARM Annual Convention and Trade Show. During the meeting, we reviewed Network activities from the previous year and recognized members with RM awards for their membership milestones. We had an attendance of 75 people from different RMs across Saskatchewan.



The Rural Municipalities Membership Awards



RM MEMBERSHIP AWARDS

Presented by the Agricultural Health and Safety Network

The Agricultural Health and Safety Network presents awards to RM members who have been part of the organization for 5, 10, 15, 20, 25, 30, and 35 years. We recognize and celebrate their continued support of the Network.

★ Founder RMs: 1988

*RM of Lumsden No. 189, RM of St. Peter No. 369, RM of Aberdeen No. 343,
RM of Fish Creek No. 402, RM of Round Valley No. 410.*

★35 years

RM of Lumsden No. 189
RM of St. Peter No. 369
RM of Aberdeen No. 373
RM of Fish Creek No. 402
RM of Round Valley No. 410

30 years

RM of Storthoaks No. 31
RM of Willow Bunch No. 42
RM of Wolseley No. 155
RM of Stanley No. 215
RM of Lost River No. 313
RM of Perdue No. 346
RM of Humboldt No. 370

25 years

RM of Hart Butte No. 11
RM of Griffin No. 66
RM of Elmsthorpe No. 100
RM of Wilton No. 472

20 years

RM of Cymri No. 36
RM of Auvergne No. 76
RM of Wawken No. 93
RM of Carmichael No. 109
RM of Kingsley No. 124
RM of Webb No. 138
RM of North Qu'Appelle No. 187
RM of Enfield No. 194
RM of Lakeside No. 338
RM of Hoodoo No. 401
Rm of Nipawin No. 487
RM of Parkdale No. 498
Rm of Mervin No. 499

15 years

RM of Weyburn No. 67
RM of Lake of the Rivers No. 72
RM of Grassy Creek No. 78
RM of Caledonia No. 99
RM of Silverwood No. 123
RM of Caron No. 162
RM of Miry Creek No. 229

10 years

RM of Hillsborough No. 132
RM of Rodgers No. 133
RM of Willowdale No. 153
RM of Wheatlands No. 163

5 years

RM of Val Marie No. 17
RM of Wise Creek No. 77
RM of Invergordon No. 430

Agricultural Health and Safety Network

NETWORK MEMBERSHIPS: 2023-2024

R.M. of Argyle No. 1	R.M. of Bratt's Lake No. 129	R.M. of Kellross No. 247	R.M. of Grandview No. 349
R.M. of Mount Pleasant No. 2	R.M. of Hillsborough No. 132	R.M. of Last Mountain Valley No. 250	R.M. of Progress No. 351
R.M. of Enniskillen No. 3	R.M. of Rodgers No. 133	R.M. of Arm River No. 252	R.M. of Heart's Hill No. 352
R.M. of Coalfields No. 4	R.M. of Shamrock No. 134	R.M. of Loreburn No. 254	R.M. of Kelvington No. 366
R.M. of Cambria No. 6	R.M. of Swift Current No. 137	R.M. of Snipe Lake No. 259	R.M. of Spalding No. 368
R.M. of Hart Butte No. 11	R.M. of Webb No. 138	R.M. of Chesterfield No. 261	R.M. of St. Peter No. 369
R.M. of Val Marie No. 17	R.M. of Gull Lake No. 139	R.M. of Sliding Hills No. 273	R.M. of Humboldt No. 370
R.M. of Storthoaks No. 31	R.M. of Enterprise No. 142	R.M. of Good Lake No. 274	R.M. of Bayne No. 371
R.M. of Reciprocity No. 32	R.M. of Rocanville No. 151	R.M. of Insinger No. 275	R.M. of Grant No. 372
R.M. of Moose Creek No. 33	R.M. of Spy Hill No. 152	R.M. of Foam Lake No. 276	R.M. of Aberdeen No. 373
R.M. of Browning No. 34	R.M. of Willowdale No. 153	R.M. of Emerald No. 277	R.M. of Glenside No. 377
R.M. of Benson No. 35	R.M. of Elcapo No. 154	R.M. of Mount Hope No. 279	R.M. of Rosemount No. 378
R.M. of Cymri No. 36	R.M. of Wolseley No. 155	R.M. of Wrexford No. 280	R.M. of Reford No. 379
R.M. of Lomond No. 37	R.M. of Indian Head No. 156	R.M. of McCraney No. 282	R.M. of Grass Lake No. 381
R.M. of The Gap No. 39	R.M. of Edenwold No. 158	R.M. of Rosedale No. 283	R.M. of Eye Hill No. 382
R.M. of Willow Bunch No. 42	R.M. of Moose Jaw No. 161	R.M. of Mildred No. 286	R.M. of Hudson Bay No. 394
R.M. of Waverley No. 44	R.M. of Caron No. 162	R.M. of St. Andrews No. 287	R.M. of Pleasantdale No. 398
R.M. of Glen McPherson No. 46	R.M. of Wheatlands No. 163	R.M. of Pleasant Valley No. 288	R.M. of Lake Lenore No. 399
R.M. of White Valley No. 49	R.M. of Chaplin No. 164	R.M. of Kindersley No. 290	R.M. of Hoodoo No. 401
R.M. of Brock No. 64	R.M. of Morse No. 165	R.M. of Keys No. 303	R.M. of Fish Creek No. 402
R.M. of Tecumseh No. 65	R.M. of Excelsior No. 166	R.M. of Buchanan No. 304	R.M. of Laird No. 404
R.M. of Griffin No. 66	R.M. of Sasklading No. 167	R.M. of Elfros No. 307	R.M. of Great Bend No. 405
R.M. of Weyburn No. 67	R.M. of Pittville No. 169	R.M. of Big Quill No. 308	R.M. of Round Valley No. 410
R.M. of Brokenshell No. 68	R.M. of Langenburg No. 181	R.M. of Prairie Rose No. 309	R.M. of Senlac No. 411
R.M. of Excel No. 71	R.M. of Fertile Belt No. 183	R.M. of Osborne No. 310	R.M. of Flett's Springs No. 429
R.M. of Lake of The Rivers No. 72	R.M. of North Qu'Appelle No. 187	R.M. of Morris No. 312	R.M. of Invergordon No. 430
R.M. of Stonehenge No. 73	R.M. of Lumsden No. 189	R.M. of Lost River No. 313	R.M. of Blaine Lake No. 434
R.M. of Wood River No. 74	R.M. of Dufferin No. 190	R.M. of Dundurn No. 314	R.M. of Redberry No. 435
R.M. of Auvergne No. 76	R.M. of Marquis No. 191	R.M. of Montrose No. 315	R.M. of Douglas No. 436
R.M. of Wise Creek No. 77	R.M. of Eyebrow No. 193	R.M. of Harris No. 316	R.M. of Cut Knife No. 439
R.M. of Grassy Creek No. 78	R.M. of Enfield No. 194	R.M. of Marriott No. 317	R.M. of Hillsdale No. 440
R.M. of Wawken No. 93	R.M. of Churchbridge No. 211	R.M. of Mountain View No. 318	R.M. of Manitou Lake No. 442
R.M. of Fillmore No. 96	R.M. of Saltcoats No. 213	R.M. of Winslow No. 319	R.M. of Connaught No. 457
R.M. of Caledonia No. 99	R.M. of Cana No. 214	R.M. of Oakdale No. 320	R.M. of Birch Hills No. 460
R.M. of Elmsthorpe No. 100	R.M. of Stanley No. 215	R.M. of Prairiedale No. 321	R.M. of Prince Albert No. 461
R.M. of Sutton No. 103	R.M. of Tullymet No. 216	R.M. of Preeceville No. 334	R.M. of Turtle River No. 469
R.M. of Glen Bain No. 105	R.M. of Lipton No. 217	R.M. of Sasman No. 336	R.M. of Eldon No. 471
R.M. of Whiska Creek No. 106	R.M. of Cupar No. 218	R.M. of Lakeview No. 337	R.M. of Wilton No. 472
R.M. of Bone Creek No. 108	R.M. of McKillop No. 220	R.M. of Lakeside No. 338	R.M. of Moose Range No. 486
R.M. of Carmichael No. 109	R.M. of Sarnia no. 221	R.M. of LeRoy No. 339	R.M. of Nipawin No. 487
R.M. of Piapot No. 110	R.M. of Huron No. 223	R.M. of Wolverine No. 340	R.M. of Torch River No. 488
R.M. of Maple Creek No. 111	R.M. of Victory No. 226	R.M. of Viscount No. 341	R.M. of Buckland No. 491
R.M. of Moosomin No. 121	R.M. of Lacadena No. 228	R.M. of Colonsay No. 342	R.M. of Parkdale No. 498
R.M. of Martin No. 122	R.M. of Miry Creek No. 229	R.M. of Blucher No. 343	R.M. of Mervin No. 499
R.M. of Silverwood No. 123	R.M. of Happyland No. 231	R.M. of Corman Park No. 344	R.M. of Frenchman Butte No. 501
R.M. of Kingsley No. 124	R.M. of Deer Forks No. 232	R.M. of Vanscoy No. 345	R.M. of Britannia No. 502
R.M. of Chester No. 125	R.M. of Orkney No. 244	R.M. of Perdue No. 346	R.M. of District of the Lakelands No. 521
R.M. of Montmartre No. 126	R.M. of Garry No. 245	R.M. of Biggar No. 347	
R.M. of Lajord No. 128	R.M. of Ituna Bon Accord No. 246		

CONGRATULATIONS



RaDAR Investigator Dr. Julie Kosteniuk joined the Centre as Assistant Professor in the area of Rural Aging and Dementia as of July 1, 2023. She co-leads the rural primary care memory clinic study and leads other projects to understand the use and provision of services for rural older adults and persons living with dementia



Dr. Niels Koehncke, faculty at the Centre was promoted to Professor in the Department of Medicine on July 1, 2023.



Dr. Shelley Kirychuk was elected to the Canadian Agricultural Safety Association (CASA) Board of Directors for a three-year term.



Dr. Brenna Bath, faculty at the Centre was appointed director of School of Rehabilitation Science on September 1st, 2023.



Dr. George Katselis, faculty at the Centre received tenure for his faculty appointment.



Dr. Alan Rosenberg, faculty member at the Centre, was named a member of the Canadian Academy of Health Sciences (CAHS) in recognition of his work in the greater health sciences community. Dr. Rosenberg was also awarded a Ignite Research Grant from Arthritis Society Canada to discover antibody targets in cells of children with arthritis.



Mrs. Iris Rugg's career as an executive administrator has spanned 44 years, making her one of the longest-serving staff members on campus. From seven presidents, nine chancellors, and dozens of deans, to visits from the queen, Iris Rugg has seen a lot during her time at the University of Saskatchewan.

RESEARCH



PROJECTS AND TEAMS

FARMER HEALTH AND SAFETY

AGRIVITA CANADA INC.



Left to right: Nadia Smith (Program Manager), Terry Baker (Chair of Board of Agrivita), James Dosman (Agrivita President and CEO), Ernie Barber (Director on Agrivita Board), Shelley Kirychuk (Director on Agrivita Board)



Agrivita is a national incorporated not-for-profit company that stimulates and supports applied health and safety research and development aimed at sustainability and productivity in Canadian agriculture. Agrivita's member is the University of Saskatchewan and the company's long-standing partnership with CCRAH is integral in actualizing its mission.

Agrivita's goals are to:

- Promote Six Steps to Safety as a framework for research and education designed to improve safety and productivity of agriculture in Canada
- Lead development of priorities for cutting-edge applied research in agricultural health and safety in Canada
- Contribute to effective translation of knowledge and technology in health and safety for the agricultural sector
- Connect the agricultural health and safety research community with the end users through collaboration with stakeholders
- Coordinate and manage the Canadian AgriSafety Applied Science Program
- Seek opportunities to promote and facilitate increased investment in strategic research for agricultural health and safety

Led by Dr. James Dosman, President and CEO, Agrivita Canada continues its work in promoting, coordinating, and contributing to applied science in Canadian agricultural health and safety. The fifth and final year of Agrivita's Canadian AgriSafety Applied Science Program was completed in March 2024. This research program began in 2019 and was supported by Agriculture and Agri-Food Canada's Canadian Agricultural Strategic Priorities Program (CASPP). This is the second cycle of applied research led by Agrivita in national agricultural safety and health research in Canada. All Activities of the Program were completed successfully. Agrivita is currently leading an application for a third research cycle, with a submission to Agriculture and Agri-Food Canada's Sustainable Canadian Agricultural Partnership (SCAP) AgriScience Program for a new applied science and innovation program working with research teams from across Canada.

Research Projects

Outputs of the Canadian AgriSafety Applied Science Program will be made available at www.agrivita.ca, and include informational videos on each Activity, knowledge transfer bulletins, annual program reports, and a final program report, that were produced to disseminate information on the research of the AgriSafety Program.

The Canadian AgriSafety Applied Science Program (2019-2024) projects are listed below with key highlights from this final year:

Activity 1: Improving Biosecurity and Welfare of Animals During Transportation

Research led by Dr. Predicala, Prairie Swine Centre Inc and Dr. Kirychuk, University of Saskatchewan

- Modifications to the physical structure and instrumentation systems of the prototype significantly improved the biosecurity and welfare properties of the trailer for swine transport.
- A total of 15 road tests were conducted and the results showed that acceptable environmental conditions were maintained in the animal compartment during transport under both cold and warm conditions.
- Results from the disease-challenge tests clearly demonstrate that installing an air filtration system in the trailer can protect pigs from potential exposure to airborne transmissible diseases such as Influenza A during transport. When filters were installed and operational in the trailer, all of the air, blood and nasal swab samples collected during the exposure and observation periods tested negative for the Influenza A virus.
- Cost analysis showed financial feasibility with an estimated payback period of 2.8 years for an assumed price premium of \$5 per pig, which is representative of the industry. Guaranteeing that high-value genetic stock pigs are protected from diseases is a worthwhile investment for producers and demonstrates the necessity of the air-filtered trailer developed by the researchers at the Prairie Swine Centre.

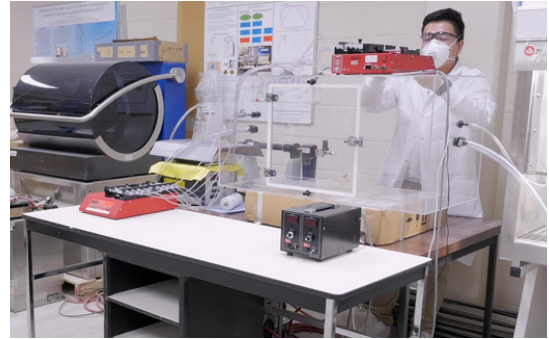


Activity 1 Proto-type Swine Transport Trailer

Activity 2: Development and Assessment of Emerging Green Technologies to Reduce Aerosol Risks and Hazards in Farms

Research led by Dr. Lifeng Zhang, Department of Chemical Engineering, U of S College of Engineering

- The performance of the electro-nanospray system was evaluated in two identical small-scale pig rooms at the Prairie Swine Centre. Maximum removal efficiencies were 41% for airborne culturable bacteria, 67% for dust and 51% for ammonia. The technology was also capable of decontaminating barn surfaces with reductions in microbial populations up to 46% on average.
- During tests in a swine transport trailer, the electro-nanospray system was capable of reducing airborne culturable bacteria and surface microbial populations. This technology has the potential to help producers control pathogenic microorganisms both in livestock barns and during transportation.



Activity 2 Electro-nanospray system

Activity 3: Fugitive Emissions Following Manure Spreading – Risk Assessment and Engineering Controls

Research led Dr. Stephane Godbout and Dr. Brassard, Institut de recherche et de développement en agroenvironnement (IRDA)



Activity 3: Wind Tunnel for Manure Emissions Testing & Solid Manure Fielding Testing

- Manure spreading tests in a controlled environment using a custom large-scale wind tunnel were used to better understand the contaminants emitted during manure spreading. When comparing the different types of manure, emission rates were highest for poultry manure, followed by cow manure and liquid swine manure. The presence of antibiotic resistance genes belonging to eight antibiotic families was also detected.

- Field spreading experiments confirmed the challenges of measuring airborne emissions under actual field conditions due to the dispersion of contaminants and the variability of atmospheric conditions. Gas, odour and bioaerosol concentrations increased during manure spreading, but were generally lower than values obtained in the wind tunnel experiments. Results from the intensive spreading campaign in the field seem to indicate that manure spreading does not pose a risk to human health nor to the biosecurity of farms.
- A new manure spreading equipment developed by Prairie Agricultural Machinery Institute (PAMI) was tested to reduce the airborne emissions. This spreader uses screw augers to deposit the manure on the surface and then incorporate it into the soil. Results demonstrated that the PAMI spreader effectively eliminated odour and gas emissions from the spreading of poultry manure.

Activity 4: Developing Strategies to Minimize Health Risks in Next Generation Livestock Buildings Integrating Modern Animal Welfare Considerations

Research led by Dr. Stephane Godbout, Institut de recherche et de developpement en agroenvironnement (IRDA)



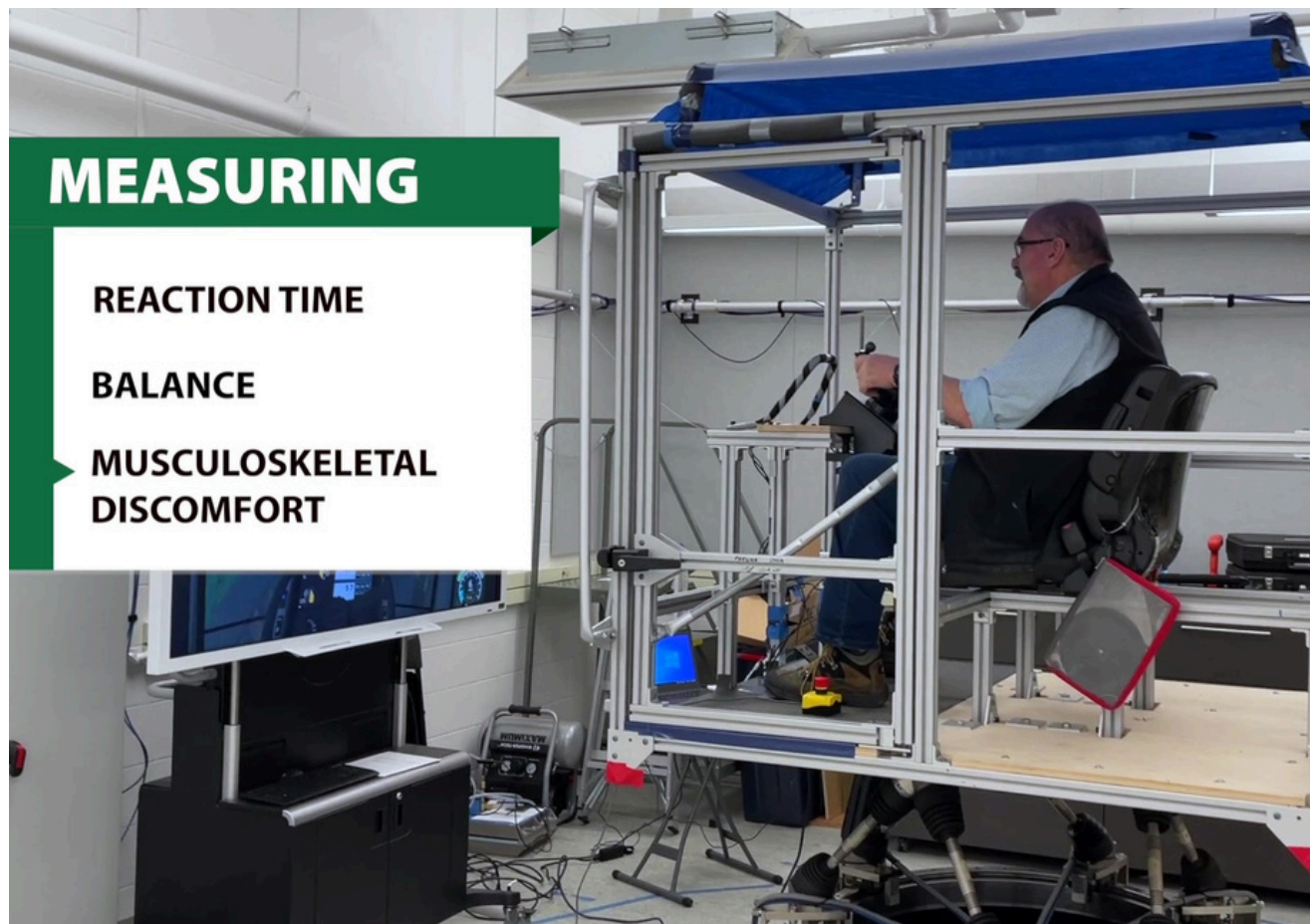
**Activity 4:
Sampling Dairy Barn**

- The research team sampled laying hen buildings using both types of alternative housing systems (aviaries and enriched cages) as well as barns with conventional battery cages. Findings suggest that cage-free houses such as aviaries have higher levels of several airborne contaminants that may be hazardous to respiratory health (ammonia, dust of all size fractions and airborne endotoxins).
- In the dairy industry, free-stall barn configurations allow cows to move around freely, contrary to conventional tie-stall barns. Results obtained from sampling both types of barns show that the increased movement of cows in free-stall barns did not seem to significantly impact the air quality inside buildings.
- For gestating sows, two types of housing systems were sampled in Saskatchewan: stall housing where sows are restricted to individual crates and group housing where sows are housed together and can move around freely. No significant differences were observed for dust concentrations, but higher CH₄ and CO₂ concentrations were measured in the group housing of gestational sows.
- The research team also tested different strategies to improve air quality in these next-generation barns integrating modern animal welfare considerations.

Activity 5: Take a Break from the Shake: Farm Machinery Operator Interventions

Research led by Dr. Stephan Milosavljevic, School of Rehabilitation Sciences, University of Saskatchewan

- Results from the in-Lab study showed that occupational whole-body vibration (WBV) exposure has a negative effect on cognitive function as measured through reaction time testing and that gaze stabilisation exercises combined with another activity help reduce the negative cognitive effects. However, some measurements used in this study were not as sensitive as the researchers had hoped. Although effects related to balance and musculoskeletal discomfort were identified, these outcomes were highly variable across participants and activities and there were no discernable patterns in balance or postural sway measurements across any activities.
- Participant interviews following both laboratory and field tests showed that farm machinery operators need to be better informed of the health risks from prolonged exposure to WBV. Recommended mitigation strategies need to be flexible and well adapted to the realities of operators. However, most interviewees said they were pretty confident that they could make an effort to incorporate breaks if they knew what to do and how often to take them.



Activity 5: In-Lab Vibration Testing

Activity 6: Roll Out of Low Cost Farmer-Built ROPS into a National ROPS Program

Research led by J. Wassermann and Dr. Koehncke, Canadian Centre for Rural and Agricultural Health, UofS.

- Following the development of the parametric roll-over protective structure (ROPS) designs, a total of 5 prototype ROPS were built by farmers and fabricators. These prototypes were then tested by professionals at the PAMI to determine if they respect the necessary standards. Results from these tests will be available soon.



ROPS Fabrication

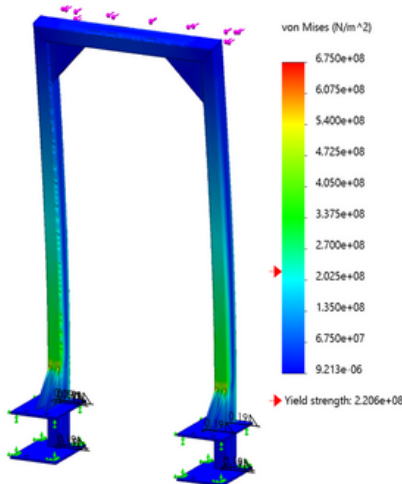
In collaboration with the CCRAH, Agrivita continues its work to promote, lead, and seek opportunities to develop agricultural health and safety research through the ongoing development of a national collaborative network and continued stakeholder consultation.

Scan the QR Code to learn more about Agrivita and its research projects, or check out their website at www.agrivita.ca!



Low-Cost Roll-Over Protective Structures for Canadian Tractors

Dr. Koehncke and Jim Wasserman P.Eng lead a series of grants investigating the feasibility of having farmers install their own roll-over protective structures on older tractors that need them. Tractor roll-overs continue to be the leading cause of death on Saskatchewan and Canadian farms, and installing a ROPS can prevent a fatal injury during a roll-over. To date, funding from WCB Newfoundland, WCB Saskatchewan, and the Saskatchewan Agricultural Development Fund have provided approximately \$200,000 towards this work in these respective provinces. An application to WorkSafeBC has been submitted in May 2024.



Funded by:

Canadian AgriSafety Program (AAFC), WorkSafe Saskatchewan, WorkSafe Newfoundland, Saskatchewan Ministry of Agriculture (Agriculture Development Fund)



Agricultural Fatality Surveillance

Lead by Drs Koehncke and Karunanayake and Kendra Ulmer RN, the Saskatchewan agricultural fatality surveillance program continues, and is part of the national agricultural fatality surveillance program (CAIR – Canadian Agricultural Injury Reporting) funded by the Canadian Agricultural Safety Association (CASA). Tractor roll-overs continue to be the leading cause of fatal injury on Saskatchewan farms and are very preventable through the installation of Roll-Over Protective Structures (ROPS). See below for information on studies underway at the Centre on low-cost options for retrofitting ROPS.



A roll-over protective structure (ROPS) has prevented the tractor from rolling completely on its back, which greatly reduces the risk of death in these circumstances.

A recent update on Saskatchewan fatality data has been published: Karunanayake CP, Koehncke N, Enebeli S, Ulmer K, Rennie DC. Trends in Work-Related Fatal Farm Injuries, Saskatchewan, Canada: 2005-2019. J Agromedicine. 2023 Jul;28(3):444-455

Farmer Health and Safety Team

LEADS

Dr. Shelley Kirychuk is an industrial hygienist and nurse by training and co-lead of the NAIHL laboratory.

Dr. Niels Koehncke is a faculty member at the Centre specializing in occupational hygiene and co-leads KT.

Dr. James Dosman is the founder of the Centre and CEO of Agrivita Canada Inc..

Kendra Ulmer, RN leads all activities relating to the Network including clinics, resources and partnerships.

Jim Wassermann is an agricultural engineer. He co-leads the Roll-Over Protective Structure (ROPS) project.

DISCOVERY DAYS PRESENTERS

Sheri Pedersen

Leanne Schell

Robyn Gerbrandt

Marie McKevitt

STAFF

Brooke Thompson is the laboratory manager for the National Agricultural and Industrial Hygiene Laboratory.

Dr. Matthieu Girard is the CCRAH KT Manager and supports communications and KT activities.

Nadia Smith is the Operations Manager for Agrivita Canada Inc. and also is the Program Manager for the Canadian AgriSafety Applied Science Program

Shelly Sander leads Discovery Days activities and presentations. Shelly also helps facilitate Network outreach activities such as trade shows and coordinates events.

Joan Ulmer supports the CANWORKSAFE clinics and Network booths at tradeshow.

Tess Kelly is as a Knowledge Translation Specialist and has been a great asset to Network programs.

Dr. Merle Massie is a professional research associate. Merle brings award-winning writing depth, freelance journalism, and editing experience to Network communications, and helps with Discovery Days, trade shows, and Network research projects.

Sueli Bizetto de Freitas is the Public Relations and Communications Coordinator. She designs and manages communications, and brings key institutional knowledge and experience.

Katie Thompson is a graphic designer, and helps with program website management, knowledge mobilization, and communications.

RURAL HEALTH AND EXPOSURES

OCCUPATIONAL HYGIENE AND RURAL EXPOSURES



Front Row: Dr. Pardis Keshavarz, Katie Thompson, Alejandra Castillo Toro, Sheila Naytowhow. **Middle Row:** Dr. Shelley Kirychuk, Dr. Niels Koehncke. **Back Row:** Brooke Thompson, Dr. Merle Massie

Antibiotic Resistant Genes in Bioaerosols

USask Team Members: Dr. Shelley Kirychuk, Brooke Thompson, Charly Nolting, Alejandra Castillo Toro. **U of Laval Team Members:** Dr. Caroline Duchaine, Dr. Valérie Létourneau, Dr. Nathalie Turgeon, Marc Veillette, Joanie Lemieux, Mahsa Baghdadi. **Funded by:** Natural Sciences and Engineering Research Council

Bioaerosols are airborne particles of biological origin. They are found everywhere, emitted from natural and man-made sources such as agriculture, water, plants, and industrial activities. Bioaerosols are understudied as reservoirs and propagation sources of antibiotic resistant genes (ARG). Air can lead to long distance transmission of biological agents and potential impact of human activities on spreading of antimicrobial resistance through the air must be better understood to fill appropriate risk and prevention models.

There is an urgent need to better understand the role of air as a transport and spreading route for ARGs in outdoor environments emitted from specific high bioaerosols producing activities and settings. Bioaerosols may play an active role in the environmental spread and exposure of antimicrobial resistance.

In Saskatchewan, Dr. Kirychuk and her group collected bioaerosol samples from swine and poultry barns in the summer and winter months. The collected samples were extracted for particulates and DNA. Alejandra Castillo Toro travelled to Quebec City, Quebec in November 2023 for three weeks to analyze samples for total bacteria concentration, fecal indicators, and antibiotic resistant genes in Quebec City, QC at Dr. Caroline Duchaine's Lab in Institut Universitaire De Cardiologie Et De Pneumologie de Québec (IUCPQ). Dr. Kirychuk, Brooke Thompson, and Alejandra Castillo Toro also attended the Symposium on the NSERC Frontiers Project on antibiotic resistance in bioaerosols at IUCPQ, University of Laval in November 2023.

The aim of this project is to address long-distance transport of ARGs through sampling in the Far North of Canada, and in the high atmosphere, overseas and through the diverse urban and rural activities.

Symposium on the NSERC Frontiers Project on Antibiotic Resistances in Bioaerosols

November 1 - 2, 2023

Institut Universitaire de Cardiologie et de Pneumologie de Québec-Université Laval

Quebec City, QC

Alejandra Castillo Toro, Brooke Thompson and Shelley Kirychuk attended the Symposium on antibiotic resistance on bioaerosols at Institut Universitaire de Cardiologie et de Pneumologie de Québec (IUCPQ) in Quebec City, QC from November 1st to 2nd as part of the NSERC Frontiers Project. Dr. Caroline Duchaine opened the Symposium with the unveiling of a plaque commemorating Dr. Yvon Cormier's contribution to the growth of bioaerosols research and messages from Drs. Shelley Kirychuk, Yohan Bossé (Director of IUCPQ Research Centre), and François Maltais (Head of the multidisciplinary Department of Pulmonology and Surgery, IUCPQ). Dr. Abia King from the University of KwaZulu and Dr. Simon Otto from the University of Alberta were two keynote speakers for the event. Students and investigators had the opportunity to give short presentations on the results of their projects.



NSERC Frontiers ARGs in Bioaerosols Research Team



Yohan Bossé, Caroline Duchaine, Yvon Cormier, Shelley Kirychuk, and François Maltais



Round Table Discussion panel with project investigators, moderated by Dr. Caroline Duchaine.



CENTRE DE RECHERCHE
INSTITUT UNIVERSITAIRE
DE CARDIOLOGIE
ET DE PNEUMOLOGIE
DE QUÉBEC



UNIVERSITÉ
LAVAL



Developing Strategies to Minimize Health Risks in Next Generation Livestock Buildings Integrating Modern Animal Welfare Consideration

The purpose of this project is to evaluate and improve air quality in agricultural settings using standards for animal welfare and, consequently, reduce health risks in Canadian agriculture.

USask Team Members: Dr. Shelley Kirychuk, Brooke Thompson, Charly Nolting, Alejandra Castillo Toro. **IRDA & U of**

Laval Team Members: Dr. Stéphane Godbout, Dr. Caroline Duchaine, Dalila Larios, Mahsa Baghdadi, Dr. Valérie Létourneau, Dr. Nathalie Turgeon, Marc Veillette.

Funded by: Natural Sciences and Engineering Research Council, Canadian AgriSafety Program (AAFC), IRDA

The increasing public concern for animals to be raised, transported and slaughtered humanely is pushing the livestock industry progressively towards animal welfare for farm animals in Canada. In pig production, the new Code of Practice mandates that all holdings brought into use after 2014 should house mated gilts and sows in groups, and existing facilities should be converted to group housing by 2024. With these changes, animals are free to roam the larger pens and, consequently, the increased animal activity can lead to the higher levels of odours, gases, dust and microbes in the air. These housing changes are combined with the need to reduce the use of antibiotics in animal husbandry.



Field Sampling at a swine production facility.

Funding for this project was rewarded to Dr. Stéphane Godbout from the Institut de recherche et de développement en agroenvironnement (IRDA, Quebec) and the AgriSafety program (AAFC). Dr. Kirychuk and her team collected bioaerosol and greenhouse gas samples from livestock operations with different animal housing systems and management practices around Saskatchewan. Alejandra Castillo Toro and Brooke Thompson extracted particulates and DNA from the collected samples. Alejandra and Brooke continue to analyze the samples from this project in collaboration with Dr. Stéphane Godbout's group at IRDA and Dr. Caroline Duchaine's group at IUCPQ, University of Laval. This project overlaps with Dr. Duchaine's NSERC Discovery Frontiers Project.

Occupational Health in Veterinary Medicine



Veterinary workers taking radiographs of a dog (above) and a horse (left). The radiographic equipment on the left is hand-held, which increases risk of ionizing radiation exposure.



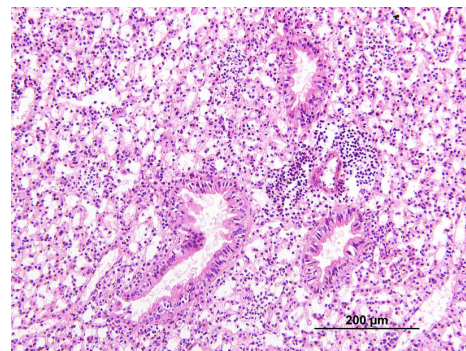
Research by Drs Koehncke (CCRAH), Mayer (Veterinary medicine) and colleagues continues on occupational exposures in veterinary medicine, focusing on ionizing radiation and lead dust exposures. Previous work has demonstrated low PPE use in both large and small animal veterinary setting with the potential for unnecessary ionizing radiation exposure as a result. It has also been shown recently that use of radiological shielding is a source of lead exposure in the veterinary workplace. This work is continuing in 2023/24 with a study of lead dust exposure and blood lead levels in veterinary workers in private practice clinics in Saskatchewan.

Funded by:

American College of Veterinary Radiology Diplomate Research Award.

Sex Differential Responses to Agricultural Exposures

Organic dust including endotoxin and component constituents (DNA), Archaea, and other bacterial components are common in agricultural air pollutants and have been previously studied for their respiratory and inflammatory effects. Glyphosate is common in agricultural environments and products and can be present in animal, cereal, and produce production operations either as an element of the productions process or as a component of feed aerosols. The influence of glyphosate on inflammation and respiratory inflammation has surprisingly not been studied. How the female inflammatory system responds to these complex airborne exposures is not known, nor do we know if the female immune and respiratory response and adaptation differs from that of males. Thus far exposure to glyphosate, endotoxin and a combined exposure of glyphosate and endotoxin has been studied at 1-, 5-, and 10-day in males and 5-day in females by Dr. Upkardeep Singh Pandher and Dr. Kaitlin Merkowsky. Brooke Thompson has continued to work on the 1- and 10-day exposure groups in females.



Mouse Lung histology after exposure to endotoxin and glyphosate.

The purpose of the project is to understand the sex differential response to common airborne agricultural exposures.

Team Members: Dr. Shelley Kirychuk (CCRAH/Medicine), Dr. David Schneberger, Brooke Thompson, Dr. Upkardeep Singh Pandher, Dr. Kaitlin Merkowsky, Dr. Caroline Duchaine (IUCPQ, U of Laval), Dr. Baljit Singh (WCVM), Dr. Gurpreet Aulakh (WCVM). **Funded by:** College of Medicine Research Awards (CoMRAD)

Ventilation in the Control of Pathogens

The purpose of this project is to study the impact of ventilation on the transfer and recovery of viruses during common ventilation practices.

Team Members: Dr. Carey Simonson, Dr. Jafar Soltan, Dr. Shelley Kirychuk, Brooke Thompson, Tejvir Binopal, Pezhman Zolfaghari Didani, Dr. Caroline Duchaine, Dr. Nathalie Turgeon. **Funded by:** Natural Sciences and Engineering Research Council, College of Medicine Research Awards (CoMRAD), Department of Medicine (U of S)

Ventilation is generally designed for occupant comfort and air quality but not for infectious disease control. However, by increasing the amount of fresh outdoor air the concentration of pathogens and bioaerosols indoors can be decreased reducing the chances of airborne transmission of diseases. Energy exchangers are energy saving devices commonly used to precondition ventilation air by recovering energy from building exhaust air. A recent study has shown that aerosols might deposit in these exchangers. These deposited aerosols might transfer from the exhaust air to the air being supplied to the space and hinder the application of energy exchangers. The fraction of the viable bioaerosols transferred from the building exhaust air stream to the air being supplied to the building can be defined as the contaminant transfer ratio and is an important parameter to quantify. This work involves a series of steps including understanding the role of ventilation in pathogen transfer and infectivity; the role of recirculating ventilation in pathogen transfer; and mechanisms for controlling pathogens within ventilation systems.

Development and Assessment of Emerging Green Technologies to Reduce Aerosol Risks and Hazards in Livestock Production

Team Members: Dr. Lifeng Zhang (PI, Engineering), Dr. Shelley Kirychuk (Medicine), Dr. Bernardo Predicala (Prairie Swine Centre/Engineering), Dr. Huiqing Guo (Engineering), Brooke Thompson, Roger Bolo, Dr. Myra Martel, Felipe Barraza-Garcia. **Funded by:** Agriculture Development Fund and the AgriSafety Program.

Aerosols in livestock production, including dust, pathogenic and non-pathogenic microorganisms, and viruses are important to livestock health, disease transmission, worker health, and overall costs of production. As dust is composed of organic substances, it can absorb and contain gases, microorganisms, pathogens, and other agents that can enhance the biological activity and, therefore, increase the risk of health effects in humans and animals. Reduction of particulate matter and microorganisms in livestock production is paramount to livestock health and productivity and to the health of those who work in these environments. Several techniques, such as oil spraying, modifying feeds, litter amendment, and exhaust air treatment have been reported to help control containments in livestock operations. However, there are few technologies currently available on the market for air quality control. Thus, the proposed research aims to evaluate the effectiveness of the electro-nanospray technology on deactivating microorganisms prevalent in livestock operations and transport trailers.

Roger Bolo, a former MSc student now Research Assistant, has tested the efficiency of the electro-nanospray system in the reduction of microorganisms, gases, and dust in a pig barn and a transport trailer.

Development of Chemical-free Eggshell Surface Decontamination Methods

Team Members: Dr. Lifeng Zhang (PI, Engineering), Dr. Shelley Kirychuk (Medicine), Dr. Karen Schwean-Lardner (Animal and Poultry Science), Mina Movasaghi, Shiva Aminian, Brooke Thompson, Dr. Mehdi Heydari Froushani. **Funded by:** NSERC, Agriculture Development Fund, Canadian Poultry Research Council.

Eggs and egg products are widely consumed. Although eggs are an excellent source of many nutrients, they could also be carriers of foodborne pathogens. More recently, adoption of new housing systems for the benefits of welfare for birds in Canada increases contamination risks of shell eggs. In the egg industry, egg washing is the standard procedure to remove dirt and microbes from the shell surface; however, this approach destroys the egg cuticle and may lead to bacteria entering the egg. Further, egg washing generally uses hot water and chemicals to effectively destroy a wide spectrum of pathogenic organisms. There is a need to employ alternative approaches that are environmentally friendly, chemical free, low cost, and convenient to employ. Some promising technologies for eggshell decontamination are electro-nanospray, cold-plasma and non-thermal cold-plasma. The purpose of these projects is to develop and evaluate chemical-free decontamination methods for the egg industry.

Mina Movasaghi and **Shiva Aminian**, two MSc students co-supervised by Drs. Kirychuk, Zhang, and Schwean-Lardner, and **Mehdi Heydari Froushani**, a post-doctoral fellow, supervised by Dr. Lifeng Zhang, tested decontamination methods using alternative technologies on eggshell surfaces inoculated with E.coli and using CLS beamlines to investigate the impact of these technologies on eggshell components

Occupational Hygiene and Rural Exposures Team

LEADS

Dr. Shelley Kirychuk is an industrial hygienist and nurse by training and co-lead of the NAIHL laboratory.

Dr. Niels Koehncke is an occupational medicine specialist by training and co-lead of the NAIHL laboratory.

MANAGER

Brooke Thompson is the laboratory manager for the National Agricultural and Industrial Hygiene Laboratory. Brooke has a background in biotechnology and biology. She is responsible for overseeing all lab-based projects, training staff and students on protocols and equipment, and maintaining laboratory equipment.

STAFF

Charly Nolting is a technician in the National Agricultural and Industrial Hygiene Laboratory. She is responsible for sampling out in the field and maintaining industrial hygiene equipment in the laboratory.

Dr. Myra Martel is a research associate with Dr. Lifeng Zhang. Myra has a background in engineering and is an integral part of helping to set up the engineering projects that are happening in swine and poultry livestock operations.

TRAINEES

- **Alejandra Castillo Toro**, MSc Student in Health Sciences.
- **Tejvir Binopal**, MSc Student in the Department of Mechanical Engineering.
- **Roger Bolo**, MSc Student in the Department of Chemical and Biological Engineering.
- **Shiva Aminian**, MSc Student in the Department of Chemical and Biological Engineering.
- **Dr. Pardis Keshavarz**, Post-Doctoral Fellow in the Living Skies program.
- **Mina Movasaghi**, MSc Student in the Department of Chemical and Biological Engineering.
- **Pezhman Zolfaghari Didani**, PhD Student in the Department of Chemical Engineering.
- **Dr. Medhi Heydari Foroushani**, Post-Doctoral Fellow in the Department of Chemical and Biological Engineering.



OMICS SCIENCE IN RURAL AND AGRICULTURAL HEALTH

Mass Spectrometry Laboratory for Omics Research

The Mass Spectrometry Laboratory for Omics Research is housed in the D-wing of the Health Sciences Building. The lab is equipped with state-of-the-art instrumentation capable of environmental (i.e. air particulates, dust) and agricultural samples analyses, pesticide analysis, global proteomics (i.e. identification of proteins, analysis of protein modifications, characterization of protein-protein interactions), quantitative proteomics for discovery and validation of biomarkers, small molecule analysis, metabolomics and clinical proteomics.

Dr. George Katselis leads the research programs focused on MS-based technologies. Under Dr. Katselis' leadership, the Mass Spectrometry Laboratory for Omics Research continues to run at high capacity for the Centre and collaborating researchers.



Vibration-related Micro-Concussions

Team Members: Dr. George Katselis, Dr. Stephan Milosavljevic, Dr. John Howland, Dr. Dena Burnett, Brooke Thompson, Dr. Paulos Chumala, Lucas Julseth, Daniel Chao and Megan Tomilin. **Funded by:** College of Medicine Research Awards (CoMRAD), Department of Medicine Internal Funding, AgriSafety Program

The physiological basis for the cognitive and physical effects of whole-body vibration (WBV) has not yet been defined and no biomarkers indicative of micro-concussions from WBV exposure have been identified. We believe that increasing levels of WBV cause damage via micro-concussions leading to increased cognitive impairment, and the damage corresponds with differential expressions of blood/brain proteins that can be identified by MS-based proteomics. The study's focus on rat models will furnish results that will ultimately facilitate future studies on humans, and deeper investigations into the level, frequency, and duration of exposures that contribute to injury mechanisms and accident risk.

The purpose of this project is to identify protein markers resulting from WBV exposure by comparing proteomic profiles and cognitive impairment of animals exposed to different vibration frequencies.

Lucas Julseth and Daniel Chao with help from Megan Tomilin and Brooke Thompson were responsible for running the whole body vibration exposure on the rats. Rats were exposed to vibration frequencies of 4 Hz, 30 Hz and 0 Hz (quiet control) for 3 days at 4 hours per day. Cognitive testing was done before and after WBV exposure. Daniel's work focused on the protein expression profiles in the brain and Lucas' work focuses on the serum protein profiles and cognitive impairment.



Serum Proteomics to Investigate Clinical Outcomes Following ST-Elevated Myocardial Infarction

The purpose of this project is to determine proteomic differences between diabetic and non-diabetic male and female STEMI patients and understanding the pathways involved in adverse post-infarction remodeling in general, and particularly in at high-risk subgroup, will therefore fulfill an important unmet clinical need.

ST-Elevated Myocardial Infarction (STEMI) occurs due to the complete occlusion of a coronary artery and despite improvements in treatments, it remains a major cause of mortality worldwide. Classical risk models that only rely on clinical variables are insufficient to predict the risk of adverse post-STEMI outcomes. Therefore, the prediction of cardiogenic shock and heart failure following STEMI is an unmet clinical need. Advances in proteomics can allow us to identify biomarkers to predict the occurrences of post-STEMI outcomes. We need to consider multiple methods, including multi-biomarker strategies, to stratify the risk of post-STEMI outcomes.

Team Members: Dr. Jay Shavadia, Dr. George Katselis, Dr. Haissam Haddad, Dr. Gudrun Caspar-Bell, Megan Tomilin, Dr. Paulos Chumala, Dr. Rama Mangipudi, Brooke Thompson, James Matheson, Daniel Baik. **Funded by:** RUH Foundation, Department of Medicine Dr. Viktor A. Pollak and Mirka B. Pollak Cardiology Research Fund.

Megan Tomilin, a PhD student under Dr. Katselis' supervision is working on this project and focusing on the differences in protein expression profiles of diabetic with and without SGLT2i inhibitors and non-diabetic STEMI patients, and patients presenting with cardiogenic shock and STEMI.

Targeted Proteomics to Validate One Health Links in Septic Arthritis

Septic arthritis is a debilitating joint inflammation arising from presence of pathogenic microorganisms in the joint. Delays in the diagnosis and treatment can result in loss of joint function and quality of life, and even higher mortality rates. With incidences of septic arthritis rising, it is imperative to investigate new treatments to combat septic arthritis.

We have explored and identified protein biomarkers for the eradication of joint infection using a horse model with experimentally induced septic arthritis or without septic arthritis.

In the coming year, synovial fluid samples will be collected from participants with osteoarthritis or septic arthritis. The samples will be compared to the analyzed horse synovial fluid samples to determine if the differentially expressed proteins found in horses are present in the human synovial fluid.

The purpose of this project is to investigate and validate One Health (animal-human) links by using mass-spectrometry-based targeted proteomics to understand the role biomarkers might play in septic arthritis.

Team Members: Dr. George Katselis (Medicine), Dr. Anthony King (Orthopedic Surgery), Dr. Regina Taylor-Gjevre (Rheumatology), Dr. Elemir Simko (WCVN), Dr. Joe Bracamonte (WCVN), Roman Koziy, Dr. Paulos Chumala, Brooke Thompson, Dr. Kyle Goldstein. **Funded by:** Department of Medicine (U of S), Townsend Equine Health Research Fund

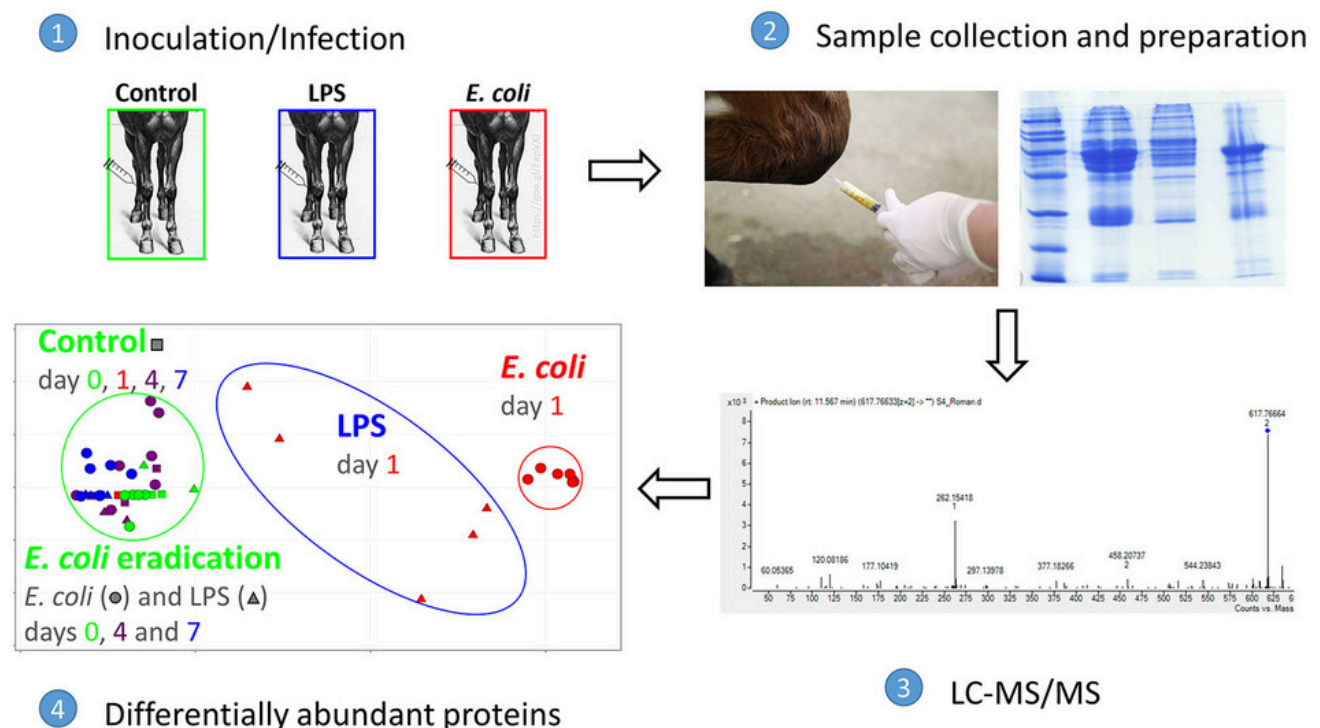


Figure from Koziy et al, 2022 showing the workflow for identifying the differentially expressed proteins from horse synovial fluid.

Omics for Rural and Agricultural Health Team

LEAD

Dr. George Katselis is an analytical chemist by training, and Assistant Professor in the Department of Medicine. Dr. Katselis is the lead of the Mass Spectrometry Laboratory for Omics Research.



From left: Dr. George Katselis, Brooke Thompson, Ibrahim Hoja, Lucas Julseth, Dr. Paulos Chumala, Megan Tomilin, Daniel Chao.

STAFF

Dr. Paulos Chumala is the Mass Spectrometry Technician in the Mass Spectrometry Laboratory for Omics Research. Paulos is an organic chemist by training and his responsibilities include preparing samples for mass spectrometry analysis and bioinformatic analysis of samples.

Brooke Thompson is the Laboratory Manager for the National Agricultural and Industrial Hygiene Laboratory. Brooke has a background in biotechnology and biology. Brooke is responsible for overseeing all lab-based projects, training staff and students on protocols and equipment, and maintaining laboratory equipment.

TRAINEES

- **Daniel Chao** is an Biochemistry, Microbiology and Immunology undergraduate honours student.
- **James Matheson** is an MSc student in the Health Sciences program
- **Lucas Julseth** is an MSc student in the Health Sciences program
- **Greg Guenther** is an MSc student, co-supervised by Dr. George Katselis and Dr. Silvana Papagerakis
- **Megan Tomilin** is a PhD student in the Biochemistry, Microbiology and Immunology graduate program, supervised by Dr. George Katselis.
- **Roman Koziy** is a PhD student in the Western College of Veterinary Medicine, co-supervised by Dr. Elemir Simko and Dr. George Katselis. .
- **Ibrahim Hoja** a PhD student in the Health Sciences program, supervised Dr. George Katselis.

RURAL INDIGENOUS HEALTH



Rural Health Laboratory Team: **Back Row:** Dr. James Dosman, Brooke Thompson, Dr. Sylvia Abonyi, Dr. Joshua Lawson **Row 2:** Dr. Charlene Thompson, Dr. Niels Koehncke **Row 3:** Jill Dosman, Dr. Meera Kachroo, Marie Neubuhr, Dr. Shelley Kirychuk **Row 4:** Dr. Punam Pahwa, Katie Thompson, Sheila Naytowhow, Suzanne Seesequasis, Dr. Chandima Karunanayake, Dr. Wanda Martin, Dr. Merle Massie, Dr. Marilyn Baetz **Front Row:** Jeremy Seesequasis, Dr. Pardis Keshavarz, Larry Burgess, Dr. Vivian Ramsden

First Nations Yoga Intervention Project

In Spring 2024, our CCRAH research team launched an innovative health pilot study in partnership with two Treaty 6 First Nations entitled “**Nêhiyaw Yoga: biomedical intervention and Knowledge Translation among two First Nations Communities**” to assess the effect of yoga practice on sleep health. Building on recent evidence that yoga’s holistic approach to physical, emotional, mental and spiritual health is compatible with the Medicine Wheel model for Indigenous wellbeing, yoga can be identified as a culturally-sensitive intervention for First Nations and Métis people. Based on a decade-long research relationships with these two First Nations communities and as part of a large-scale CIHR-funded study of First Nations’ sleep health, our research team designed and is in the process of implementing culturally sensitive interventions appropriate to the two rural nêhiyaw communities.



Team Members - Yoga Research: Drs. Punam Pahwa, Chandima Karunanayake, Meera Jo Kachroo **Community Partners:** Elder Emelda Seesequasis, Warren Seesequasis, Heather Bighead, Larry Burgess, Tina Nelson, Kristen Schott, Corine Hunt **Instructors:** Celeste Boran-Fetch, Harmony Johnson-Harder, Serina Seesequasis

Assess, Redress, Reassess: Addressing Disparities in House, Home, and Mental Health Among First Nations People

Team Members: NPI: James Dosman; Co-PIs: P Pahwa; S Kirychuk; J Seesequasis, M Neubuhr; D Mike; W Seesequasis; C Naytowhow; M Baetz; S Abonyi; M King; Co-investigators: C Karunanayake; K McMullin; B Janzen; N Koehncke; J Lawson; V Ramsden; M Fenton. Collaborators: G Marchildon; T Smith-Windsor; S Seesequasis, R Mendes, L Burgess, T Nelson; D Rennie. RAs: J Dosman, M Kachroo, S Bintay, N Smith, M Neubuhr, L Pilon, S Naytowhow, E Stockdale. **Funded by:** Canadian Institutes of Health Research (CIHR 04-2022 to 03-2027).

The overall goals of this project are to assess house (Washahikan) and home (Mikiwam) as determinants of mental health outcomes in First Nations people; and to determine the effects of addressing and redressing issues involved in house, home, and mental health.

We will evaluate the characteristics of the house, the home, and social determinants of Indigenous peoples' mental health at baseline and following interventions. Washahikan includes the physical nature or structure of the house and the way in which it is maintained. Mikiwam includes the values with which the occupants of the house function as a family unit. Social determinants of mental health include proximal, intermediate and distal factors. Mental health outcomes include stress, anxiety, depressive symptoms, substance abuse and suicidal ideation. This new project is based on the Cree people's traditional Tipi Teachings. The 15 poles that provide the internal structure of the tipi represent a set of universal values. The Tipi Teachings can be considered to correspond to current concepts of determinants of wholistic mental health in Indigenous peoples. The modern theory of Indigenous mental health published in the research literature maps quite closely to the Tipi Teachings, which were developed many years ago.

Baseline data: Baseline data collection consisted of individual questionnaires modelled on 14 Tipi Teachings. The questionnaire had a remarkable acceptance by community members. The data collection has been completed in Beardy's and Okemasis' Cree Nation, Montreal Lake Cree Nation, and Little Red River Reserve (ML) from July 1, 2023-January 31, 2024. The total number of individuals who have participated in the questionnaire from all three communities was 832 from 439 households.

Next steps: Development of mental health interventions is the second objective of the CIHR-funded study, Assess, Redress, Re-assess: Addressing Disparities in Sleep Health among First Nations. These involve community level solutions for mental health literacy, house and home management, in alignment with the Tipi Teachings.



The Built Environment in Saskatchewan First Nation & Métis Communities

Team Members

Leads: Dr. Shelley Kirychuk, Dr. Wanda Martin, Dr. Lori Bradford, Dr. Kerry McPhedran, Dr. Charlene Thompson, Dr. Tara Kahan, Dr. Jafar Soltan, Dr. Huiqing Guo, Dr. Ian Burgess, Jeremy Seeseequasis. **Students:** Tim Vogel, Corwyn Schomatuk, Sheila Naytowhow. **Post-Docs:** Dr. Pardis Keshavarz, Dr. Essouassi Elikem, Dr. Fawad Ashraf, Janet Accquah. **Staff:** Dr. Merle Massie, Dr. Penelope Sanz, Brooke Thompson, Katie Thompson, Alejandra Fonseca Cuevas.

Drs. Kirychuk (Medicine), Martin (Nursing), Bradford (Engineering) and McPhedran (Engineering), Kahan (Chemistry) were funded by SHRF (\$190K), CIHR (\$150K), UofS NEIHR (\$10K) and New Frontiers Exploration (\$250K) to support the work of First Nations People in Saskatchewan towards vibrant and healthy houses.

Drs. Kirychuk, Martin and Bradford received a \$10,000 SHRF Mobilize grant and a \$10,000 UofS NEIHR Grant for supporting knowledge-to-action by building compendiums to support First Nation and Metis leadership, managers and community members as well as creating working groups for building these compendiums and travel to and from the communities

Dr. Tara Kahan (Chemistry), a lead of the Built Environment Research Group, received a \$250,000 New Frontiers Exploration Grant to investigate the chemical interactions between environmental tobacco smoke and mold in First Nation communities.

Based on open conversations with First Nation communities, the research team was able to identify best practices, barriers, and gaps in the First Nation built environment and come up with 4 key themes. The key themes identified from these conversations were brought to the Building for the Future: Housing and Health Forum, held in November 2023, for further workshopping and discussion with First Nation and Metis community members, industry, and policy makes for input and further direction.

Following the Building for the Future: Housing and Health Forum the USask Built Environment Research Group has been following up with community and industry. These community and industry check-ins, held via Zoom throughout February through April 2024, allowed the research group to solicit feedback and guidance for next steps. The meetings focused on the two top community priorities shared during the symposium and conversations: (1) increasing community capacity for housing; and (2) building strong Saskatchewan network opportunities for Indigenous housing practitioners and leaders. Community and industry indicated that these priorities resonated, and gave suggestions for paths forward. The research group is collaborating with Indigenous leadership throughout Saskatchewan to share the community request for increased networking and events for housing, and to support developing and hosting connection events and entities.



Back row: Dr. Jafar Soltan, Dr. Merle Massie. **Second Row:** Dr. Penelope Sanz, Sheila Naytowhow, Dr. Kerry McPhedran, Brooke Thompson. **Front Row:** Dr. Shelley Kirychuk, Dr. Wanda Martin, Dr. Tara Kahan, Dr. Lori Bradford, Katie Thompson, Dr. Pardis Keshavarz.

Māmwōhkamātowin: Working Together to Understand Housing and COVID-19 in a Saskatchewan First Nation Community

Housing has been identified as an important element to understand, in terms of contributions to health and wellness. The house is the physical structure in which the family lives, versus the home, which includes the values by which the occupants of the house function. Important factors in the house that contributed significantly to health and wellness including: the house was in need of major repairs; smell of mold; visible mold; crowding; and non-traditional use of tobacco in the house. House factors are important determinants of health and it is unknown if the house is an important contributor to COVID-19. Understanding the factors that prevent and/or contribute to house transmission are important to prevention and management. Drs. Kirychuk, Ramsden, Karunanayake, and Keshavarz continue to evaluate the role of the house in COVID-19 transmission.

Team Members: Dr. Shelley Kirychuk, Dr. Vivian Ramsden, Norma Rabbitskin, Chief Christine Longjohn, Shirley Bighead, Dr. Chandima Karunanayake, Brooke Thompson, Ilona Monkman, Dr. Pardis Keshavarz. **Funded by:** Canadian Institute for Health Research.

RURAL HEALTH OUTCOMES

Geographic Variation in the Under and Over-Diagnosis of Asthma



Asthma prevalence varies both globally and regionally including between rural and urban children. In a project jointly funded by the European Academy of Allergy and Clinical Immunology and the Saskatchewan Health Research Foundation, we are working towards a position paper investigating the proposed objective. This will include a systematic review of the under- and over-diagnosis of asthma internationally and by rural-urban status as well as the development and evaluation of clinical and research recommendations through a Delphi approach.

Team Members: Canadian Team: D Adamko, D Goodridge, D Cockcroft, B Philipenko, U Khanam, N Rybalka; International Team: G. Brozek (Poland), J. Rufo (Portugal), T. Trikamjee (South Africa), K. Khaleva (UK), S. Ertan (Turkey), R. Gawlik (Poland), W. Feleszko (Poland), H. Suojalehto (Finland), A. Moreira (Portugal), I. Eguiluz-Gracia (Spain), G. Roberts (UK).

Led by Dr. J. Lawson, the overall objective of this project is to investigate under- and over-diagnosis of asthma, specifically the magnitude of the problem and differences between regions and identify opportunities and strategies to overcome the issues related to asthma diagnosis.

Asthma and Mental Health Conditions

Through a series of studies using data from the Saskatchewan Health databases, national research databases, literature review, and environmental scans we are investigating the determinants of asthma and mental health comorbidity as well as the impact of having a mental health condition on various health outcomes among children with asthma.

Led by Dr. J. Lawson, the overall objective of this project is to investigate the association between childhood asthma and mental health conditions.

Team Members: Josh Lawson, Darryl Adamko, Donna Goodridge, Don Cockcroft, Lloyd Balbuena, U. Khanam, P Jandaghi, M. Kim.

A Virtual Program to Promote Physical Activity and Health Behaviours Among Women with Obstructive Sleep Apnea (OSA)

Led by D. Goodridge and J. Lawson, the overall objective of this project is to examine the impact and feasibility of a virtual behavior change intervention focused on promoting physical activity and healthy behaviours in rural women with mild OSA.

An under-served segment of those with OSA includes women living in rural areas. Women with mild OSA who live in rural areas will be recruited to complete a virtual 6-month multicomponent intervention program. We will then assess the impact of the program by looking at changes in healthy behaviours, body assessments, and feasibility.

Team Members: Donna Goodridge, Josh Lawson, Mark Fenton, Nancy Gyurcik, John Gordon, Jaimie Peters, Kelly Tremblay, Dave Parkalub, Allison Cammer, J. Blouin.

Rural Indigenous Health Team

LEADS

Dr. Shelley Kirychuk is an industrial hygienist and nurse by training and co-lead of the NAIHL laboratory.

Dr. James Dosman is the founder of the Canadian Centre for Rural and Agricultural Health and the CEO of Agrivita Canada Inc.

Dr. Punam Pahwa is a faculty member and specializes in community health and epidemiology and biostatistics.

Dr. Joshua Lawson is a faculty member specializing in community health and epidemiology and biostatistics with a current focus on children's asthma.

TRAINEES

- **Bisma Ikram**, MSc Student
- **Shirmin Kader**, MSc Student
- **Zinia Susman**, MSc Student
- **Odette Wills**, MSc Student
- **Shiva Naseri**, MSc Student
- **Barada Mohanty**, PhD Student
- **Masud Rana**, PhD Student
- **Ulfat Khanam**, PhD Student
- **Sheila Naytowhow**, MSc Student
- **Dr. Pardis Keshavarz**, Living Skies Post-Doctoral Fellow
- **Dr. Meera Jo Kachroo**, Post-Doctoral Fellow

STAFF

Jeremy Seeseequasis is a professional research associate in the rural health lab. Jeremy is currently supporting the work being done by the Built Environment group on housing and health, leading conversations, and developing a compendium with Saskatchewan First Nation communities.

Dr. Merle Massie is a professional research associate in the rural health lab. Merle is currently supporting the work being done by the Built Environment group alongside Saskatchewan First Nation communities as well as work on rural farm safety planning and mental health initiatives.

Dr. Chandima Karunanayake is a professional research associate who specializes in statistics.

Brooke Thompson is the laboratory manager for the National Agricultural and Industrial Hygiene laboratory. Brooke is responsible for overseeing all lab-based projects, training staff and students on protocols and equipment, and maintaining laboratory equipment.

Katie Thompson is a graphic designer, and helps with the Centre's website management, knowledge mobilization, and communications.

Dr. Matthieu Girard heads the Knowledge Mobilization activities for Agrivita projects and is the KT Manager of the Centre's Knowledge Mobilization Laboratory.

RURAL DEMENTIA RESEARCH

RURAL DEMENTIA ACTION RESEARCH (RaDAR) TEAM



Dr. Debra Morgan

Dr. Debra Morgan, CCRAH Professor and Chair in Rural Health Delivery, has been leading the interdisciplinary Rural Dementia Action Research (RaDAR) team since 2003. The team's goal is to improve dementia care in rural and remote settings.



Bilokreli Family Trust Fund

The RaDAR team receives \$25,000 in annual funding to support the Summit and the team's activities, generously provided by the Bilokreli family. The family has an interest in supporting rural dementia research in the province, and we are pleased to offer student poster prizes in their name to student trainees working in the field. This year's Bilokreli Student poster prizes at the 16th Annual Summit were awarded to:



Hana Dakkak



Julie Beitel



Hassan Yassin

CIHR Foundation Grant (2016-2026)



Dr. Debra Morgan holds a multi-year CIHR Foundation Grant for the research program "Design and evaluation of integrated primary health care practice for dementia in rural and remote settings". Co-investigators include Drs. Julie Kosteniuk, Megan O'Connell, Andrew Kirk, and Norma Stewart, and other Canadian and international experts.

Rural Memory Clinic team members from partner communities at the RaDAR Summit in November, 2019

Canadian Consortium on Neurodegeneration in Aging (CCNA) Phase II (2019-2024)

The CCNA was established by the Canadian Institutes of Health Research in April 2014 to address the growing prevalence of Alzheimer Disease and other dementias in Canada. The CCNA Phase II brings together over 350 researchers across 19 teams, including CCNA Team 15 Rural led by Drs. O'Connell and Morgan. CCNA hosts an annual Partners Forum and Science Day which is attended by all 19 CCNA teams.



Dr. Debra Morgan and Dr. Megan O'Connell attended the 2024 CCNA Partners Forum and Science Days



Dr. Morgan's talk at the 2024 CCNA forum was titled "Rural primary health care memory clinics: Past, present, and future".

As part of Team 15's research, the RaDAR team continues to sustain and evaluate the impact of 7 rural PHC memory clinics that have been established in southeast Saskatchewan since CCNA Phase I. RaDAR is currently working with additional rural primary health care teams to establish a clinic in their community. This work is co-led by Drs. Morgan and Kosteniuk. Four Phase II projects linked to the rural memory clinics are currently in progress and seven have been completed. Projects completed this past year included an exploration of the role of the Alzheimer Society First Link Coordinator in rural memory clinics, and an environmental scan of programs and services for older adults in RaDAR memory clinic communities and surrounding areas.

Congratulations: Successful Defence for RaDAR Affiliated Students & Trainees

- **Julie Beitel**, Master's student, Nutrition, with Dr. Allison Cammer was awarded a CIHR MSc scholarship (Sept 1, 2022 to Aug 31, 2023) for her work examining the role of participant socialization within The Cognitive Kitchen: Virtual Culinary Intervention for Dementia Prevention.
- **Virginia Deobald**, Master's student, Nursing, with Dr. Shelley Peacock. Virginia's thesis was focused on non-pharmacological interventions for persons living with dementia while in long-term care facilities from the nurse perspective.

Scan the QR Code to learn more about the Rural Dementia Action Research (RaDAR) team or visit ruraldementiacare.usask.ca



Dr. Megan O'Connell currently has a number of graduate students working on dissertations. Meghan Flath has started recruitment for her dissertation project on barriers and facilitators to pet ownership for older adults. She is surveying veterinarians and family members of older adults on their experiences with older adults and pet ownership in order to examine ways to address the identified barriers and promote the facilitators to older adult pet ownership.

Jake Ursenbach, August Kortzman, and Karl Grewal are all preparing to defend their theses in the near future. Mr. Ursenbach is finalizing his thesis, "Improving Cognitive Assessment in the Context of Rural Dementia Diagnosis." This thesis comprises three studies addressing the gap in the validity of assessment with rural-dwelling populations by investigating measurement equivalence of cognitive assessment instruments and the validity of computerized cognitive tests in rural and urban populations.

Mr. Kortzman has recently finished an n-of-1 feasibility study trialing Interpersonal Psychotherapy with 3 childcare partners of people living with dementia. The discussion will include analysis of gender differences in the availability of social support to care partners.

Mr. Grewal's dissertation developed a more detailed understanding of how technology could support individuals and families by surveying attitudes, beliefs, and existing technology use of care partners (Study 1); and by attempting to merge technology with cognitive rehabilitation through a series of case studies (Study 2).



Dr. Megan O'Connell

Finally, Megan O'Connell is collaborating with numerous partners across Canada. She is the Saskatchewan primary investigator on the implementation of the Canadian edition of the Computer Interactive Reminiscence and Conversation Aid (CIRCA-CA), led nationally by Arlene Astell at University Health Network in Toronto. She is also bringing a multi-domain post-diagnostic support intervention to Saskatchewan – the Dementia Lifestyle Interventions for Growing Healthy Together, led by Laura Middleton at the University of Waterloo.

Another RaDAR project, led by RaDAR team member Valerie Elliot, is an environmental scan to explore community programs providing post-diagnostic services to clients who might include RaDAR rural PHC memory clinic patients and families in southeast Saskatchewan. This project included focus groups with health care and service providers, a review of secondary sources of information on services (e.g., program brochures), a systematic internet search, and interviews with caregivers of people living with dementia living in these areas. Our goal was to better understand the availability of existing local community programs, current patient and family needs, program gaps and recommendations to address these gaps, and recent program changes or innovations. Data analyses were completed, and a manuscript to disseminate findings is currently under journal review.



Dr. Allison Cammer

Dr. Allison Cammer is a registered dietitian and Assistant Professor in the College of Pharmacy and Nutrition at the University of Saskatchewan and is an investigator with the RaDAR team whose research program centers on nutrition and dementia. She supervises several students completing graduate research toward their MSc degrees. Seshni Naidoo is examining nutrition care within house-model long-term care homes. Ashlee Bueckert's project centers on barriers and supports to including country-harvested and traditional foods within rural long-term care homes. And Heather Alford is examining the barriers and facilitators to family involvement in nutrition and mealtimes in long-term care.

A project led by Dr. Cammer that is currently underway is The Cognitive Kitchen. This evidence-based program was codesigned by RaDAR team members and patient-family partners. It is being offered both virtually and in-person for adults 55+ and care partners of people living with dementia. Each session in the six-part series includes a hands-on preparation component and discussion on strategies to support dementia risk reduction and living well with dementia. Participants must be living in Saskatchewan and priority is given to those living in rural areas. Programs are being scheduled based on participant interest and availability, so register now to be the first to know when one is available to suit your preferences!

COGNITIVE KITCHEN

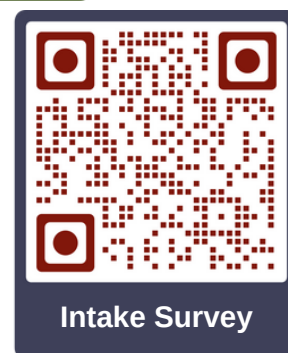
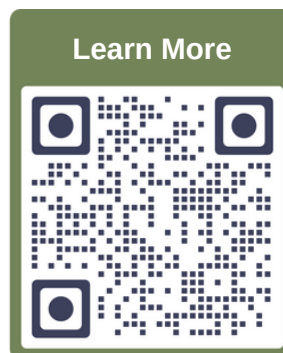
- A 6-session social cooking class ft. discussions on strategies to support dementia risk reduction and living well with dementia
- Two streams available:**
 - One for adults 55+
 - One for care partners of people living with dementia
 - We welcome people living with dementia to attend with their care partner if suitable
- Open to SK residents with priority to those living within a 150 km radius of Yorkton - Virtual and in-person options available

No cost to participate!

Scan the QR code or enter the link to complete the intake survey to express your interest today! Contact julie.beitel@usask.ca with any questions.
www.surveymonkey.ca/r/cognitivekitchenintake
 More information about upcoming offerings: fb.com/cognitivekitchencoordinator

The optional research component of this program has received ethical approval from the University of Saskatchewan Behavioural Research Ethics Board (Beh #4108).

Logos: UNIVERSITY OF SASKATCHEWAN, Dementia Supports in Rural Saskatchewan, SPHERO, Funded by the Government of Canada's New Horizons for Seniors Program, Canada.



To register, please complete the intake survey to confirm your eligibility and scheduling preferences: <https://www.surveymonkey.ca/r/cognitivekitchenintake>.

To learn more, visit: Cognitive Kitchen (<https://tinyurl.com/Cognitive-Kitchen>) or contact the program coordinator at julie.beitel@usask.ca or (306) 966-5303.

The Cognitive Kitchen is funded in part by the Government of Canada's New Horizons for Seniors Program.

Other RaDAR Initiatives

- **Partnership with Saskatchewan Health Quality Council:** The RaDAR team and the Saskatchewan Health Quality Council are conducting ongoing projects involving administrative health data. A recently published team project examined rural-urban differences in health service use before and after dementia diagnosis. The team plans to investigate variations in health service use and mortality by sex and geography among people with diagnosed dementia, and risk factors for adverse health outcomes. A second study examined the use of health services before and after diagnosis in the specialist Rural and Remote Memory Clinic. This work is being extended to compare use of services by sex and dementia subtype. Research team: Julie Kosteniuk, Debra Morgan, Megan O'Connell, Allison Cammer, Jacqueline Quail, Dallas Seitz, and Beliz Acan Osman.
- **Synthesis Reviews:** The RaDAR team has published several reviews using a collaborative team-based approach to map, synthesize, and identify gaps in the evidence across several dementia-related areas. **A scoping review underway is led by Valerie Elliot** to examine innovations and solutions that promote interprofessional collaborative primary care for older adults living with age-related chronic disease in rural and remote areas. A recent scoping review led by Julie Kosteniuk identified barriers and facilitators to the use of electronic medical records in interprofessional primary care. Published reviews can be found on the RaDAR website www.ruraldementiacare.usask.ca under the Publications tab.
- **Community Wellness program evaluation:** A community wellness program for older adults living in seniors housing apartments was developed and implemented in Spring 2023 by SHA leadership and Home Care staff in two southeast rural communities. The program is delivered twice weekly in each building and offers cognitive, physical, and social stimulation. The purpose of this project is to better understand program implementation, acceptability, and sustainability from the perspective of program developers, staff, and older adult participants and provide evidence of program elements to support spread to other rural communities. Research team: Erin Fedusiak (BSc Nutrition student), Julie Kosteniuk, Allison Cammer, Debra Morgan, and Megan O'Connell.
- **Where are the RDs:** In 1-day RaDAR primary care memory clinics in rural southeast SK communities, a registered dietitian (RD) is sometimes part of the team. However, the role of nutrition care within these clinics needs to be better understood. This project will explore the experiences of RDs in providing nutrition care in RaDAR memory clinics and other community settings and how memory clinic teams provide nutrition care with and/or without RD involvement. Research team: Brianna Wickett (BSc Nutrition student), Allison Cammer, Julie Kosteniuk, and Dana Klapak. This project is funded by an Interdisciplinary Summer Student Award.

Rural Dementia Action Research (RaDAR) Team

LEADS

Dr. Debra Morgan is a professor and chair in rural health delivery at the Centre. Debra leads our Rural Action Dementia Research Team (RaDAR).

Dr. Julie Kosteniuk is an assistant professor in the Department of Medicine. Her research focuses on rural services for older adults and people living with dementia.

Dr. Megan O'Connell is a professor and faculty member in the Department of Psychology and Health Studies.

Dr. Allison Cammer is an assistant professor and faculty member in the College of Pharmacy and Nutrition.

TRAINEES

- **Heather Alford**, MSc student
- **Ashlee Buekert**, MSc student
- **Seshni Naidoo**, MSc student
- **Meghan Flath**, PhD student
- **Ben Gould**, PhD student
- **Karl Grewal**, PhD student
- **August Kortzman**, PhD student
- **Jake Ursenbach**, PhD student

STAFF

Shelley Biller provides Clerical Support for the specialist Rural and Remote Memory Clinic team, and assists with appointment coordination for clinic patients.

Chelsie Cameron is a Rural Primary Health Care Coordinator providing assistance at the Rural Primary Health Care Memory Clinic sites.

Jean Daku is a Nurse Practitioner and works with a team of health care providers in a rural primary health clinic. She provides support to the RaDAR team's efforts to spread and sustain the Rural Primary Health Care Memory Clinic model in Saskatchewan.

Valerie Elliot is a Research Officer who joined the RaDAR team in April of 2017. Valerie is involved with and leads various RaDAR projects and in particular supports the Rural Primary Health Care Memory Clinics.

Jennifer Fairbairn is a Physiotherapist who joined the team in 2019. She is a physical therapist who assess clients at the Rural and Remote Memory Clinic. She has practiced physical therapy since graduating from the University of Saskatchewan in 1995.

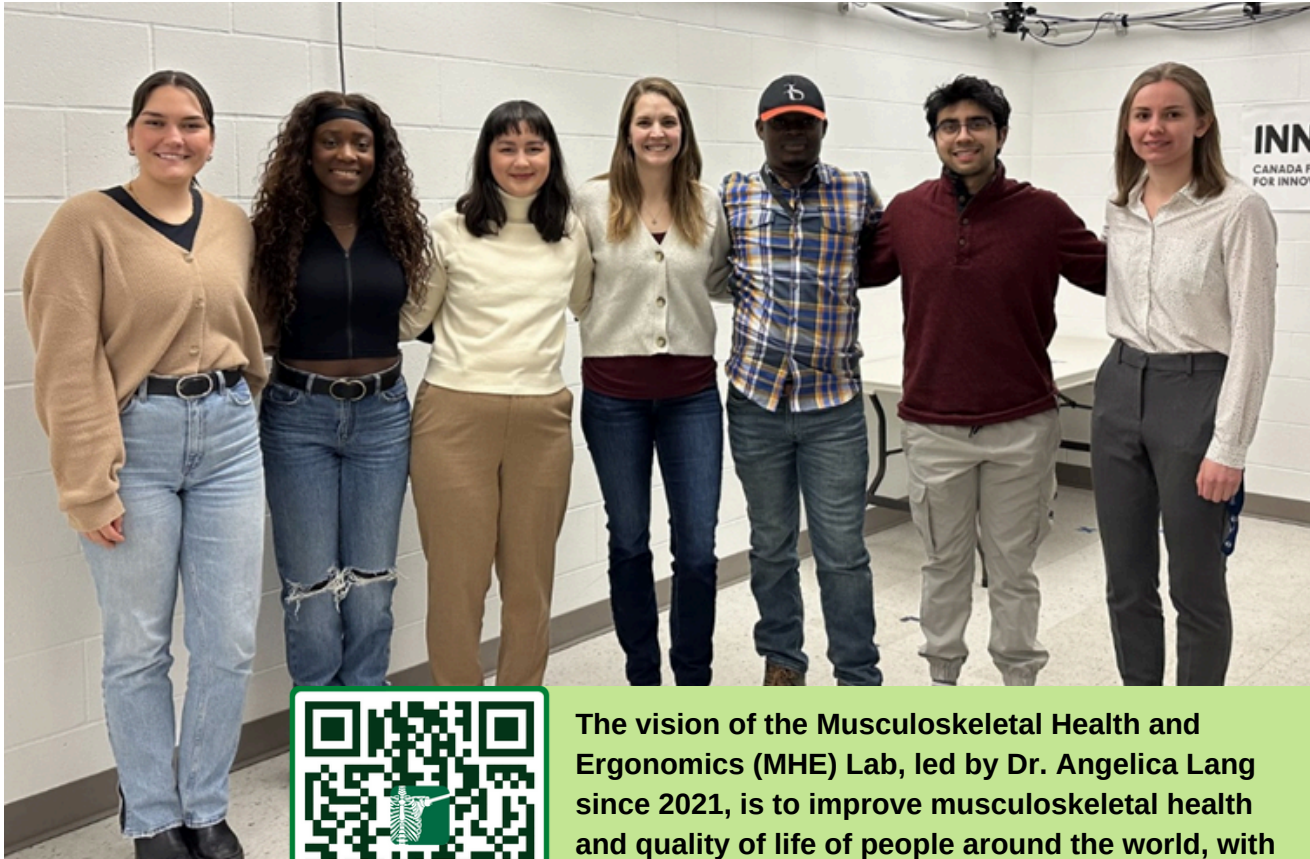
Tora Levinton is a Research Assistant with the RaDAR team. She works closely with Dr. Morgan and Dr. Kosteniuk. Tora has a background in Health Studies and Psychology.

Duane Minish is a Research Officer with the team and provides support for a number of RaDAR projects. He also is the specialist RRMCMC psychometrist and administers the standardized battery of tests to clinic patients.

Darla Walz is a Clinic Nurse who coordinates the activities of the specialist Rural and Remote Memory Clinic, housed within the Centre.



MUSCULOSKELETAL HEALTH AND ERGONOMICS



Dr. A. Lang and the Lab Team



The vision of the Musculoskeletal Health and Ergonomics (MHE) Lab, led by Dr. Angelica Lang since 2021, is to improve musculoskeletal health and quality of life of people around the world, with a focus on Saskatchewan. Our goal is to understand how movement and biomechanics are related to injury, musculoskeletal health, and work.

Shoulder Dysfunction and Breast Cancer Treatment: Biomechanical Analysis of the Impact of Reconstruction and Mastectomy

Breast cancer is the most common cancer in Canadian women, with an estimated 1 in 8 affected in their lifetime. Fortunately, the breast cancer survival rate is very high when diagnosed and treated early. Many survivors experience upper limb problems after routine treatment, and these problems may be worsened by breast reconstruction. Kinematics, or body motion, can also be negatively affected by breast cancer treatment, influencing functional abilities and secondary injury risk. Improved definition of this relationship is sorely needed. Therefore, the primary aim of this project is to define upper limb kinematics in breast cancer survivors with and without shoulder pain. We anticipate that there will be differences in kinematics between the surgery and pain groups that will help us to understand why functional abilities are reduced after breast reconstruction and why survivors are more likely to experience secondary musculoskeletal disorders.

Our results will provide critical information needed to enhance awareness of post-treatment dysfunction to guide shared decision making with patients and inform novel post-surgical rehabilitation interventions for breast cancer survivors. This work is funded by a Canadian Institute of Health Research Project Grant (\$350,000/4 years) and the Canadian Cancer Society (\$490,000/5 years).

Collaborators:

*Drs. Soo Kim (School of Rehabilitation Sciences),
Gary Groot (Surgery/Community Health and
Epidemiology),
Tracey Carr (Community Health and Epidemiology),
John Barden (University of Regina)*

Community Partners:

Ivy McGrath, Deanna Ratzlaff, Sherry Boyle



**Canadian
Cancer
Society**

Do Time and Rural Residence Affect Upper Limb Biomechanical Alterations in Rotator Cuff Disease?

Upper limb pain is common. The most frequent cause of pain and disability of the upper limb is injury to rotator cuff muscles, the small muscles surrounding the shoulder. Our team's previous research suggests there are movement strategy alterations that are related to rotator cuff disease development, but more research is needed to define this relationship. Further, the effect of rural residence on musculoskeletal health needs to be considered due to the social, occupational, and health care access differences that exist compared to urban dwellers. The first objective of this Saskatchewan Health Research Foundation-funded project (\$120,000/3 years) has been completed and suggests that, generally, as time since injury increases, the more harmful movement becomes, suggesting that negative compensations are occurring over time that are preventing full recovery from rotator cuff disorders. This relationship is more pronounced in rural individuals. Data collection for the longitudinal measures is ongoing.



Collaborators:

*Drs. Brenna Bath (School of Rehabilitation Sciences),
Joel Lanovaz (College of Kinesiology)*

Students:

Laurn Campell (MSc student), Sophia Abiara (undergraduate)



**Musculoskeletal
Health &
Ergonomics
Lab**

Defining Farmer Upper Limb Postural Exposures during High-Risk Work Tasks

Work-related musculoskeletal disorders (MSDs) are prevalent in agricultural producers. In Canada, and in Saskatchewan specifically where 40% of national farming production occurs, up to 85% of farmers and farm workers report pain in at least one body part. Our recent research suggests that upper limb (shoulder and neck) MSDs were among the most frequently experienced by farmers of both sexes and a wide age range, but upper limb MSD research in producers is limited. Additionally, even though the proportion of women producers is increasing, as well as the average age of producers, there is little indication of how sex or advancing age may influence upper limb MSD risk factors in producers. The goal of this ongoing, WorkSafeBC-funded project (\$50,000/1 year) is to 1) define typical postures and kinematics for producers with and without shoulder or neck pain during high-risk farm work tasks and 2) explore how upper limb kinematics during select farm work tasks are influenced by sex and age. The ultimate aim of this research is to reduce the burden of upper limb MSDs for agricultural producers through improved definition of postural exposures to inform potential mitigation strategies to allow them to continue working without pain, time loss from work, or further injury.

Collaborators:

Dr Niels Koehncke

Students:

Denise Balogh (PhD student),

Opeyemi Vincent Akinuyi (MSc student)



Musculoskeletal
Health &
Ergonomics
Lab

Whole Body Vibration and Shoulder Musculoskeletal Disorders: a Validation of Measuring Wearable Motion Capture Sensors during Vibration Exposure

Operating large equipment on farms is associated with musculoskeletal disorders. The low back, neck, and shoulder are most frequently reported to be affected. Evidence suggests both driving for long periods and exposure to whole body vibration influence the pain and injuries, however it is not clear to what extent both factors cause, or exacerbate, symptoms. The overarching goal of this research is to explore how driving, arm posture, and whole body vibration affect shoulder pain and discomfort during simulated vehicle operations. However, before this question can be pursued, the posture measurement tools needed to be validated for use during vibration exposures. The findings from this first step suggest we can reliably measure arm posture during simulated vehicle operation. We will apply these validated methods to the next step of this research stream.



Collaborators:

Dr. Joel Lanovaz (College of Kinesiology)

Students:

Sara Sagen (undergraduate Honours student)

Assessing the Influence of Shoulder Arthritis on Upper Limb Motion during Functional Activities

Collaborators: Dr. Bindu Nair (Rheumatology)

Students: Annaka Chorneyko (MD student)

Arthritis of the shoulder, such as osteoarthritis (OA) or rheumatoid arthritis (RA), is a degenerative joint pathology that causes pain and disability. In

Saskatchewan, nearly 19% of the population is affected by arthritis (national average is 16%). Shoulder arthritis can limit functional abilities. Biomechanics, or movement, of the shoulder joint are an important consideration for function. Poor biomechanics can negatively affect disease progression and cause pain-related alterations in movement that can exacerbate symptoms and accelerate the disease. Previous research has explored how biomechanics are influenced by arthritis during relevant activities of daily living, but there has been little investigation into work-related biomechanics and relevant dysfunction, despite the connection between impaired shoulder function and reduced work status. This study will explore how two types of arthritis (OA and RA) influence shoulder motion during work-related tasks. The overall goal of this work is inform the creation of injury prevention or return-to-work strategies for both urban and rural workers with arthritis.



Musculoskeletal
Health &
Ergonomics
Lab

Scapular Kinematics and Functional Movement: Exploring Best Practice Methods from Calibration to Application

Ongoing research in the MHE Lab, funded by a Discovery Grant (\$165,000/5 years) from the Natural Sciences and Engineering Research Council of Canada (NSERC) is exploring the best practice methods for measuring and calculating the motion of scapula – commonly known as the shoulder blade – to eventually improve the understanding of what causes shoulder injuries and how to remedy them. Current progress is assessing how different body compositions affect common measurement and calculation procedures as an additional step to validate methods for the whole population, and future work will explore predictions with regression models and machine learning.



Students:

Sophia Abiara (NSERC Undergraduate Research Student Award),
Denise Balogh (PhD student)



Musculoskeletal Health and Ergonomics Team

LEAD

Dr. Angelica Lang is an assistant professor in the College of Medicine and her primary areas of expertise are shoulder health, biomechanics, and ergonomics. Dr. Lang is the laboratory lead for the Musculoskeletal Health and Ergonomics Laboratory.

TRAINEES

Denise Balogh is a PhD student in the Health Sciences program, supervised by Dr. Lang. Her thesis focuses on best practice methods for investigating shoulder kinematics in the field.

Opheyemi Vincent Akinluyi is an MSc student in the Health Sciences program, supervised by Dr. Lang. His thesis focuses on defining the postures and kinematics of farmers during high-risk work tasks.

Lauryn Campbell is an MSc student in the Biomedical Engineering program, supervised by Dr. Lang. Her thesis will use an open source musculoskeletal model to assess muscle force patterns of individuals with shoulder pain.

Sophia Abiara is an undergraduate student in Dr. Lang's lab. She was awarded an NSERC USRA for summer 2023.

Sara Sagen is an undergraduate Honours student in Kinesiology, co-supervised by Dr. Lang and Dr. Joel Lanovaz.

Annaka Chornyeko is an MD Student completing her second Dean's Project with Dr. Lang in summer 2024.

Alexander Waslen is an MD student who completed two Dean's Projects with Dr. Lang.

Vivian Heinrichs is an MD student who completed a Dean's Project with Dr. Lang in summer 2023.

RURAL ACCESS TO CARE

MUSCULOSKELETAL HEALTH - ACCESS TO CARE

Bridging Access to Physiotherapy Care Gaps for Saskatchewan Mothers: Experiences of Postpartum Women and Health Care Providers

Research Team: Dr. Brenna Bath (U of S), Dr. Katie Crockett (U of S), Anne-Marie Graham (Venture Rehabilitation Sciences Group), Christine Epp (Women's Wellness Physiotherapy), Dr. Hayley Legg (patient partner), Dr Kemi Awe (patient partner), Dr. Marwa Farag (U of S), Alison Irvine (U of S)

Maternal healthcare is complex and multifaceted. Persistent and problematic postpartum low back and pelvic pain are substantial, yet under recognized problems among Canadian mothers. Further, low back and pelvic girdle pain have been significantly associated with challenges including urinary incontinence and depression, which ultimately influence the ability of Canadian mothers to care for their children. Healthcare providers, such as nurses and physicians, are focused on providing essential information for both mother and baby in the early postpartum stages. Physiotherapy care has much to offer to improve overall maternal wellness and has specifically shown to restore normal back and pelvic motor function while reducing the physiological and psychological impact of pregnancy-related low back and pelvic girdle pain. While physiotherapy care can positively impact mental and social well-being of mothers in the postpartum recovery period, access to maternal physiotherapy services in Saskatchewan is limited.

The goal of this project is to understand current gaps and opportunities for maternal health services, specifically physiotherapy care, among women with postpartum low back and pelvic girdle pain and dysfunction in Saskatchewan. Through surveys, interviews and active engagement with Saskatchewan mothers and health care providers, this project aims to understand current gaps and opportunities in maternal health services with a specific focus on identifying ways to enhance access to maternal physiotherapy care. These findings will lead to improved clinical outcomes and quality of life for postpartum women across Saskatchewan. More specifically, this research will also inform opportunities for improved maternal healthcare in Saskatchewan, specifically for the highly prevalent and burdensome health conditions of low back and pelvic girdle pain and dysfunction.

PARTICIPANTS NEEDED FOR RESEARCH IN:

POSTPARTUM LOW BACK OR PELVIC GIRDLE PAIN



We are looking for volunteers to take part in a study looking at experiences of postpartum women in Saskatchewan with low back or pelvic girdle pain. To participate, you must be:

- Living in Saskatchewan
- Between 6 weeks and 18 months postpartum
- Have experienced or are currently experiencing postpartum low back or pelvic girdle pain or dysfunction

As a participant in this study, you will be asked to complete an anonymous web-based survey, which will take approximately 10 minutes. Complete the study [HERE](#) or scan the QR Code.



In appreciation of your time, you can enter to win a gift card draw prize (8 gift cards available).

For more information about this study, please see our [project page](#). If you have any questions, feel free to contact:
Brenna Bath, School of Rehabilitation Science
306-966-6573 back.research@usask.ca

This study has been approved by the University of Saskatchewan Behavioural Research Ethics Board

UNIVERSITY OF SASKATCHEWAN

MHA Musculoskeletal Health & Access to Care

JIM PATTISON CHILDREN'S HOSPITAL FOUNDATION

The Musculoskeletal Health and Access to Care welcomes
Nikole Watson, Mitacs Trainee, **Rebecca Sawatsky**, Research Assistant,
and **Kendra Usunier**, PhD Student and wishes them success in their endeavours.

RESEARCH GRANTS (FUNDED IN 2023-24)



28 Research Grants



Total: \$ 25,667,340

Anand SS (NPI), Friedrich MG (PI), Azab S, Bangdiwala S I, Britz-Mckibbin P, Brook JR, De Souza RJ, Dehghan M, Joundi R, Kandasamy S, Larose E, Lear SA, Lee DS, Luu JM, Moody AR, O'Connell ME, Paré G, Pigeyre M, Smith EE. (Co-Is). (2023-2028). Canadian Alliance of Healthy Hearts and Minds: Dissecting the Pathways Linking Ectopic Adipose Tissue to Cognitive Dysfunction. \$1,617,976 (CAD). Project Grant, Canadian Institutes of Health Research (CIHR).

Bradford L (NPI), Kirychuk S (Co-PI), Martin W (Co-PI), Thompson C. (Co-PI). (March 2024 to April 2025). Community co-creation of housing compendium from "Building the Future: Housing and Health Forum". \$10,000 (CAD). USASK NEIHR.

Cammer A, O'Connell ME, Jeffery B, Parrott E, Cook S. (2023 – 2024). The Cognitive Kitchen: An evidence-based nutrition and socialization program for rural caregiver support. \$49,509 (CAD). SHRF Solutions Innovation Grant.

Chertkow H. (NPI), Co-Is include 37 researchers from across Canada, including O'Connell ME. (2023-2028). Canadian Consortium on Neurodegeneration in Aging: Application for Phase III CCNA Operations Centre. \$20,555,200 (CAD). Canadian Consortium on Neurodegeneration in Aging, Canadian Institutes for Health Research (CIHR).

Cossette B, Griffith LE, Nicholson K (Co-PIs), Beauchamp M, Chiu Y, Dolovich L, Kouladjian O'Donnell L, Lebel K, Lee J, Levasseur M, Mangin D, Mayhew A, O'Connell ME, Sirois C, Stranges S. (Co-Is). (2023-2024). Anticholinergic and sedative medications use in the Canadian population. \$69,980 (CAD). Catalyst Grant: Analysis of CLSA Data, Canadian Institutes of Health Research (CIHR).

Groot G (NPI), Bath B (Co-PI), Hartness C (Co-PI), Carr T, Chartier B, Wilson D, Van Der Merwe J. (Co-I). (September 2023 to August 2024). Understanding Hip and Knee Integrated Care Pathways: A Patient Oriented Rapid Realist Review to Inform a New Saskatchewan Pathway. \$100,000 (CAD). CIHR.

Kahan T (NPI), VandenBoer T (Co-PI), Light E, Kirychuk S, Soltan J, Roburn S, Brinkmann M, Bradford L. (April 2024 to March 2026). Assessing and communicating opportunities and barriers to improving indoor air quality in Canadian residences. \$250,000 (CAD). New Frontiers in Research Fun Exploration Grant.

Katselis GS (NPI), Shavadia J (Co-PI), Caspar-Bell G (Co-PI), Chumala P, Tomilin M. (April 2024 to March 2025). Patho-biologic Descriptions of Sodium-Glucose Cotransporter-2 Inhibitors Associated with Proteomics Differences in ST-Segment Elevation Myocardial Infarction. \$20,000 (CAD). Department of Medicine.

Kent-Wilkinson A.(PI), Lagimodiere K (Co-PI), Jewel L, Stoliker B, Kerodal A, O'Connell ME, Peacock S, Mela M. (2023-2025). Dementia screening and diagnosis for older persons in custody at the Regional Psychiatric Centre. \$134,827 (CAD). Impact Grant, Saskatchewan Health Research Foundation (SHRF)/Alzheimer Society of SK.

Kirychuk S (NPI), Bradford L (Co-PI) Martin W (Co-PI), McPhedran K (Co-PI), Ramsden V, Thompson C, Pahwa P, Dosman J. (March 2024 to April 2025). miyo waskahiakn (Beautiful Homes) Compendiums. \$10,000 (CAD). SHRF Mobilize Grant.

Koehncke N (PI), Wassermann J. (November 2023 to March 2026). Roll-Over Protection Structures (ROPS) Design and Certification. \$50,000 (CAD). WorkSafe Saskatchewan Sponsorship Grant.

Koehncke N (PI), Mayer M (Co-PI), Sidhu N, Scansen B, Goodrich L, Easly J. (January 2024 to December 2024). Dose to the Lens of the Eye in Veterinary Workers Performing Fluoroscopic Procedures. \$17,629.20 (CAD). College of Medicine Research Award (CoMRAD).

Koehncke N (PI), Wassermann J (Co-PI). (2023 to 2025). Reducing NL Agricultural Industry Fatalities through a Low-Cost ROPS Program. \$55,000 (CAD). Workplace Health, Safety and Compensation Commission.

Kuspinar A, Mayhew A (Co-PIs), Beauchamp M, Griffith L, Lang J, O'Connell ME, Perez R, Raina P. (Co-Is). (2023-2024). Development and validation of a composite measure of physical function using a battery of performance-based measures: A longitudinal analyses of the Canadian Longitudinal Study on Aging. \$70,000 (CAD). Catalyst Grant: Analysis of CLSA Data, Canadian Institutes of Health Research (CIHR).

Lang A (PI), Kim S, Carr T, Bath B, Loewen-Walker R, Sawatzky R. (September 2023 – August 2024). Exploring musculoskeletal health needs after gender-affirming surgery, \$10,000 (CAD). Align Grant, Saskatchewan Health Research Foundation.

Lang A (PI), Koehncke N. (January 2024 – December 2024). FULE-ing farmer safety: defining Farmer Upper Limb postural Exposures during high-risk work tasks. \$50,000 (CAD). Applied Innovation Grant, Workers Compensation Board of British Columbia – WorkSafe BC.

Lang A (PI). (September 2023 – August 2025) Shoulder dysfunction and breast cancer treatment: biomechanical analysis of the impact of reconstruction and mastectomy. \$50,000 (CAD). CIHR CoMBridge funding. College of Medicine, University of Saskatchewan.

Lang AE (PI), Carr T, Groot G, Kim SY, Ratzlaff D, Boyle S, & McGrath I. (December 2023 – December 2028). Exploring functional abilities after breast reconstruction to maintain breast cancer survivor quality of life: a combined biomechanical and qualitative analysis. \$492,450 (CAD). Canadian Cancer Society Emerging Scholar Research Grant.

Lang AE (PI), Groot G, Kim SY, Carr T, Barden J. (April 2024 - April 2028). Shoulder dysfunction and breast cancer treatment: biomechanical analysis of the impact of reconstruction and mastectomy. \$348,076 (CAD). Canadian Institute of Health Research Project Grant.

Martin W (NPI), Kirychuk S, Bradford L, McPhedran K, Sanz P. (July 2023 to June 2024). First Nations Built Environment Climate Action. \$125,000 (CAD). Canadian Institutes of Health Research Catalyst Grant.

McAiney C, Middleton L (Co-PIs), Heibein W (Principal Knowledge User), Bethell J, Keller H, Liu-Ambrose T, O'Connell ME, You M-L (Co-Is), Thelker C., Norman, M, Corepal R. (Collaborators). (November 1, 2023 - October 31, 2024). Co-creating a research plan to promote wellbeing of people living with dementia and their care partners. \$25,000 (CAD). Planning and Dissemination Grants - Institute Community Support, Canadian Institutes of Health Research (CIHR).

O'Connell ME, Michael J, Marcinkiw K, Peacock S, Cammer A. (2023-2025). Increasing capacity of Alzheimer Society of SK care partner support group facilitators in virtual care and interpersonal therapy: The CCAPS Project. \$148,953.40 (CAD). Impact Grant, Saskatchewan Health Research Foundation (SHRF)/Alzheimer Society of SK.

O'Connell ME, Walker J (Co-PIs), Middleton L, Roach P (Co-Is), Sivananthan S (Knowledge User), Mercieca E, Caporossi T, Spadafora C (Collaborators). (November 1, 2023 – October 31, 2026). Supporting Indigenous Caregivers: Barriers and facilitators to implementing culturally safe dementia caregiver support groups with Indigenous communities and local Alzheimer Societies. \$748,085 (CAD). Operating Grant: Brain Health and Cognitive Impairment in Aging, Canadian Institutes of Health Research (CIHR).

O'Rourke HM (NPI), Hoben M, Peacock S (PIs), Bethell J, Boscart V, Chamberlain S, Cranley L, Ghosh S, Hopper T, McGilton K, O'Connell ME (Co-Is), Deobald V, Duncan D, Eager C, Friesen S, Huhn A, Maisey S, Michael J, Peck S, Sand A (Collaborators). (2023-2024). Connecting today to combat social isolation and loneliness: A pragmatic cluster RCT of a remote visiting program for care home residents living with Dementia. \$100,000 (CAD). Project Grant Patient-Oriented Research: Early-Career Investigator Priority Announcement, Canadian Institutes of Health Research (CIHR).

Rosenberg A (NPI), Katselis GS (Co-PI), Collins M (Co-PI), Maleki F, Fritzler M, Angeles-Han S, Zerr B, Wiebe H. (December 2023 to March 2025). Discovering the Targets for Antinuclear Antibodies in Juvenile Idiopathic Arthritis: Towards Precision Diagnosis to Improve Care. \$100,000 (CAD). Arthritis Society Canada.

Seitz D (NPI), Bronskill S, Ewa V, Goodarzi Z, Gruneir A, Harris D, Kirkham J, Kosteniuk J, Ronksley P, Smith E, Wagg A. (Co-PIs). (April 1, 2024 – March 31, 2026). Measuring and Improving the Quality of Community-Based Dementia Care. \$249,589 (USD). Alzheimer's Association and Brain Canada.

St. John PD (NPI), Brown C, Cloutier D, Griffith L., Newall N, O'Connell ME, Tate R. (Co-Is). (2023-2024). Health Status of Rural Canadians 2.0. \$67,814 (CAD). Catalyst Grant: Analysis of CLSA Data, Canadian Institutes of Health Research (CIHR).

Wassermann J (PI), Koehncke N (Co-PI). (January 2024 to December 2025). Implementing a Low Cost ROPS Program to Reduce Saskatchewan Farm Fatalities. \$50,800 (CAD). Saskatchewan Ministry of Agriculture, Sustainable Canadian Agricultural Partnership.

AWARDS AND SCHOLARSHIPS



10 Awards and Scholarships

Abiara S. NSERC Undergraduate Research Award, \$6,000 (CAD), 2024

Balogh D. College of Graduate and Postdoctoral Studies 75th Anniversary Recruitment Scholarship, Health Sciences, University of Saskatchewan, \$24,000(CAD), Sept 2023 – Aug 2024.

Chorneyko A. Dean's Letter of Excellence, College of Medicine, University of Saskatchewan, November 2023.

Chorneyko A. First Place Presentation, Undergraduate Research Symposium, College of Medicine, University of Saskatchewan, October 2023.

Heinrichs V. Dean's Letter of Excellence, College of Medicine, University of Saskatchewan, November 2023.

Heinrichs V. First Place Presentation, Undergraduate Research Symposium, College of Medicine, University of Saskatchewan, October 2023.

Naytowhow S. Health Sciences Graduate Student 75th Anniversary Recruitment Scholarship (Supervisor: Dr. S. Kirychuk), University of Saskatchewan, \$20,000/annum, September 2023 to September 2024.

Naytowhow S. MITACs INDRA Research Award (Supervisor: Dr. S. Kirychuk), \$6,000 (CAD), July 2023 to November 2023.

Waslen A. First Place Presentation, Undergraduate Research Symposium, College of Medicine, University of Saskatchewan, October 2023.

Wickett B. Interdisciplinary Summer Student Award for Brianna Wickett (Undergraduate student co-supervised by Dr. J. Kosteniuk and Dr. A. Cammer), University of Saskatchewan, \$9,000 (CAD), 2024.

PUBLISHED PAPERS



35 Peer Reviewed Publications

Ahmad P, Marin LM, Lowe C, Katselis GS, Siqueira W. (2024). Salivary Protein homology between Humans and Dogs: Mass Spectrometry-Based Proteomics Analysis. *Journal of Dentistry*, 142: 104855

Alam Md Saiful, Janzen B, Karunanayake C, Dosman J, Pahwa P. (2023). Prevalence and Predictors of Self-Rated Mental Health Among Farm and Non-Farm Adult Rural Residents of Saskatchewan. *Current Psychology*, 43:7347:7361. <https://doi.org/10.1007/s12144-023-04915-4>

Alford H, Hunter PV, Cammer A. (2024). Employee experiences providing nutritional care during the COVID-19 pandemic. *Canadian Journal on Aging*. Feb 8:1-9. Online ahead of print. doi:10.1017/S0714980823000764.

Awda BJ, Mahoney IV, Pettitt M, Imran M, Katselis GS, Buhr M. (2023). Existence and Importance of Na⁺ K⁺-ATPase in the Plasma Membrane of Boar Spermatozoa. *Canadian Journal of Physiology and Pharmacology*, 102(4):254-269 .

Bell K, Lawson J, Penz E, Cammer A. (2024). Systematic review of tailored dietary advice and dietician involvement in the treatment of chronic obstructive pulmonary disease (COPD). *Respiratory Medicine*, 225:107584

Bethell J, Andrew MK, Hothi S, Mick P, Morgan D, O'Connell ME, Phillips NA, Stewart S, Walker JD, Wittich W, McGilton K. (2023). Does social connection mediate the association between neuroticism and cognition? Cross-sectional analysis of the Canadian Longitudinal Study on Aging. *Aging & Mental Health*, 28(3):482-490. doi:10.1080/13607863.2023.2252369

Blackberry I, Rasekaba T, Morgan D, Royals K, Greenhill J, Perkins D, O'Connell M, Hamiduzzaman M, Winbolt M, Robinson A, Davis H, Wilding C. (2023). Virtual DementiaFriendly Communities (Verily Connect) Stepped-Wedge Cluster Randomised Controlled Trial: Improving Dementia Caregiver Wellbeing in Rural Australia. *Geriatrics*, 8(5):85. doi:10.3390/geriatrics8050085

Briere J, Wang SH, Khanam U, Lawson J, Goodridge D. (2023). Quality of life and well-being during the COVID-19 pandemic: associations with loneliness and social isolation in a cross-sectional, online survey of 2,207 community-dwelling older Canadians. *BMC Geriatrics*, 23:615

Crockett K, Lovo S, Irvine A, Trask C, Oosman S, McKinney V, McDonald T, Sari N, Carnegie B, Custer M, McIntosh S, Bath B. (2023). Healthcare Access Challenges and Facilitators for Back Pain Across the Rural-Urban Continuum in Saskatchewan, Canada: Cross-Sectional Results from a Provincial-Wide Telephone Survey. *Health Services Insights*, 16:1-16. <https://doi.org/10.1177/11786329231193794>

Dosman JA, Karunanayake CP, Fenton M, Ramsden VR, Seesequasis J, Mike D, Seesequasis W, Neubuhr M, Skomro R, Kirychuk S, Rennie DC, McMullin K, Russell BP, Koehncke N, Abonyi S, King M, Pahwa P. STOP-Bang Score and Prediction of Severity of Obstructive Sleep Apnea in a First Nation Community in Saskatchewan, Canada. *Clocks Sleep*. 2022 Oct 12;4(4):535-548. doi: 10.3390/clockssleep4040042. PMID: 36278535; PMCID: PMC9624327.

Dyck RF, Karunanayake C, Pahwa P, Stan MR, Osgood ND. (2023). The Contribution of Gestational Diabetes to Diabetes Risk among First Nations and Non-First Nations Women in Saskatchewan Results from the DIP: ORRIIGENSS Project. *Canadian Journal of Diabetes*; 47(6):509-518. DOI: <https://doi.org/10.1016/j.jcjd.2023.04.017>

Hassan N, Murray BG, Jagadesshan S, Thomas R, Katselis GS, Ianowski JP. (2023). Intracellular Ca²⁺ oscillation frequency and amplitude modulation mediate epithelial apical and basolateral membranes crosstalk. *iScience*, 27(1): 108629

Jones A, Ali MU, Kenny M, Mayhew A, Mokashi V, He H, Lin S, Yavari E, Paik K, Subramanian D, Dydynsky R, Aryal K, Correia RH, Dash D, Manis DR, O'Connell ME, Liu-Ambrose T, Taler V, McMillan JM, Hogan DB, Kirkland S, Costa AP, Wolfson C, Raina P, Griffith L. (2024). Potentially Modifiable Risk Factors for Dementia and Mild Cognitive Impairment: An Umbrella Review and Meta-Analysis. *Dementia and Geriatric Cognitive Disorders*, 1-15. <https://doi.org/10.1159/000536643>

Karunanayake CP, Koehncke N, Enebeli S, Ulmer K, Rennie DC. (2023). Trends in Work-Related Fatal Farm Injuries, Saskatchewan, Canada: 2005-2019. *Journal of Agromedicine*, 28(3):444-455. DOI: 10.1080/1059924X.2022.2134244. Epub 2022 Nov 5. PMID: 36218341.

Karunanayake CP, Pahwa P, Kirychuk S, Fenton M, Ramsden VR, Seesequasis J, Seesequasis W, Skomro R, Rennie DC, McMullin K, Russell BP, Koehncke N, Abonyi S, King M, Dosman JA. (2024). Sleep Efficiency and Sleep Onset Latency in One Saskatchewan First Nation. *Clocks & Sleep*, 6(1): 40-55. <https://doi.org/10.3390/clockssleep6010004> PMID: 38247884; PMCID: PMC10801613.

Khanam U, Goodridge D, Lawson J, Osgood N, Baloch M, Zimmerman A, Fenton M, Kelvin A. (2023). The impact of asthma on post COVID condition (PCC) and COVID symptoms. *ALLERGY*, 78

Kosteniuk J, Acan Osman B, Osman M, Quail J, Islam N, O'Connell ME, Kirk A, Stewart N, Karunanayake C, Morgan D. (2024). Rural-urban differences in use of health services before and after dementia diagnosis: a retrospective cohort study. *BMC Health Services Research*, 24(1), 1-11. <https://doi.org/10.1186/s12913-024-10817-3>

Kosteniuk J, Morgan D, Elliot V, Bayly M, Froehlich-Chow A, Boden C, O'Connell ME. (2024). Factors identified as barriers or facilitators to EMR/HER based interprofessional primary care: a scoping review. *Journal of Interprofessional Care*, 38(2):319-330

Kosteniuk J, Morgan D, Acan Osman B, Islam N, O'Connell ME, Kirk A, Quail J, Osman M. (2023). Utilization of health services before and after diagnosis in a specialist rural and remote memory clinic. *Canadian Geriatrics Journal*, 26(3): 350-363. doi:10.5770/cgj.26.653

Joundi R, O'Connell ME, Patten S, Smith E. (2023). Mediation of Post-Stroke Function by Cognition in the Canadian Longitudinal Study on Aging. *Canadian Journal of Neurological Sciences*, 1-9. <https://doi.org/10.1017/cjn.2023.6>

Lordall J, Akinluyi OV, Lang AE. (2024). Validating inertial sensors for in-field humeral and scapular kinematic measurement. *Frontiers in Sport and Active Living*, 6:1349570.

Lang AE. (2023). Does calibration pose improve scapular kinematic repeatability in functional tasks? *Journal of Electromyography and Kinesiology*, 73:102829.

Lang AE, Friesen KB. (2023). Defining humeral axial rotation with optical motion capture and inertial measurement units during functional task assessment. *Medical & Biological Engineering and Computing*, 61(11):2963-2970

Marin LM, Katselis GS, Chumala P, Sanche S, Julseth L, Penz E, Skomro R, Siqueira WL. (2023). Identification of SARS-CoV-2 biomarkers in saliva by transcriptomic and proteomics analysis. *Clinical Proteomics*, 20(1): 30. doi:10.1186/s12014-023-19417.

Martel M, Kirychuk S, Predicala B, Bolo R, Yang Y, Thompson B, Guo H, Zhang L. (2023). Improving Air Quality in Broiler Rooms using an Electrostatic Particle Ionization System. *Journal of the ASABE*, 66(4):887-896. doi: 10.13031/ja.15291

Mayer M, Feng T, Sukut S, Wiebe S, Parker S, Blakely B, Koehncke N. (2023). Blood and hand surface lead in veterinary workers using lead shielding during diagnostic radiography. *Journal of Occupational and Environmental Medicine*, 65(9):794-797. doi: 10.1097/JOM.0000000000002908. Epub 2023 Jun 9. PMID: 37311074.

Mogic L, Rutter EC, Tyas SL, Maxwell CJ, O'Connell ME, Oremus, M. (2023). Functional social support and cognitive function in middle- and older-aged adults: a systematic review of cross-sectional and cohort studies. *Systematic Reviews*, 12(86). <https://doi.org/10.1186/s13643-023-02251-z>

O'Connell ME, Kadlec H, Griffith LE, Wolfson C, Maimon G, Taler V, Kirkland S, Raina P. (2023). Cognitive impairment indicator for the neuropsychological test batteries in the Canadian Longitudinal Study on Aging: Definition and evidence for validity. *Alzheimer's Research & Therapy*, 15. <https://doi.org/10.1186/s13195-023-01317-3>

Osinchuk SC, Grahn BH, Wilson TD, Thompson BN, Hart DA, Harrison KD, Cooper DML, Panahifar A, Rosenberg AM. (2023). Evaluation of Uveitis Induced in Rats by a Type I Collagen Peptide as a Model for Childhood Arthritis -Associated Uveitis. *Comparative Medicine*, 73(4):267-276 <https://doi.org/10.30802/AALAS-CM-22-000129>

Pavloff M, Labrecque ME, Bally J, Kirychuk S, Lasiuk G. (2024). Rural home care nurses' experiences with continuing nursing education. *Journal of Adult and Continuing Education*, 0(0): 1-26

Shuang Cai, Kirk A, Karunanayake C, Edwards D, O'Connell M, Morgan D. (2023). Can Depressive Symptomology at Diagnosis Predict Cognitive and Functional Decline over one year in Patients with Dementia. *Alzheimer Disease & Associated Disorders - An International Journal*, 37:179-183.

Smeir M, Chumala P, Katselis GS, Liu L. (2024). Lymphocyte-Specific Protein 1 Regulates Expression and Stability of Endothelial Nitric Oxide Synthase. *Biomolecules*, 14(1): 111

Stacey A, D'Eon M, Andersen M, Koehncke N, Campoli J, Thompson G, Riou K. Warning: medical education is hazardous to your mental health. Medical students should make an informed decision to begin and continue training. *Can Med Educ J*. 2022 Sep 1;13(5):39-44. doi: 10.36834/cmej.73959. PMID: 36310904; PMCID: PMC9588194.

Waslen A, Friesen KB, Lang AE. (2023). Do sex and age influence scapular and thoracohumeral kinematics during functional task performance? *Journal of Applied Biomechanics*, 40(1):29-39

Zaman I, Janzen B, Karunanayake C, Dosman J, Pahwa P. (2024). Sex-specific prevalence and correlates of possible undiagnosed obstructive sleep apnea in rural Canada. *Sleep Science and Practice*, 8:5. <https://doi.org/10.1186/s41606-024-00097-5>.

INVITED PRESENTATIONS

24 Invited Presentations

Balogh D. Exploring Upper Limb occupational biomechanics with wearable sensors. **Presented:** CCRAH Seminar Series, April 9, 2024.

Bolo R, Martel M, Thompson B, Zhang L, Predicala B, Kirychuk S. Development and assessment of emerging green technologies to reduce aerosol risks and hazards in livestock production. **Presented:** Agrivita Canada Inc Annual General Meeting, Feb 13, 2024, Saskatoon, SK.

Castillo Toro A, Kirychuk S, Thompson B, Nolting C, Lemieux J, Veillette M, Turgeon N, Duchaine C. Antimicrobial-Resistance Genes in Bioaerosols from Livestock Operations. **Presented:** Health Sciences 990 Seminar Series, February 6, 2024

Chao D, Katselis G. Take a Break from the Shake: Implications of Vibration on Protein Expression in the Brain. **Presented:** BMI Honours Student Presentations, University of Saskatchewan, Saskatoon, SK, April 1, 2024.

Duchaine C, Kirychuk S, Gaucher ML, O'Shaughnessy P, Otto S, Luther King AA, Boissinot M. Round Table: Knowledge Transfer - Antibiotic Resistance in Bioaerosols. **Presented:** Symposium on Antibiotic Resistance in Bioaerosols

Elliot V, Kosteniuk J, O'Connell M, Morgan D, Cameron C. Services for older adults living in four rural primary care memory clinic communities and surrounding areas: a multi-method qualitative study. **Presented:** Canadian Centre for Rural and Agricultural Health Research Seminar, University of Saskatchewan, Saskatoon, Oral presentation, March 5, 2024.

Julseth L, Katselis GS, Thompson B, Chao D, Tomilin M, Chumala P, Howland J, Burnett D, Milosavljevic S. Applications of Proteomics to Study Vibration-related micro-concussions. **Presented:** Health Sciences 990 Seminar Series, February 6, 2024.

Khanam U, Goodridge D, Lawson J, Osgood N, Baloch M, Zimmerman A, Fenton M, Kelvin A. (2023). The impact of asthma on post COVID condition (PCC) and COVID symptoms. ALLERGY, 78. Presented: European Academy of Allergy and Clinical Immunology Annual International Conference.

Kirychuk S, Seeseequasis J, Henderson E, Karunanayake C, Fenton M, Ramsden V, Rennie D, Lawson J, Koehncke N, Skomro R, King M, Abonyi S, Pahwa P, Dosman J. A 15-Year Relationship and Reconciliation: Beardsy's and Okemasis Cree Nation, Montreal Lake Cree Nation and the Canadian Centre for Rural and Agricultural Health. **Presented:** FSIN Vice-Chief Craig McCallum. Saskatoon, SK, January 8, 2024,

Kirychuk S, Seeseequasis J, Henderson E, Karunanayake C, Fenton M, Ramsden V, Rennie D, Lawson J, Koehncke N, Skomro R, King M, Abonyi S, Pahwa P, Dosman J. A 15-Year Relationship and Reconciliation: Beardsy's and Okemasis Cree Nation, Montreal Lake Cree Nation and the Canadian Centre for Rural and Agricultural Health. **Presented:** FSIN Vice-Chief David Pratt & STAG. Saskatoon, SK, January 16, 2024.

Kirychuk S, Ulmer K, SaskAgMatters, FarmH, DoMoreAg. Mental Health in Farming. **Presented:** Ministry of Agriculture Webinar (hybrid), Regina, Saskatchewan.

Koehncke N, Mayer M. Radiation safety and lead exposure in Veterinary Medicine. **Presented:** CCRAH Seminar Series, February 6, 2024.

Kosteniuk J, Morgan D, O'Connell ME. RaDAR primary care memory clinics: Research projects to date. **Presented:** Canadian Centre for Rural and Agricultural Health Research Seminar, University of Saskatchewan, Saskatoon, October 31, 2023.

Kosteniuk J, Morgan D, O'Connell ME. Initiatives and research related to rural dementia care in Saskatchewan. **Presented:** Grand Rounds, Department of Medicine, College of Medicine. University of Saskatchewan, Saskatoon, November 16, 2023.

Lang AE. The 5Ws of shoulder musculoskeletal health and biomechanics. **Presented:** Department of Medicine Grand Rounds, University of Saskatchewan. Saskatoon, SK. January 31st, 2024.

Lang AE. Taking shoulder biomechanics into the wild: validating in-lab procedures for in-field applications. **Presented:** University of Regina. January 2024.

Larios D, Letourneau V, Thompson B, Baghdadi M, Gravel J, Clouet-Cote V, Dhib I, Bergeron K, Castillo Toro A, St-Germain M, Carranza-Diaz AK, Turcotte S, Martel-Kennes Y, Predicala B, Zhang L, Kirychuk S, Duchaine C, Godbout S. Developing Strategies to Minimize Health Risks in Next-Generation Livestock Buildings Integrating Modern Animal Welfare Considerations. **Presented:** Agrivita Canada Inc Annual General Meeting, Saskatoon, SK, February 13, 2024.

Lawson JA. The Relationship Between Mental Health and the Presence of Comorbid Conditions Related to Allergic Disease. **Presented:** 2023 European Academy of Allergy and Clinical Immunology, Hamburg, June 9, 2023.

Massie M. Public Speaking Tips. **Presented:** CCRAH Seminar Series, January 9, 2024.

Massie M. SARM Fireside Chat: Saskatchewan Rural and Health History Stories. **Presented:** SARM Convention, March 14, 2024

Milosavljevic S, Julseth L, Thompson B, Chao D, Tomilin M, Howland J, Burnett D, Katselis GS. Take a Break from the Shake: Stand up for safety development and evaluation of interventions for farm machinery operators. **Presented:** Agrivita Canada Inc. Annual General Meeting, Saskatoon, SK, February 13, 2024.

O'Connell ME. Supporting Indigenous Caregivers: Implementing culturally safer dementia caregiver support groups with Indigenous communities. **Presented:** Indigenous Dementia Conference, Casino Rama, January 31, 2024.

Tomilin M, Shavadia J, Caspar-Bell G, Chumala P, Mangipudi R, Thompson B, Haddad H, Katselis G. Application of Mass Spectrometry-Based Proteomics to Investigate Sex Specific Protein Expression following STEMI. **Presented:** BMI 990 Graduate Student Seminar Series, April 1, 2024.

Tomilin M, Shavadia J, Caspar-Bell G, Chumala P, Mangipudi R, Thompson B, Haddad H, Katselis G. Using Mass Spectrometry for Biomarker Discovery: Stratifying STEMI Risk Groups. **Presented:** CCRAH Seminar Series, March 19, 2024.

Walker J, O'Connell ME. Culturally safer cognitive testing and dementia case finding for older First Nations adults. **Presented:** Indigenous Dementia Conference, Casino Rama, January 29, 2024.

CONFERENCES & ABSTRACTS



36 Conferences & Abstracts

Barraza Garcia F, Sandoval E.M, Bolo R.E, Zhang L, Kirychuk S, Thompson B, Guo H, Predicala B. Microbial decontamination of barn surfaces using Engineered Water Nanostructures (EWNS). **Presented:** 31st International Materials Research Congress 2023. Cancun, Mexico. August 13-18, 2023.

Bethell J, Andrew MK, Hothi S, Mick P, Morgan D, O'Connell ME, Phillips NA, Stewart S, Walker JD, Wittich W, McGilton K. The relationships between neuroticism, social connection and cognition. **Presented:** International Psychogeriatric Association International Congress, 29 June -2 July 2023 in Lisbon, Portugal.

Bethell J, Andrew MK, Morgan D, O'Connell ME, Phillips NA, Wittich W, McGilton KS. Personality, Social Isolation and Loneliness: Cross-sectional Data from the Canadian Longitudinal Study on Aging. **Presented:** Gerontological Society of America (GSA) Annual Scientific Meeting. Tampa, Florida. November 8-12, 2023.

Bighead S, Rabbitskin N, Kirychuk S, Karunanayake C, Monkman I, Thompson B, Longjohn C, Ermine P, Ramsden VR. māmawōhkamātowin (working together) to understand wāskahikana (houses) and CoVID-19. **Presented:** 51st NAPCRG Annual Meeting, San Francisco, CA, USA, October 30 – November 2, 2023.

Binepal TS, Fauchoux M, Kirychuk S, Zolfaghari P, Joseph A, Thompson B, Simonson C. Test Methodology to determine aerosol transfer in membrane energy exchangers. **Presented:** ASHRAE Conference, Chicago, IL, USA, January 20 - 24, 2024.

Bolo R, Predicala B, Barraza-Garcia F, Martel M, Thompson B, Guo H, Kirychuk S, Zhang L. A Chemical-free Electro-Nanospray System for Decontamination of Pig Barns. **Presented:** SEIMA SustainTech Conference 2024, Saskatoon, SK, March 20-21, 2024.

Bolo R, Martel M, Thompson B, Zhang L, Predicala B, Guo H, Kirychuk S. Impact of a Pilot-scale Electro-nanospray System for Pig Barn Decontamination. **Presented:** CSBE-SCGAB AGM and Technical Conference, Lethbridge, AB, July 23 - 26, 2023.

Cetin-Sahin D, Godard-Sebillotte C, Gauthier S, Maclagan LC, Quail J, Sourial N, Bronskill SE, Seitz D, Morgan D, Wilchesky M, Kubuta Massamba V, Rochette L, Smith EE, Gruneir A, Youngston E, Diong C, Kosteniuk J, MacDonald T, Maxwell CJ, Feldman S, Arsenault-Lapierre G, Le Berre M, Bosson-Rieutort D, Miskucza K, Fernandez Loughlin R, Gregorio M, Vedel I, and the COVID ROSA Research Team. Intensive care unit admissions decreased by one-fourth during the first two COVID-19 pandemic waves among persons living with dementia in three Canadian provinces. **Presented:** 2024 Canadian Consortium on Neurodegeneration Partners Forum and Science Days March 20, 2024. Montreal, QC, Canada (oral).

Chorneyko A, Heinrichs V, Lang AE. Sex-related changes in muscle activation during upper limb focused functional tasks. **Presented:** University of Saskatchewan Undergraduate Student Symposium, Saskatoon, SK, August 2023.

Duchaine C, Kirychuk S, Gaucher ML, O'Shaughnessy P, Otto S. Round Table Panel Discussion: Knowledge Transfer for Antimicrobial Resistance genes in Bioaerosols Symposium. **Presented:** Symposium on antibiotic resistance genes in bioaerosols. Quebec City, QC, November 1 -2, 2023.

Elliot V, Morgan D, Kosteniuk J, Cameron C, O'Connell ME. Family care partner perspectives: Phase 2 of an environmental scan of programs and services for older adults in rural memory clinic communities and surrounding areas. **Presented:** 16th Annual RaDAR Rural Dementia Summit. Saskatoon, SK. November 21-22, 2023 (poster).

Elliot V, Morgan D, Kosteniuk J, O'Connell ME, Cameron C. "Put yourself in our shoes": Family care partner perspectives of programs and services for older adults living in and around four RaDAR rural primary care memory clinics. **Presented:** 36th Global Conference of Alzheimer's Disease International (ADI) (hybrid event). April 24-26, 2024 (virtual poster).

Grewal KS, Grewal ES, Cammer A, McWilliams L, Spiteri RJ, O'Connell ME. Integration of Technology with Cognitive Rehabilitation for an Individual with Dementia and Their Care Partner. **Presented:** Annual Meeting of the International Neuropsychological Society, New York, NY, USA, February, 14-17, 2024 (poster)

Heinrichs V, Chorneyko A, Lang AE. Acute effects of lower trapezius activation exercises on shoulder musculature during functional tasks. **Presented:** University of Saskatchewan Undergraduate Student Symposium, Saskatoon, SK, August 2023.

Kosteniuk J, Morgan D, Elliot V, O'Connell ME, Seitz D, Cameron C. Impact of rural primary health care memory clinics: Perceptions of team members. **Presented:** 11th Canadian Conference on Dementia, Toronto, ON, November 2-4, 2023 (poster)

Kosteniuk J, Morgan D, Elliot V, O'Connell M, Seitz D, Cameron C. Impact of rural primary health care memory clinics: Perceptions of team members. **Presented:** 16th Annual RaDAR Rural Dementia Summit. Saskatoon, SK. November 21-22, 2023 (poster).

Kosteniuk J, Morgan D, O'Connell ME, Cameron C, Elliot V. Subjective quality of life and service needs of rural primary health care memory clinic patients. **Presented:** 36th Global Conference of Alzheimer's Disease International (ADI) (hybrid event). April 24-26, 2024 (virtual poster).

Lang AE, Heinrichs V, Chorneyko A. Shoulder biomechanics can be altered by an acute training session to increase lower trapezius activation. **Presented:** 2023 Collaborating for Health and Wellness Virtual Research Conference, University of Manitoba, MB, November 2023.

Lang AE, Waslen A, Sims L. Examining the influence of full wrist fusion on shoulder kinematics during functional task performance. **Presented:** 2023 Collaborating for Health and Wellness Virtual Research Conference, University of Manitoba, MB, November 2023.

Lawson J, Jandaghi P, Goodridge D, Balbuena L, Cockcroft D, Kim M, Khanam U. The relationship between asthma and mental health conditions in national samples of Canadian children. **Presented:** 2023 European Academy of Allergy and Clinical Immunology (EAACI) Hybrid Congress. Allergy. 78

Morgan D, Kosteniuk J, O'Connell ME. Rural primary health care memory clinics: Past, present, and future. **Presented:** 2024 Canadian Consortium on Neurodegeneration Partners Forum and Science Days poster sessions. March 20, 2024. Montreal, QC, Canada (oral)

Morgan D, Bayly M, Kosteniuk J, Elliot V. Interprofessional rural primary healthcare memory clinics: Patient and family experiences. **Presented:** New and Notable Presentations at the 11th Canadian Conference on Dementia, Toronto, ON, November 4, 2023 (oral).

Morgan D, Bayly M, Kosteniuk J, Elliot V. Interprofessional rural primary healthcare memory clinics: Patient and family experiences. **Presented:** 11th Canadian Conference on Dementia, Toronto, ON, November 2-4, 2023 (poster).

Morgan D, Kosteniuk J, Bayly M, Elliot V. Interprofessional rural primary healthcare memory clinics: Patient and family experiences. **Presented:** 16th Annual RaDAR Rural Dementia Summit, Saskatoon, SK. November 21-22, 2023 (poster).

Morgan D, Kosteniuk J, O'Connell M, Seitz D, Elliot V, Cameron C. Esterhazy RaDAR Memory Clinic: Development and implementation. **Presented:** 16th Annual RaDAR Rural Dementia Summit. Saskatoon, SK. November 21-22, 2023 (poster).

Morgan D, O'Connell ME, Kosteniuk J. Issues in dementia care for rural populations. **Presented:** CCNA's Talking Brains Webinar Series, Virtual, January 16, 2024.

Movasaghi M, Haydary Foroushani M, Thompson B, Zhang L, Schwean-Lardner K, Kirychuk S. Investigating Cold Plasma application for Egg Surface decontamination purposes. **Presented:** CSBE/SCGAB AGM and Technical Meeting. Lethbridge, AB, Canada. July 23-26, 2023.

O'Connell ME. Moderator. Tik-Talks: Clinical tools and health services innovations for dementia. **Presented:** Canadian Consortium on Neurodegeneration in Aging (CCNA) Science Days, Montréal, March 20, 2024.

O'Connell ME, Walker J. Culturally safer cognitive testing and dementia case-finding for older First Nations adults. **Presented:** Canadian Association of Occupational Therapists (CAOT), September 26, 2023.

O'Connell ME, Camicioli R, Cammer A, Chertkow H, Desmarais P, Fisk JD, Freedman M, Friedman N, Geddes M, Ismail Z, Kirk A, Lee L, Morgan DG, Pettersen J. A virtual interdisciplinary diagnostic memory clinic: Rural patient and caregiver satisfaction. **Presented:** Canadian Neurological Sciences Federation's Congress, Banff, June 6-9, 2023.

Proulx, D., Kirk, A., O'Connell, M. E., & Morgan, D. Does anticholinergic medication use on patient presentation to a rural memory clinic affect cognitive or functional prognosis at one year? **Presented:** AD/PD 2024, Lisbon, Portugal, March 5-9, 2024.

Sun G, Kirk A, Karunanayake C, O'Connell ME, Morgan DG. Quality of life in patients with subjective cognitive impairment compared with those diagnosed with mild cognitive impairment or dementia referred to a rural and remote memory clinic. **Presented:** Alzheimer's Association International Conference (AAIC) 2023. Amsterdam, Netherlands and Virtual. July 16-20, 2023.

Walker J, O'Connell ME. Culturally safer cognitive testing and dementia case-finding for older First Nations adults. **Presented:** Clinical Workshop – Indigenous Wellness, University of Saskatchewan, Saskatoon, January 8, 2024.

Waslen A, Sims L, Sauder D, Lang AE. Wrist fusion surgery alters shoulder kinematics during functional tasks compared to non-fusion side. **Presented:** Orthopedic Resident Research Day, University of Saskatchewan, Saskatoon, SK, October 2023.

Waslen A, Sims L, Sauder D, Lang AE. Wrist fusion surgery alters shoulder kinematics during functional tasks compared to non-fusion side. **Presented:** College of Medicine Undergraduate Research Symposium, University of Saskatchewan, Saskatoon, SK, October 2023.

PROGRAMS



& SERVICES



AGRICULTURAL HEALTH AND SAFETY NETWORK

Stronger Together in Agricultural Health and Safety

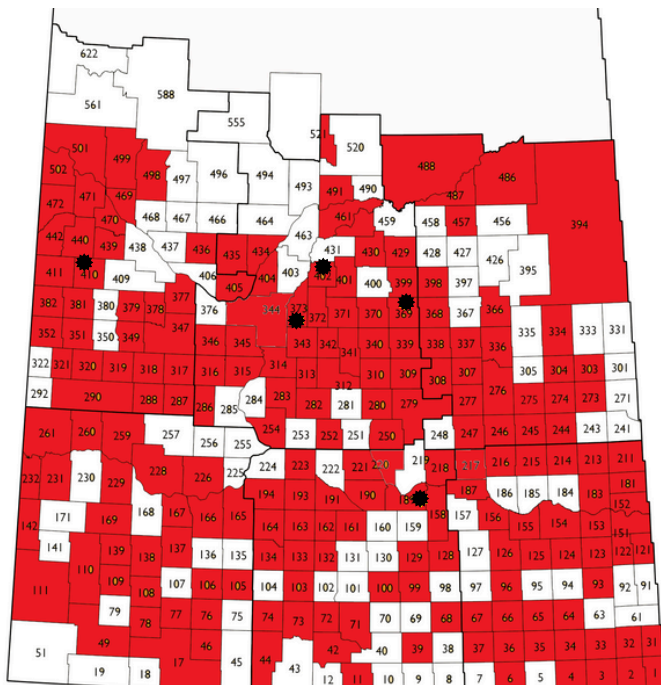
SERVING
22,000
SK farmer families

193
Rural Municipality members
GOAL: 224 RMS IN 2024

MAP OF NETWORK MEMBERSHIP: 2023-2024

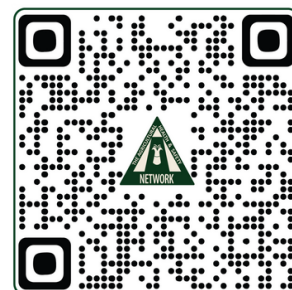
☀ Founder RMS - 1988:

RM of Lumsden No. 189, RM of St. Peter No. 369, RM of Aberdeen No. 373,
RM of Fish Creek No. 402, RM of Round Valley No. 410.



THE NETWORK FUNDING

- Each member RM pays \$4.60 per active farm family, capped at \$1500, plus a base fee of \$400.
- Grants from the Saskatchewan Ministry of Agriculture.
- Grants, sponsorships, and donor support.
- In-kind and matching from the Canadian Centre for Rural and Agricultural Health.



STEERING COMMITTEE

Thank you to our Network Steering Committee members who provide valuable grassroots feedback to the Network representing RM membership, farmers, and ranchers in each division of Saskatchewan and from the government. We encourage you to reach out and introduce your RM to your respective Division Steering Committee member.

Current Members

Division 1 Michelle Williams, RM of Wolsley, No. 155	Division 2 & 4 TBD
Division 3 Mark Hughes, Reeve for the RM of Miry Creek, No. 229	Division 5 Darin Pederson, Reeve for the RM of Prairie Rose, No. 309
Division 6 Ronald Gory, RM of Frenchman Butte, No. 501	Saskatchewan Ministry of Agriculture Angela Hall

Participation in Research



The Network is recruiting rural residents and Saskatchewan agriculture producers to participate in research projects and activities. The key outcomes from the research will then be used in resource development and then distributed back to Saskatchewan agricultural producers by the Network and our partners.

DOING RESEARCH

Understanding the current landscape in agricultural settings. What are current agricultural activities that are unsafe? What are some of the health concerns that producers have? How can we support them?

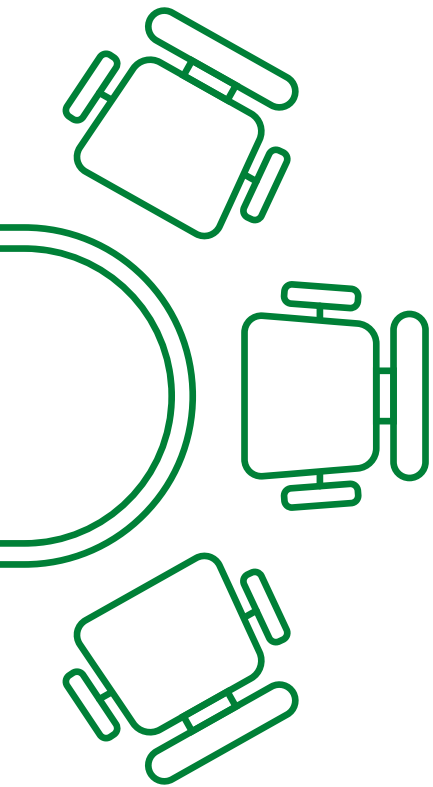
RESOURCE DEVELOPMENT

From the research, we develop resources. From videos to booklets, fact sheets to brochures, we take our research and apply it to take away items for agricultural producers both digitally and physically.

SHARING KNOWLEDGE

We share what we found! Attending trade shows, conventions, conferences, and rural municipality presentations to share our findings with RMs, government, and our partners!

PARTICIPATION IN BOARDS AND WORKING GROUPS



Canadian Agricultural Safety Association Provincial Partners

Roundtable - Representing Saskatchewan, The Canadian Centre for Rural and Agricultural Health.

Farm Health and Safety Council, Advisory Council to the Ministry of Labour Relations and Workplace Safety in Saskatchewan - representing The Canadian Centre for Rural and Agricultural Health.

Ag Health and Safety Alliance, Gear Up For Ag Program - coordinator and presenter for Saskatchewan Program delivery.

Canadian Agricultural Safety Association Board - representing the Canadian Centre for Rural and Agricultural Health.

Ag Large Animal Handling Learning Group - with Work Safe Saskatchewan - representing The Canadian Centre for Rural and Agricultural Health

SaskAgMatters

Farmer and Rancher Mental Health (FARMh) Initiative

Board Member and Treasurer, Western Yellowhead Air Management Zone (WYAMZ)

Voting Member, Canadian Standards Association Technical Committee on Management of Work in Extreme Conditions Z1010-18 (since 2015)

Voting Member, Canadian Standards Association Technical Committee on Psychological Health and Safety in the Workplace Z1003-13/BNQ 9700-803/2013. (since 2012)



- Ministry of Agriculture
- Ministry of Labour Relations and Workplace Safety

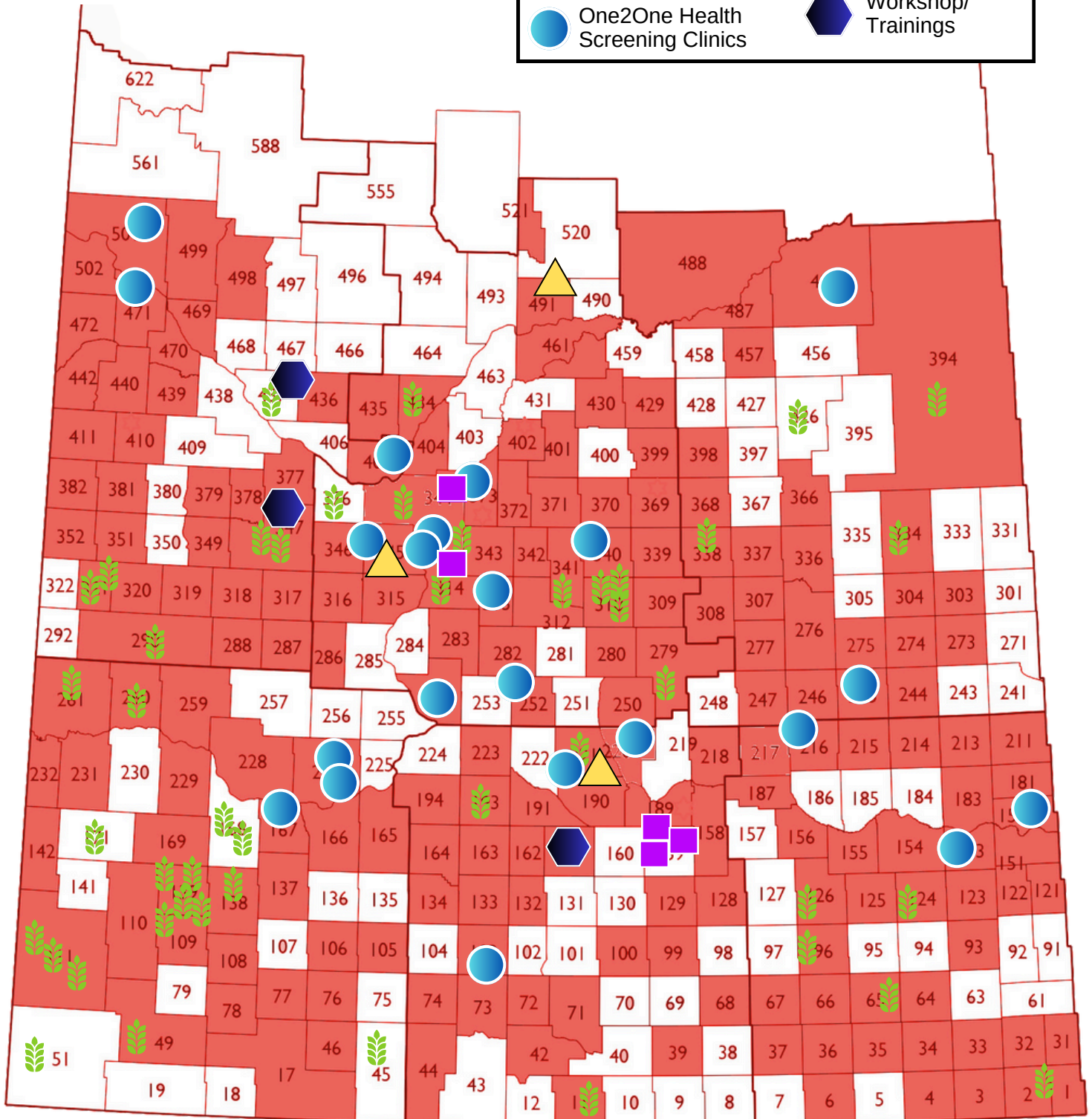
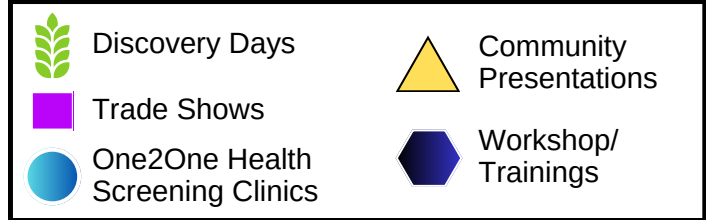


Work to live.



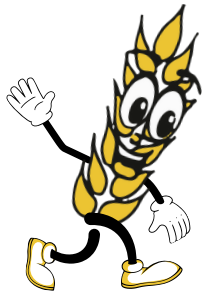
2023-2024 AGRICULTURAL AND SAFETY NETWORK ACTIVITIES

Rural municipalities in red are Network members.



DISCOVERY DAYS

What is Discovery Days?



Offered in rural member RM schools, the Agricultural Safety Discovery Days promotes safety awareness among rural Saskatchewan children. It aims to educate children on the potential hazards associated with farm work, equip children with the knowledge to identify and circumvent risks. In-person or virtual delivery designed for rural students in grades 4-6.



Two new Discovery Days demonstrations were added:

Power Take Off (PTO) Safety demonstration.

- Emphasizes safety when around power take-off (PTO).



Sun Safety demonstration.

- Provides a comprehensive overview of best practices to protect against sun exposure.



Beads before and after UV exposure



SaskPower High Voltage Display



Thank you to SaskPower for joining the Network at multiple Discovery Days presentations to talk about the importance of electrical safety in agriculture!

Thank You

SASKATCHEWAN WHEAT COMMISSION &
SASKATCHEWAN CANOLA DEVELOPMENT COMMISSION
For your continued support of the Discovery Days Program



Discovery Days Presentations

July 1 2023 - April 30 2024



Presentation Location

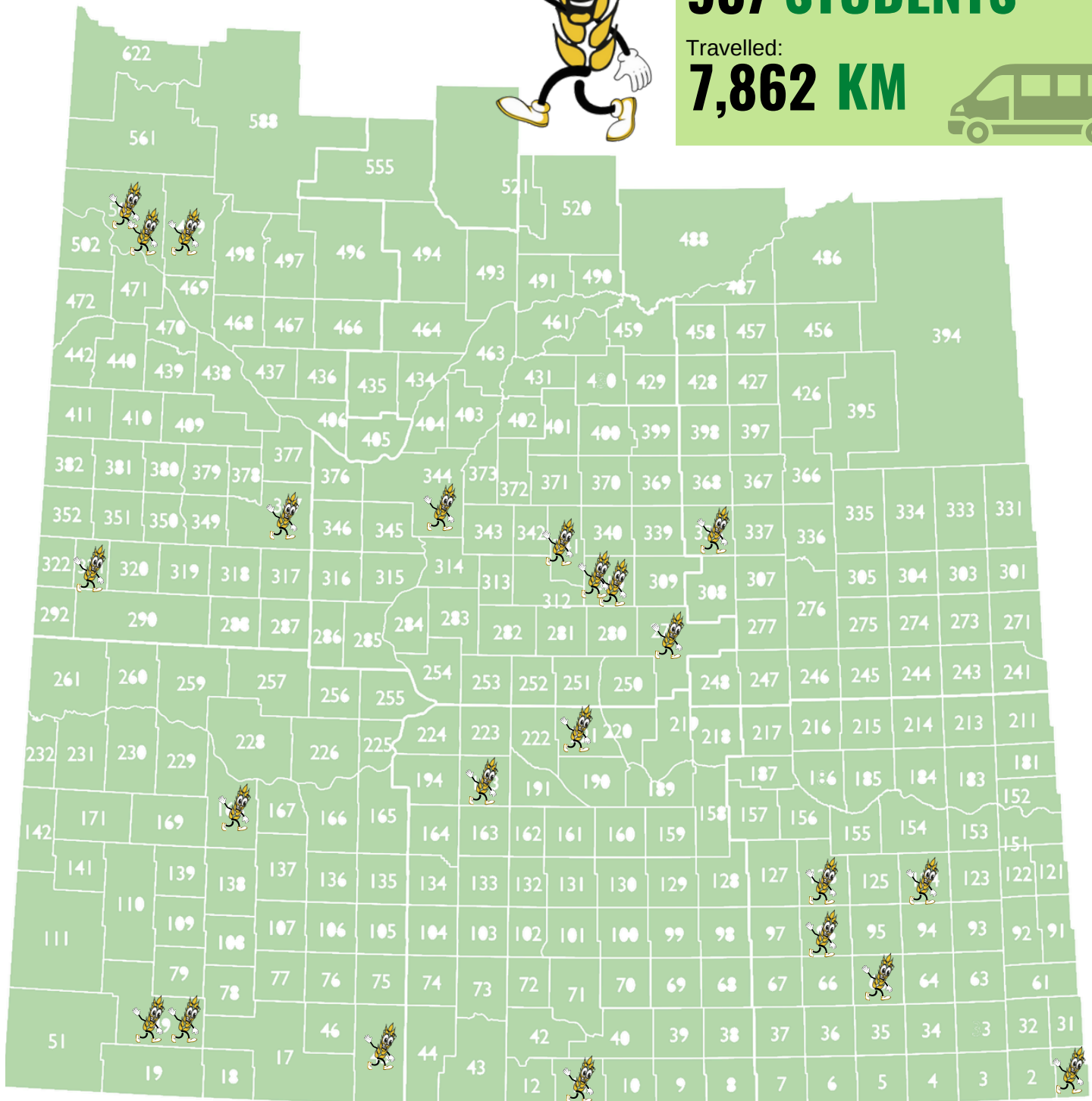


Delivered to:

23 SCHOOLS
937 STUDENTS

Travelled:

7,862 KM





LIST OF DISCOVERY DAYS PRESENTATIONS

July 1 2023 - April 30 2024

SCHOOL	DATE	RM NAME & No.	DIV	No. STUDENTS
Major School	October 4, 2023	RM of Prairiedale No. 321	6	6
Schell School	October 16, 2023	RM of Sarnia No. 221	2	33
Eyebrow School	October 17, 2023	RM of Eyebrow No. 193	2	15
Coronach School	October 19, 2023	RM of Hart Butte No. 11	2	40
Biggar Central School	October 24, 2023	RM of Biggar No. 347	6	38
Langham Elementary School	October 26, 2023	RM of Corman Park No. 344	5	42
Eastend School	November 8, 2023	RM of White Valley No. 49	3	17
33 Central School	November 14, 2023	RM of Fillmore No. 96	1	21
Kipling School	November 16, 2023	RM of Kingsley No. 124	1	70
Montmartre School	November 15, 2023	RM of Montmartre NO. 126	1	48
Mankota School	January 11, 2024	RM of Mankota No. 45	3	16
West Bench Hutterite Colony	February 6, 2024	RM of White Valley No. 49	3	17
Drake Elementary School	February 15, 2024	RM of Osborne No. 310	5	36
Raymore School	February 16, 2024	RM of Mount Hope No. 279	5	64
Viscount Central School	February 27, 2024	RM of Viscount No. 341	5	36
Carievale School	February 29, 2024	RM of Argyle No. 1	1	60
Stoughton Central School	March 1, 2024	RM of Tecumseh No. 65	1	68
Lanigan Elementary School	March 7, 2024	RM of Osborne No. 310	5	81
Quill Lake School	March 11, 2024	RM of Lakeside No. 338	4	40
Success School	April 10, 2024	RM of Riversite No. 168	6	26
Turtleford Community School	April 16, 2024	RM of Mervin No. 499	6	62
Paradise Hill School	April 16, 2024	RM of Frenchman Butte No. 501	6	38
St. Walburg School	April 17, 2024	RM of Frenchman Butte No 501	6	63

AGRICULTURAL SAFETY DISCOVERY DAYS

BOOK NOW

Call:
306-966-6644

or

E-mail:
shs954@mail.usask.ca



ONE2ONE HEARING AND RESPIRATORY CLINICS

At the clinics, farmers and farm workers have access to a unique opportunity to meet with a trained agricultural health nurse, in a confidential setting, to address their health and safety concerns. Our program offers personalized check-ups, tailored to the specific risks and exposures associated with agricultural work. Our agricultural health nurses provide resources and referrals to optimize the personal health and safety of each participant.



Delivered to:
135 participants

Travelled:
5,779.4 KM

				One2One	CANWORKSAFE	
Clinic Date	RM No.	Location	Div.	Ratepayers Screened	RM Employees	Trip-Kms
July 5, 2023	RM of Eldon No. 471	Maidstone, SK	6	0	15	436.6
July 12, 2023	RM of Wolverine No. 340	Burr, SK	5	1	9	262
Nov. 29, 2023	RM of Sarnia No. 221	Holdfast, SK	2	5	5	362.8
Dec 13, 2013	RM of Victory No. 226	Beechy, SK	3	12	0	367.2
Dec. 19, 2023	RM of Aberdeen No. 373	Aberdeen, SK	5	5	0	82.2
Jan. 16, 2024	RM of Spy Hill No. 152	Spy Hill, SK	1	5	4	1077
January 31, 2024	RM of Great Bend No. 405	Borden, SK	6	4	4	104.8
February 13, 2024	RM of McKillop No. 220	Bulyea, SK	2	4	5	464.8
February 15, 2024	RM of Lost River No. 313	Allan, SK	5	6	4	99.6
February 28, 2024	RM of Tullymet No. 216	Balcarres, SK	1	7	1	680
March 11, 2024	RM of Vanscoy No. 345	Vanscoy, SK	5	3	3	62.4
March 19, 2024	RM of Garry No. 245	Jedburgh, SK	4	10	1	686
March 28, 2024	RM of Willowdale No. 152	Whitewood, SK	1	8	2	869
April 18, 2024	RM of Loreburn No. 254	Loreburn, SK	5	6	6	245

ONE2ONE **HEARING HEALTH** **CLINICS FOR FARMERS**



>>> CLINIC PARTICIPANTS WILL: <<<

- Complete a hearing health questionnaire and review personal agriculture hazards.
- Participate in audiometric (hearing) testing.
- Receive copy and interpretation of test results.
- Instruction will be given on proper use and care of hearing protection for the workplace.
- Referrals made for follow-up if necessary.
- Increase awareness of Agricultural Health and Safety Resources/Programs



>>> HOSTED BY: <<<

WHEN:

WHERE:

FOR APPOINTMENTS CALL:



STRONGER TOGETHER IN AGRICULTURAL HEALTH AND SAFETY



UNIVERSITY OF SASKATCHEWAN
 Canadian Centre for Rural
 and Agricultural Health
 CCRHA CCRHA.ORG.CA



Government
 of
 Saskatchewan

Are you interested in hosting a hearing or respiratory clinic for your farm families and RM Employees?

Contact (306) 966 - 6643 or via email

If your RM is interested in offering a Hearing Loss Prevention Clinic for RM employees, please reach out! Many RMs request to hold a clinic for RM employees and farmers on the same day. We look forward to working with your RM!



GEAR UP FOR AGRICULTURAL HEALTH AND SAFETY

Delivered:

- November 16, 2023, Saskatchewan Polytechnic, Moose Jaw, SK
- April 17th, 2024, College of Agriculture and Bioresources @ University of Saskatchewan, Saskatoon, SK



Gear Up for Ag Health & Safety trains the next generation in agricultural health & safety practices: post-secondary ag students attending trade schools, colleges and universities. Students are encouraged to share safety practices with family and friends, reaching multiple generations living and working together in agriculture. These students go on to work in many parts of agriculture including ag business, ag extension, ag education, ag trades, on farm operations, public health, veterinary medicine, and many more applications.

The Agricultural Health and Safety Network partnered with the Ag Health & Safety Alliance to plan and deliver the *Gear Up for Ag Health and Safety Program* to Year 1 and Year 2 students in the Agriculture and Food Production Program at Saskatchewan Polytechnic in November, then students in the College of Agriculture and Bioresources at the University of Saskatchewan in April.

**Moose Jaw, SK, RM of Moose Jaw
No. 161, Division No. 2
34 participants & 229 Km/trip**

**Saskatoon, SK, RM of Corman Park
No. 344, Division No. 5
40 participants, 900 M**



Agricultural Health and Safety Network Team

MANAGER

Kendra Ulmer, RN leads all activities relating to the Network including clinics, resources and partnerships.

LEADS

Dr. Shelley Kirychuk is the Director of the Centre and co-leads the Knowledge Translation (KT) Laboratory.

Dr. Niels Koehncke is a faculty member at the Centre specializing in occupational hygiene and co-leads KT.

DISCOVERY DAYS PRESENTERS

Sheri Pedersen

Leanne Schell

Robyn Gerbrandt

Marie McKevitt

STAFF

Shelly Sander leads Discovery Days activities and presentations. Shelly also helps facilitate Network outreach activities such as trade shows and coordinates events.

Joan Ulmer supports the CANWORKSAFE clinics and Network booths at tradeshow.

Tess Kelly is as a Knowledge Translation Specialist and has been a great asset to Network programs.

Dr. Matthieu Girard is the CCRAH KT Manager and oversees the overall direction and coordination of the Centre's knowledge mobilization, including programs, clinics, and projects.

Sueli Bizetto de Freitas is the Public Relations and Communications Coordinator. She designs and manages communications, and brings key institutional knowledge and experience.

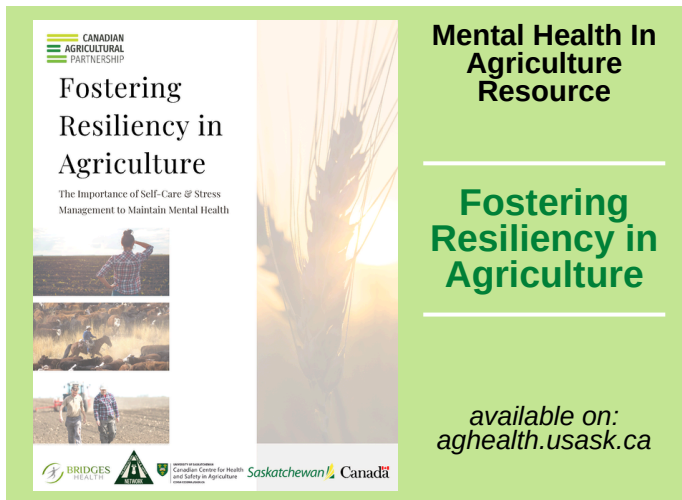
Katie Thompson is a graphic designer, and helps with program website management, knowledge mobilization, and communications.

Dr. Merle Massie is a professional research associate. Merle brings award-winning writing depth, freelance journalism, and editing experience to Network communications, and helps with Discovery Days, trade shows, and Network research projects.



**STRONGER TOGETHER IN
AGRICULTURAL HEALTH AND
SAFETY**

MENTAL HEALTH IN AGRICULTURE



- We are committed to promoting and encouraging farmers about mental health by providing mental health resources at Network outreach events such as tradeshow, presentations, and One2One Health Clinics.
- The Network continues to put boots on ground networking with other organizations across Canada that are focused on delivering programs and resources for agricultural producers.
- The Network was a panel participant in a Mental Health in Agriculture webinar presented by the Saskatchewan Ministry of Agriculture in January 2024. Other panel participants include CCRAH and SaskAgMatters.



The Agricultural Health and Safety Network is dedicated to fostering partnerships between farmers, academics, and provincial and national levels of government as well as continuing to advocate for additional resources, programs, and supports for Mental Health in Agriculture.

- The Network is involved in a CIHR research project proposal developed by CCRAH called “Saskatchewan Mental Health in Agriculture”. The Network Steering Committee was also apart of the process by giving input on the project proposal.
- A farm visit with the Governor General of Canada happened on April 2024 to discuss mental health in agriculture. This visit is a collaboration between Saskatchewan Polytechnic (FARMh), SaskAgMatters, the Network, the Canadian Centre for Rural and Agricultural Health and Saskatchewan producers.
- The Network continues to receive excellent feedback from SK agricultural producers and other provinces about resources on our website. The videos, fact sheets, and booklet resources are used by farmers, agricultural professionals, and rural dwellers from Saskatchewan and across Canada.
- The “In The Know” Workshops are returning this year! An agreement with the University of Guelph was recently signed to deliver more workshops.
- The Network continues to partner and promote the Saskatchewan Ministry of Agriculture Farm Stress Line and SaskAgMatters to bring awareness to accessible mental health resources that agricultural producers can feel comfortable turning to.

SASKATCHEWAN FARM SAFETY PLAN

About the Project

The Network partnered with Saskatchewan Ministry of Agriculture, Ministry of Labour Relations and Workplace Safety, Vital Insight (consulting) and SK producers to develop and pilot test practical resources and online modules to assist SK Producers to start the process of creating a SK farmer safety plan.

With the goal of creating practical, supportive and effective resources, tools, and access to consultation that will meet the needs of SK farmers, ranchers, and producer groups in creating and maintaining an impactful farm safety plan.



The Progress

2015 - 2018



The Network developed and delivered a Farm Safety Plan resource and workshop in collaboration with Reg Stewart.

Promotion of the Canadian Farm Safety Plan Workshop was developed by the Canadian Agricultural Safety Association (CASA).

Saskatchewan Ministry of Agriculture approached the Network encouraging a grant application and partnership to Canadian Agriculture Partnership Program (CAP) to support the SK Farm Safety Plan Pilot project. The Network then prepared a grant application.

2020- 2022

Saskatchewan Farm Safety Plan Pilot Project.

The Network and partners recommend next steps for the project to the Ministry of Agriculture with a request for funding partnerships to support.

April 2023 - Present

A contract is being reviewed and awaiting approval by the Ministry of Agriculture and by the University of Saskatchewan.

Thank You

to our partners that have contributed to the success of the outreach activities of the Agricultural Health and Safety Network!



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Saskatchewan Association
of Rural Municipalities



Government
— of —
Saskatchewan



AGRIVITA
CANADA INC.

WWW.AGRIVITA.CA



CASA | ACSA

CANADIAN AGRICULTURAL SAFETY ASSOCIATION
ASSOCIATION CANADIENNE DE SÉCURITÉ AGRICOLE



Farm Credit Canada
Financement agricole Canada



Innovate. Grow. Prosper.



Ag
Health & Safety
Alliance



Work to live.



BRIDGES
HEALTH



Chiropractors'
Association of
Saskatchewan



SunSmart
SASKATCHEWAN



SaskPower
Powering the future[®]



SaskCanola



Science.
Applied to Life.™

RURAL AND REMOTE MEMORY CLINICS

Improving the Care of Persons with Dementia in Rural and Remote Areas

SPECIALIST RURAL AND REMOTE MEMORY CLINIC

From March 1, 2023 to April 30th, 2024, more than 75 patients (and 83 family members and caregivers) attended the specialist Rural and Remote Memory Clinic in Saskatoon for an initial or annual review appointment with the team.

The RaDAR team implemented the specialist Rural and Remote Memory Clinic (RRMC) at the University of Saskatchewan in 2004, to provide diagnosis and management of atypical and complex cases of suspected dementia. The one-stop interdisciplinary clinic streamlines the assessment process by coordinating a complete team assessment on one day and uses Telehealth videoconferencing for follow-up appointments. The specialist RRMC was started as a research project and was subsequently funded by the Saskatchewan Ministry of Health to provide clinical services to Saskatchewan residents. Since 2004 over 890 patients have been seen in the clinic.



RRMC and researcher team meet in research room to discuss patient assessments (photo taken before COVID-19). -Image credit to Honey Cut Studios



Clinic team feedback meeting with patient in family consultation room (photo taken before COVID-19). -Image credit to Honey Cut Studios

Several team members support the RRMC including: Dr. Debra Morgan (Administrative Director), Dr. Andrew Kirk (Neurologist), Dr. Megan O'Connell (Neuropsychologist and Clinical Director), Darla Walz (Clinic Nurse), Duane Minish (Psychometrist), Jennifer Fairbairn (Physical Therapist), Julie Jensen (Physical Therapist, retired March 2024), Shelley Biller (Clerical Support), and August Kortzman (PhD student in Clinical Psychology).

RURAL PRIMARY HEALTH CARE MEMORY CLINICS

RaDAR rural memory clinics are in operation in the communities of Bengough-Radville, Carlyle, Esterhazy, Kipling, Lampman, Maryfield, and Weyburn. During the period from July 1, 2023 to April 30, 2024 a total of 23 memory clinics were held across these locations.

The core of the Foundation program is to design, implement and sustain rural primary health care (PHC) memory clinics that offer initial evaluation and management of individuals with suspected dementia, and scale-up the clinics to additional communities. Monthly 1-day memory clinics have been established in the southeast Saskatchewan communities of Kipling, Weyburn, Bengough, Radville, Carlyle, Maryfield, Esterhazy, and Lampman. Clinic team members vary by community and include physicians, nurse practitioners, home care nurses/assessors, social workers, occupational therapists, physical therapists, dietitians, pharmacists, and Alzheimer Society First Link coordinators.



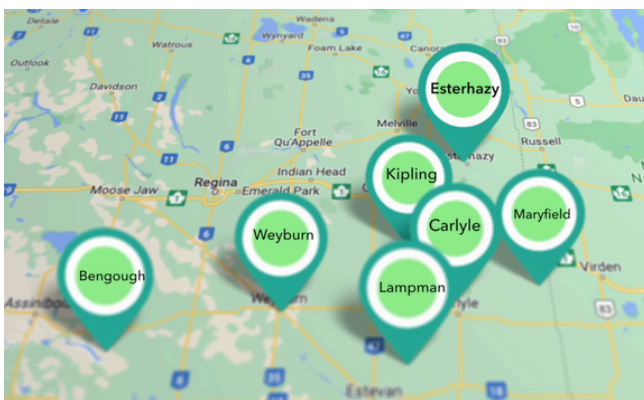
Esterhazy Memory Clinic team

Esterhazy Clinic Team: *Carolee Zorn* (Alzheimer Society First Link Coordinator), *Jenna Kulovany* (Community Pharmacist), *Holly Scheier* (PHC Manager), *Glenda Erickson* (Occupational Therapist), *Dr. Mandi Nel* (Esterhazy Family Physician)

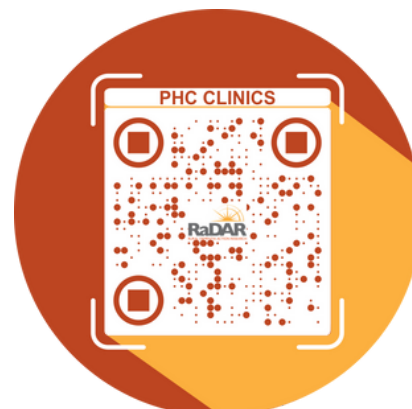


Lampman Primary Care Clinic

Lampman Clinic Team: *Lori Tulloch* (Alzheimer Society First Link Coordinator), *Amanda Hagel* (Home Care Nurse), *Shelley Fichter* (Office Manager), *Lois Coffey* (Nurse Practitioner), *Jaqueline Lemieux-Currie* (PHC Facilitator), *Brooke McDonald* (Occupational Therapist), *Jannea Lesy* (Physiotherapist)



Map of Rural Primary Health Care Memory Clinics



CANWORKSAFE

CANWORKSAFE provides occupational health and safety screening and services to companies in Saskatchewan since 1987. The CANWORKSAFE program provides services such as: **(a)** Respirator fit testing, **(b)** Audiometric testing, **(c)** Respiratory testing and many more. These services are offered for a fee. If your RM is a member of the Agricultural Health and Safety Network, your RM receives a discount.

Want our CANWORKSAFE Clinic at your place of employment or local RM?
Contact (306) 966-6643 or via email



K. Ulmer, B. Thompson, Dr. N. Koehncke, Dr. S. Kirychuk, J. Ulmer



OCCUPATIONAL MEDICINE CLINIC

Faculty Lead: Dr. Niels Koehncke
Through the Saskatchewan Health Authority and
Department of Medicine

SLEEP MEDICINE CLINIC

Faculty Lead: Dr. James Dosman
Through the Saskatchewan Health Authority and
Department of Medicine



KNOWLEDGE



MOBILIZATION

BOOTS on the Ground

The Canadian Centre for Rural and Agricultural Health launched a bi-monthly newsletter titled “Boots on the Ground.” This newsletter serves as a platform to disseminate important information, research findings, and achievements to our valued collaborators, community members, and industry partners. Through “Boots on the Ground,” CCRAH aims to foster stronger connections, promote health outcomes, and enhance safety practices for rural and agricultural communities in Saskatchewan, across Canada, and even globally!



BOTG

**Scan the QR Code to subscribe to the
Centre’s Boots on the Ground
Newsletter!**



The Canadian Centre for Rural and Agricultural Health remains steadfast in its commitment to fostering robust connections with academic partners, community members, and beyond. Recently, we took a significant step by launching our Facebook and LinkedIn pages as well as building our Twitter/X presence. These platforms serve as dynamic channels to share the impactful work being done in-house, engage with a wider audience, and strengthen our network. Through these pages, the Centre aims to bridge the gap between research, practice, and community.

NEW RESOURCES

PRINT

Network News Edition #53



Delivered to:
193 Member RMs

Reaches:
22,000 Farm Families

In the Winter 2023 edition you will find two stories of farm incidents – one a tragedy with a real impact on Saskatchewan history, and one a lesson in farm safety. Stories help us learn from other farmers on how to make good decisions and come home safe. No one heads out in the morning thinking that they will have trouble, but incidents happen. These stories show the importance of active conversations about farm safety. Be observant, slow down, consider risks, and communicate with others about where you will be and how often everyone should check in. Keep safety at top of mind and plan the upcoming season and how you could make changes to your farming practices to make 2024 a safer year on your farm.

Network News Edition #54

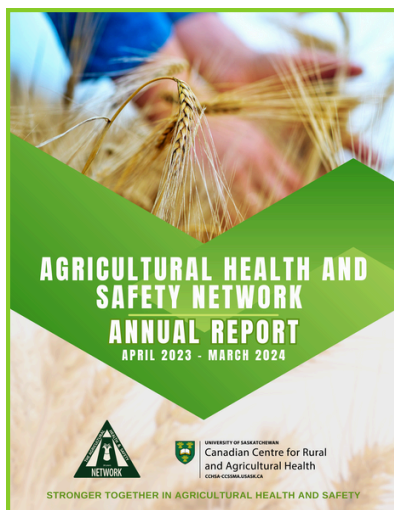


This edition of the Network News provides plenty of quick reads to help you stay on top of safety this season.

Springtime in Saskatchewan isn't always a sure thing with the weather changing from sunny blue skies to grey snow clouds in a day! As you are gearing up to head out into the fields take some time to think about health and safety on your farm to make the 2024 growing season your safest season yet. Health and safety around the farm encompasses a wide range of hazards from sun exposure in the hot summer months to respiratory hazards from dusts and chemicals.

The most important part of your farm is the people – you, your family and your farm workers are what make your farm a success! Both communication and farm safety are essential for a successful farm. Creating an environment of communication provides a space for everyone to express their health and safety concerns and to discuss how to best stay safe on the farm. Spring is the perfect opportunity to take some extra time to talk about safety around the farm and to set-up a routine for incorporating time to “talk safety” as you head into the season. We are stronger together in Ag Health and Safety!



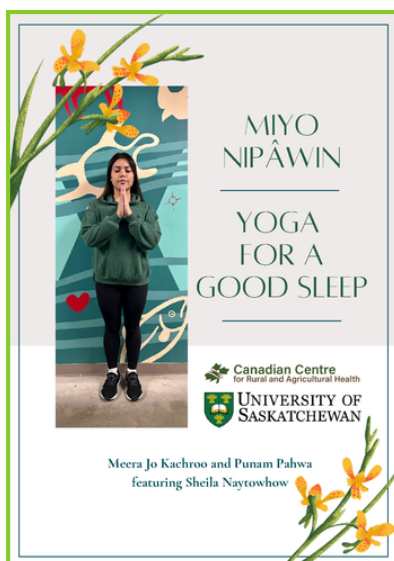


Agricultural Health and Safety Network 2023-2024 Annual Report

The Network's 2023-2024 Annual Report is now accessible on the Network's website! It features highlights from the past year, including clinics, Discovery Days, trade shows, and events.

Improving the Care of Persons with Dementia in Rural and Remote Areas

The Network, in partnership with the Rural Dementia Action Research (RaDAR) team from the Canadian Centre for Rural and Agricultural Health, developed a resource about rural dementia and how to access RaDAR's services. This resource includes information about the Specialist Memory Clinic at the University and Saskatchewan as well as their seven Rural Primary Health Care Memory Clinics in southern Saskatchewan.



Miyo Nipawin - Yoga for a Good Sleep

This booklet was created for our First Nations community partners to engage in learning and practicing yoga as part of our CIHR-funded project "Assess, Redress, Re-assess: Addressing Disparities in Sleep Health Among First Nations People"



Activity 7: Activity 1-6 Program-Wide Knowledge Transfer

Research led by Dr. Koehncke, Canadian Centre for Rural and Agricultural Health, UofS.

- Many knowledge transfer resources were developed and published over the past year, including a total of 15 CANFARMSAFE bulletins. Each bulletin was one to four pages in length focusing on primarily on project results and important conclusions. Bulletins can be found on the Agrivita website at www.agrivita.ca.
- In addition to the planned outputs, the KT team also pursued other endeavours to increase dissemination and transfer of project information. A recruitment flyer was produced for Activity 6 to help find farmer participants willing to build a ROPS for their tractor. To increase our in-person presence, the KT team participated in various tradeshow. Relevant results from the 6 AgriSafety activities were also included in the Agricultural Health and Safety Network's Discovery Days presentations.
- In February 2024, a hybrid version of the Annual Collaborative Meeting was held where teams gathered in person either in Saskatoon or Québec City. Both groups met virtually through Zoom. This meeting was a success and provided an excellent platform for the teams to discuss and collaborate on challenges and current project findings.
- With help from the U of S Media Production team, a summary video was produced for each Activity. Videos focus on telling the story of each project and emphasize the resulting methods developed and the final outputs when available. The videos are available on the CCRAH's YouTube channel: www.youtube.com/@cchsa25



Testing a New Technology for Solid Manure Incorporation

Manure spreading on agricultural land is beneficial for crop production, but it can have adverse consequences for the environment and for human health. Researchers leading the Fugitive Emissions Following Manure Spreading - Risk Assessment and Engineering Controls project have quantified airborne emissions from manure spreading both in a controlled environment and in the field. Following this study, the research team wanted to test mitigation strategies in order to reduce the airborne emissions. A new manure spreading equipment (Figure 1) developed by Prairie Agricultural Machinery Institute (PAMI) was refurbished and shipped to the IRDA's research facility in St-Lambert-de-Lauzon, Québec for this purpose. Instead of spreading solid manure over land as with conventional equipment, the PAMI spreader uses screw augers to deposit the manure on the surface and then incorporate it into the soil. By directly mixing the manure into the soil, it will hopefully be possible to avoid the release of fugitive air contaminants.

Methodology

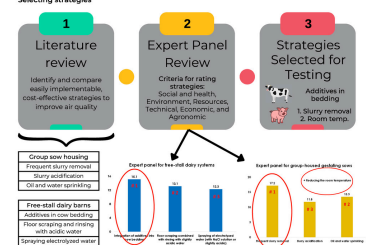
The PAMI spreader was compared to conventional horizontal and vertical beater spreaders (Figure 2). Three spreading tests using solid poultry manure were conducted for each type of equipment. Gases (ammonia - NH₃, carbon dioxide - CO₂, methane - CH₄ and nitrous oxide - N₂O) were measured with an FTIR gas analyser at a fixed point in the field. Odour intensity was measured by collecting samples in gas bags 30 minutes before, during and 30 minutes after spreading. Odour samples were then compared to standard concentrations of a reference odorant (n-butanol) by a team of qualified panelists.



Improving Air Quality in Sow Group Housing and Free-Staff Dairy Barns

In response to social and market pressures, next-generation livestock production systems are integrating modern animal welfare considerations so that animals can express natural behaviour and move more freely. However, the increased movement of animals is likely to produce more airborne particles and gases and increase the health risks associated with air quality. To reduce these health risks, the Developing Strategies to Minimize Health Risks in Next-Generation Livestock Buildings Integrating Modern Animal Welfare Considerations project is researching strategies to improve air quality in these next-generation barns.

Selecting strategies



VIDEOS



We Are The Canadian Centre for Rural and Agricultural Health

The Canadian Centre for Rural and Agricultural Health released a video in honours of our name change. To showcase who we are and the work we do, we developed this video so others can see, hear, and feel our impact in rural and agricultural communities throughout Saskatchewan.



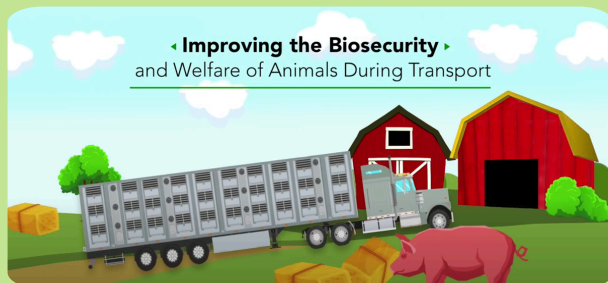
RaDAR Memory Clinic in Esterhazy, Saskatchewan

RaDAR Memory Clinics are available in a growing number of rural Saskatchewan communities. The Rural Dementia Action Research (RaDAR) Team developed this video with HoneyCut Studios focusing on the memory clinic in Esterhazy, Saskatchewan which is led by a Family Physician.



Building for the Future: Housing and Health Forum - Graphic Recording

This is an animated version of graphic recordings from the Building the Future: Housing and Health Forum developed by FuseLight. These designs were developed to represent common themes from round table discussions that happened during the symposium between community members, industry partners, and academic researchers.



Agrivita Activity 1



Agrivita Activity 2



Agrivita Activity 3



Agrivita Activity 4



Agrivita Activity 5



Agrivita Activity 6

Agrivita Activity 1 - Improving Animal Biosecurity and Welfare during Transport

Agrivita Activity 2 - Green Technologies to Reduce Aerosol Risks in Livestock Production

Agrivita Activity 3 - Fugitive Emissions Following Manure Spreading

Agrivita Activity 4 - Animal Welfare and Air Quality

Agrivita Activity 5 - Take a Break from the Shake

Agrivita Activity 6 - Low-Cost Farmer Built Roll-Over Protective Structures

TRADE SHOWS, PRESENTATIONS, AND CONFERENCES

TRADE SHOWS

Why do we attend Trade shows?

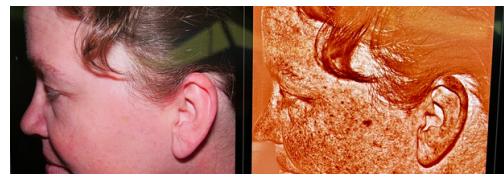
The Canadian Centre for Rural and Agricultural Health is dedicated to putting boots on the ground to connect with Saskatchewan's rural and agricultural populations through attending agricultural trade shows across the prairies. The Agricultural Health and Safety Network attends trade shows to share resources, information, and support to those who live in rural and agricultural communities.



Ag in Motion

July 18-20, 2023 - Langham, SK

The Agricultural Health and Safety Network teamed up with The Canadian Agricultural Safety Association (CASA) for a portion of Ag in Motion as well as with the Saskatchewan Cancer Society, Sun Smart SK - highlighting the importance of Sun Safety on the farm. We had a special UV camera on-site, allowing farmers to see the impact of the sun on their face and ears.



 **Ag in Motion™**
Western Canada's Outdoor Farm Expo



Canadian Western Agribition

November 20-25, 2023 - Regina, SK



Collaboration between the Agricultural Health and Safety Network and SaskAgMatters resulted in a shared booth at the Canadian Western Agribition trade show held in Regina, SK between November 20-25, 2023



Canadian Western Crop Production Show

January 9-11, 2024 - Saskatoon, SK

The Agricultural Health and Safety Network staff enjoyed every moment spent exchanging tips on agricultural health and safety with all those who visited our booth. The young ones were especially enchanted by the Discovery Days grain engulfment demonstration!



Saskatchewan Safety Seminar Trade Show

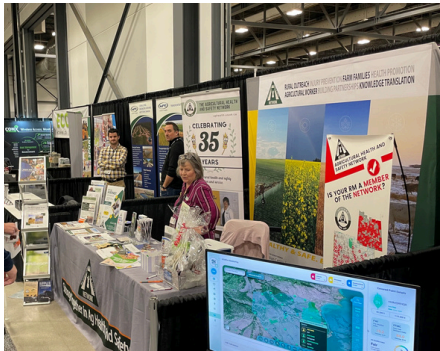
February 6-8, 2024 - Saskatoon, SK

The Agricultural Health and Safety Network teamed up with the Saskatchewan Safety Council to participate in the 2024 Saskatchewan Safety Seminar. They set up a booth during the trade show, and it was a big hit. Numerous individuals expressed interest in learning more about the Network's farm safety resources.

SARM Annual Convention & Trade Show

March 13th-15th, 2024 - Regina, SK

The Agricultural Health and Safety Network attended SARM's Annual Convention and Trade Show 2024 in Regina, SK on March 13th-15th. During the convention and trade show, the Network had a strong presence. We hosted our AGM breakfast, operated a trade show booth, gave award presentations to the whole convention, and led a informal steering committee meeting.



The Network also cheered on associate Merle Massie who was the SARM Fireside Chat speaker on SK rural and health history. At the Network booth, we shared resources and connected with rural dwellers from across Saskatchewan. Booth visitors had an opportunity to win a door prize, along with some Network merchandise.



Trade Show Feedback



New this year, the Agricultural Health and Safety Network has been conducting surveys during trade shows to get feedback from producers and stakeholders as well as to help orient the Network's efforts. Here are the main conclusions from surveys conducted at Agribition in December and at the Crop Production show in January:

- Health and safety concerns vary quite a bit depending on the type of farm, past experiences and personal inclinations.
- Other than on-farm risks (machinery, chemicals, noise and animals for example), many participants were concerned about mental health, kids on the farm, older farmers, and new workers.
- Trade shows and printed resources mailed to the farmgate are the preferred methods of receiving agricultural health and safety health information and resources.
- Unfortunately, only 16% of respondents currently have a Farm Safety Plan for their farm or ranch. For those who don't have a plan, around 30% would be interested in exploring the process of developing a Farm Safety Plan.

PRESENTATIONS

Rural Municipality Presentations

The Agricultural Health and Safety Network attended rural municipality council meetings to discuss the Network's mission, goals, activities, and the benefits of being a member!

Date	RM Name and No.	Div.	Trip-Kms
9/8/2023	RM of Sarnia #221, Holdfast, SK	2	181
13/12/2023	RM of Rudy #284	5	87.4

Saskatchewan Transportation Annual Convention: Transportation Growth and Prosperity in Saskatchewan

October 10-12th, 2023 - Saskatoon, SK

Dr. Shelley Kirychuk, director of the Canadian Centre for Rural and Agricultural Health (CCRAH), and Kendra Ulmer, RN, manager of the Agricultural Health and Safety Network, were invited to present in the Transportation Growth and Prosperity in Saskatchewan Annual Convention. With the opportunity to attend as presenters and tradeshow participants, Kirychuk and Ulmer showcased CCRAH and Network's identity, partnerships, research, programs, services, and knowledge mobilization activities. The Network also presented on "Rural Road Safety," highlighting Canadian campaigns, programs, and initiatives intended for rural motorists and farm machinery operators.



Progressive Agriculture Safety Days

June 1, 2023 - Biggar, SK



Progressive Agriculture
Safety Day® Program

The Agricultural Health and Safety Network took part in the Progressive Agriculture Safety Day held in Biggar! This event is a health education initiative aimed at children in North America to provide training, education, and resources to make farm, ranch, and rural life safer and healthier for all children and their communities.



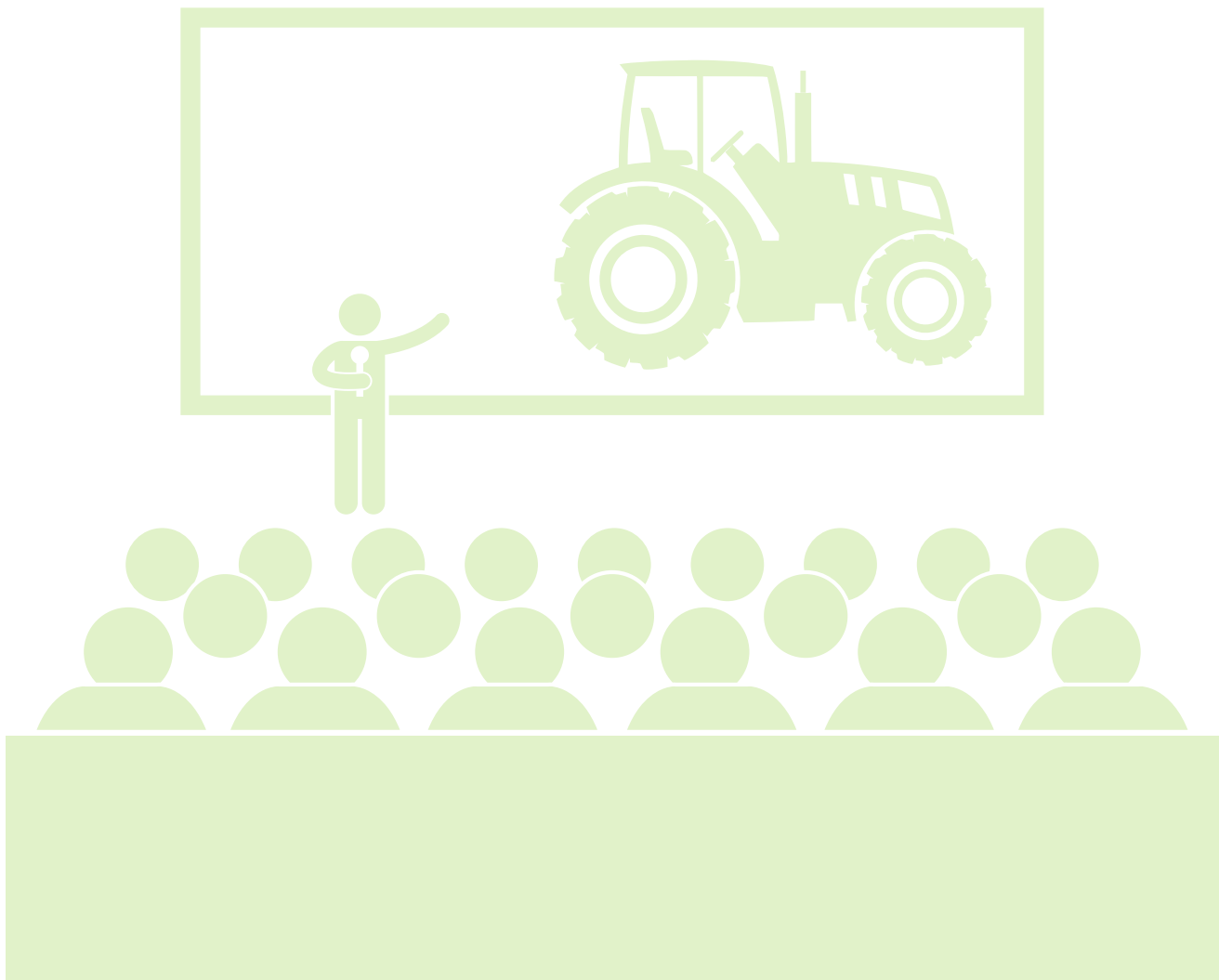
Progressive Ag Days in Biggar, SK

Afternoon of Agriculture

March 6th, 2024



The Agricultural Health and Safety Network attended and presented at "Afternoon in Agriculture" on March 6, 2024 at Spruce Home Hall. The Agricultural Health and Safety Network had the opportunity to give a great program presentation about our services, partnerships and outreach initiatives. We also made some great connections for RM member recruitment! Looking forward to participating again next year!



CONFERENCES & MEETINGS



Canadian Agricultural Safety Association Annual Online Conference

October 16-17, 2023

CASA's annual online conference brought together industry professionals, academics, and farmers from across Canada together to discuss agricultural health and safety, injury prevention and statistics, as well as inclusion and equality in agriculture.

Saskatchewan Ministry of Agriculture Seminar

January 28th, 2024

Hybrid seminar hosted by the Ministry of Agriculture. CCRAH, the Network, and SaskAgMatters gave a presentation on mental health in farming.



Women in Agriculture "Connect - The Heart of the Farm"

November 7-9, 2023 - Saskatoon, SK

Connecting with SK women in Agriculture! Excellent opportunity to share more about the "The Network" and advocate for health and safety in agriculture!



Grow Canada

November 28-30, 2023 - Calgary, AB

The Canadian Centre for Rural and Agricultural Health attended the Grow Canada Conference held in Calgary, AB November 28-30 2023. Grow Canada is a premiere event where Canada's agriculture leaders from across the country gather to explore cutting edge issues, network, and grow the sector. It is sponsored by some of the largest ag retail, financing, seed, nutrient, and crop solution industry partners and attended by hundreds of leaders in Canadian agriculture, from industry to government. Merle Massie attended on behalf of the Centre. Via networking at the conference, Massie reports that it's clear that the Centre has an opportunity to grow its profile across Canada as the leading research, service, and outreach entity supporting rural and agricultural health, and recommends working with Grow Canada in future years to showcase rural and agricultural health as a key aspect of the Canadian agriculture industry. As Canadian agriculture develops codes of sustainable practice, our Centre is well-positioned to benchmark our work for increased health, wellness and safety for all agricultural producers as an important contribution in the area of social sustainability.

Farm & Food Care Saskatchewan “Cultivating Trust”

February 8, 2024 - Saskatoon, SK



The conference was geared towards the agriculture industry, to better understand how and where are the opportunities to cultivate public trust in the agriculture industry.

The conference was well attended by professionals across Saskatchewan, representing the provincial Ministry of Agriculture, various provincial producer organizations, the Saskatchewan irrigation community, agri-food production organizations, and many more. Two sessions drew specifically from Saskatchewan’s irrigation sector, to talk about how irrigation is working to understand, address, and uphold public trust. Keynote speaker Lauren Sergy presented on ‘Communication Strategies for a Skeptical World,’ and gave numerous hints and tips for collaborative communications practices that ensure good engagement and increased recognition and trust. The conference ended by discussing the potential role of agri-tourism, connecting people directly with farm experiences as a way to cultivate trust.

Seeding Success Workshop

March 8, 2024 - Saskatoon, SK



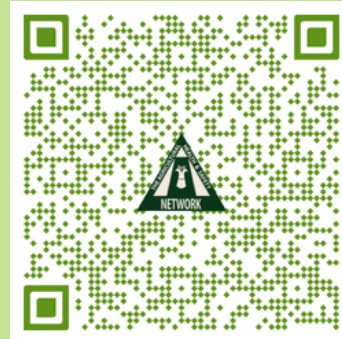
The Network attended the Seeding Success: Farm Business Practices Assessment Workshop in March. This workshop is designed to help producers improve business practices by combining self-assessment and action plan development with access to support resources to achieve results: Assess, Act, Achieve! Farm management practices that include an emphasis on farm health and safety practices lead to better farm outcomes for a healthy and sustainable farm. The Centre has joined Farm Management Canada as a member and is looking forward to developing connections.



CURRENT RESOURCES

The Canadian Centre for Rural and Agricultural Health is devoted to sharing knowledge with Saskatchewan agricultural producers and rural dwellers. All of our resources can be found on the Agricultural Health and Safety Network's website.

Scan the QR Code to find all of the Centre's resources on the Network's website!



BOOKLETS & PAMPHLETS

- Musculoskeletal Health and Safety in Agriculture
- Fostering Resiliency in Agriculture
- Electrical Safety on Saskatchewan Farms
- Save Your Breath: Respiratory Health in Agriculture
- What Did You Say? How to Prevent Noise-Induced Hearing Loss in Agriculture
- Whole Body Vibration: Take a Break from the Shake
- Safe Machinery Operations: Farm Machinery Safety Strategies Preventing Entanglements
- Safe Machinery Operations: Rollover Protective Structures Rollover Prevention Strategies
- The Farm Safety Audit: A Management Tool for Farmers
- Farm Safety Walkabout
- Growing Forward with a Farm Safety Plan
- OffGuard: Farmers and Machinery Injuries
- Low-Stress Cattle Handling for Productivity and Safety
- Farming and Mental Health
- Save Your Back: Prevention of Agricultural Related Back Strain and Injury
- Daily Chore: Handling Stress on the Farm
- Growing up on the Farm Safely

Together we can make it safer.



Electrical Safety on Saskatchewan Farms

SaskPower

CANADIAN AGRICULTURAL PARTNERSHIP

Fostering Resiliency in Agriculture

The Importance of Self-Care & Stress Management to Maintain Mental Health



Musculoskeletal Health and Safety in Agriculture



aghealthandsafety.ca

Canadian Centre for Rural and Agricultural Health

Save Your Breath: Respiratory Health in Agriculture



aghealthandsafety.ca

Canadian Centre for Rural and Agricultural Health

BRIDGEMAN Saskatchewan, Canada

WBV Risks

Shaken, not stirred

Whole body vibration (WBV) is known to be associated with back and hip disorders, but it can also contribute to the risk of falls and collisions (accidents).

The short-term effects of WBV include:

- Cognitive impairment (memory difficulties, for example)
- Stress
- Loss of balance
- Reduced sense of body position and self-movement
- Reduced sensory and motor responses

With long-term exposure to WBV, the effects are cumulative and can contribute to the development or aggravation of low-back injuries.

Additional Resources

Scan the QR codes with your phone camera

Work of Farming | Equipment | Tractor Safety

Dr. Dana Burnett
dana.burnett@usask.ca
306-241-8727

Canadian Centre for Rural and Agricultural Health
aghealthandsafety.ca

This resource was made possible by the Canadian Agricultural Safety Association and the Canadian Agricultural Partnership.

CANADIAN AGRICULTURAL PARTNERSHIP

CASA | ACISA

Canada

Take a Break from the Shake

That's right! Something as simple as taking a break during your workday can help reduce some of the negative effects from whole-body vibration (WBV) when operating farm machinery.

Learn more inside about some of the risks of WBV, along with practical tools and strategies to help reduce the adverse health effects.

Get up and move!

FACT SHEETS

- Take a Stretch Break
- Grain Entrapment
- All About Ticks in Saskatchewan
- Noise-Induced Hearing Loss Among Farmers
- Hantavirus
- Rabies: Need to Know Information for Agricultural Producers
- Farm Safety Facts: Drowning & Dugouts
- Instructions for Handling & Laundering Chemical Contaminated Clothing

RABIES: NEED TO KNOW INFORMATION FOR AGRICULTURAL PRODUCERS

NOISE-INDUCED HEARING LOSS among farmers NEED TO KNOW INFORMATION FOR AGRICULTURAL PRODUCERS

HANTAVIRUS NEED TO KNOW INFORMATION FOR AGRICULTURAL PRODUCERS

GRAIN ENTRAPMENT

Farm Safety Facts
Drowning & Dugouts



VIDEOS

Breathe Easy (English & French)



Welding and Gases



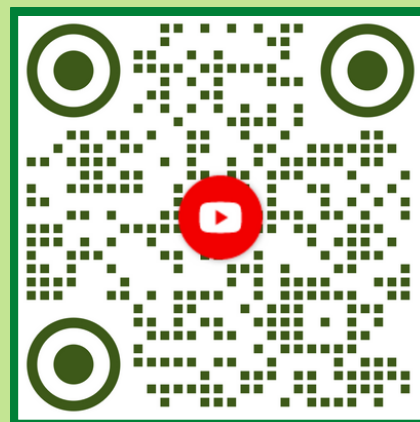
Gases and Mists



Dust



**Sleepless in Saskatchewan:
Making Sleep Work for You**



All of these videos can be found on the
“Canadian Centre for Rural & Ag Health”
YouTube channel!

WORKSHOPS

Stress and Agriculture

This workshop is based on the popular resource put out by the Network: “Difficult Times: Stress on the Farm.” Farmers have a strong tradition of being independent and may not seek support until things are absolutely desperate. This workshop is a way of enabling farm families to understand stress early warning signs and its impact, and learn skills to help balance stress when farming in difficult times.

Making Sleep Work for You

Sleep affects your health and safety. Getting enough sleep is vital to the personal well-being, safety, and the success of Saskatchewan agricultural producers, those involved in an agricultural lifestyle, as well as those who live and work in rural Saskatchewan.

Caring for a Caregiver in Rural Saskatchewan

Many rural dwellers are working off the farm while still participating in farm work and caring for growing families. This workshop is designed to encourage them to take the time to take care of themselves.

Respiratory Safety and Hearing Loss Prevention

Recent studies show that older farmers are generally as healthy as non-farming Canadians, except in the areas of respiratory and hearing health. These two workshops focus on prevention methods for all farmers to ensure that these two areas of their health are not neglected and that they remain healthy in later years.

Farm Safety Plan

Workshops are motivational and instructional for building a Farm Safety Plan, and focus on areas of concern represented in current Canadian Centre Rural and Agricultural Health (CCRAH) findings such as:

- Physical risks
- Long work hours and fatigue
- Vulnerable populations
- Farming practice modification

Aging Farmers

According to the CAIR program, the percentage of males who die in agricultural incidents was highest for adults aged sixty and over (95.2%). It is with this information in mind that we focus on techniques to encourage older farmers to practice safer farming techniques. This workshop includes a wealth of tips and tricks to compensate for the signs of aging. It is also designed for younger farmers to attend who work with older family members.

Knowledge Mobilization Team

LEAD

Dr. Shelley Kirychuk is the Director of the Centre and also leads the Agricultural Health and Safety Network. She oversees all of the Knowledge Mobilization activities, outreach, and outputs.



Agricultural Health and Safety Network / Knowledge Mobilization Team:

Back Row: Dr. Shelley Kirychuk, Dr. Niels Koehncke, Dr. Merle Massie, Katie Thompson, Brooke Thompson. **Front Row:** Joan Ulmer, Sueli Bizetto de Freitas, Shelly Sander, Kendra Ulmer

MANAGER

Kendra Ulmer (RN) is the Program Manager for the Agricultural Health and Safety Network. Kendra has boots on the ground in rural communities, connecting people with resources and programs, and running clinics and workshops for health and safety.

Dr. Matthieu Girard is the CCRAH KT Manager and oversees the overall direction and coordination of knowledge mobilization across the Centre, including programs, clinics, and projects.

STAFF

Sueli Bizetto de Freitas is the Public Relations and Communications Coordinator for the Centre. She designs and manages communications, and brings key institutional knowledge and experience.

Shelly Sander manages our Discovery Days program, helping kids to learn about farm safety and health. She also organizes and runs our trade show booths, connecting with people and sharing resources and knowledge.

Brooke Thompson is the laboratory manager for the National Agricultural and Industrial Hygiene Laboratory. Brooke knows what's happening across the Centre to keep communications on time, on target, and well-planned.

Katie Thompson is a graphic designer, and helps with the Centre and program website management, knowledge mobilization, and communications.

Duane Minish is a research officer with the RaDAR program, responsible for RaDAR communications. Duane is an IT wizard and helps the communications crew stay organized.

Dr. Merle Massie is a professional research associate at the Centre. Merle brings award-winning writing depth, freelance journalism, and editing experience to Centre communications.

Tess Kelly is as a Knowledge Translation Specialist and has been a great asset to Network programs.

MEDIA/ONLINE/REPORTS



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ENHANCE RURAL AND AGRICULTURAL HEALTH OUTCOMES IN OUR WORLD



The Canadian Centre for Rural and Agricultural Health works with the University of Saskatchewan as part of the Be What The World Needs campaign.

Together, we have developed a Case for Support. It guides you to imagine ways to work with us to keep rural and agricultural people healthy and safe.

Thank you for putting your boots on the ground with us!

May 2024

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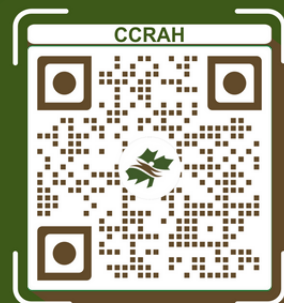
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