

# 2015 - 2016 ANNUAL REPORT

## OUR MISSION

TO CONDUCT AND STIMULATE RESEARCH, EDUCATION AND HEALTH PROMOTION PROGRAMS AIMED AT ENHANCING THE HEALTH AND WELL-BEING OF AGRICULTURAL, RURAL AND REMOTE POPULATIONS

## OUR VISION

WORLD LEADERSHIP IN HEALTH OF RURAL PEOPLE

## MESSAGE FROM THE DIRECTOR



*This year, 2016, marks the 30th anniversary of the Canadian Centre for Health and Safety in Agriculture. It is astounding to think back and look at what has been accomplished by the Centre over that period of time. From the research in rural and agricultural health and safety to the creation and growth of the Agricultural Health and Safety Network, to the formation of the Canadian Coalition for Agricultural Safety and Rural Health, now known as the Canadian Agricultural Safety Association (CASA), through 7 international symposia, to today in our new location and home of the National Agricultural Industrial Hygiene Laboratory. It is an amazing feat, but much more work lies ahead. With roughly ten million in active funding currently, we are well positioned to keep research and outreach moving forward to help solve important health and safety issues facing rural and agricultural people and workers today. Hats off to all our faculty, staff and students!*

*CCHSA has been contracted by Agrivita to provide the knowledge translation for the applied agrisafety research projects funded through Agrivita. CCHSA has been busy this last year publishing and updating bulletins on the important work being done by these projects. One project is studying the feasibility of retrofitting Roll-Over Protective Structures (ROPS) onto tractors that don't have them. The other projects deal with air quality in swine production and mechanisms of improving it, as well as air quality and protection in swing transportation trailers. Bulletins on these important projects are visible on the Agrivita website, and are published in our Network Newsletter as well as Nationally through the Canadian Agricultural Safety Association's electronic newsletter.*

*Our Agricultural Health and Safety Network membership has reached 219 RMs – an all-time high. As part of our agreement with the Ministry of Agriculture, CCHSA provided a report to the Ministry on Network progress along with its strategic plan. It gave me a great deal of pride to put that report together, highlighting our progress with our strategic plan thanks to the amazing work of all our Network staff. A new program offered by the Network called Agricultural Safety Discovery Days brings agricultural safety into the classroom at rural schools around the Province and has been an overwhelming success, reaching close to 1500 students across the Province since January alone.*

*This upcoming year will again be a busy one, with our Exposure Chamber coming on line and our Network transitioning to the longer term goals of our 5 year strategic plan. This on top of a number of Tri-Council and SHRF grants on the go and funding decisions on others coming soon.*

*If you are in the neighborhood come by and visit, I would be delighted to show you around. Wishing you a safe and productive year,*

A handwritten signature in blue ink, appearing to read 'N. Koehncke'.

Niels Koehncke, MD, MSc, FRCPC  
Director, Canadian Centre for Health & Safety in Agriculture



## RURAL AND REMOTE DEMENTIA CARE

CCHSA Professor and Chair in Rural Health Delivery, Dr. Debra Morgan, has been heading the interdisciplinary Rural Dementia Action Research (RaDAR) team since 2003. The team's goal is to improve dementia care in rural and remote settings. Team members include Debra Morgan (PI), and co-investigators Margaret Crossley, Andrew Kirk, Julie Kosteniuk, Haizhen Mou, Megan O'Connell, and Norma Stewart, *University of Saskatchewan*; Joanne Bracken, CEO, *Alzheimer Society of Saskatchewan*; Vanina Dal Bello-Haas, *McMaster University*; Dorothy Forbes, *University of Alberta*; Anthea Innes, *University of Stirling* and *University of Salford, UK*; and Edna Parrot, family caregiver.

## RESEARCH ROOTED IN PARTNERSHIP WITH COMMUNITY

The RaDAR research program is guided by *The Knowledge Network in Rural and Remote Dementia Care*, which includes front-line health care providers and managers, family members of people with dementia, health region representatives, international researchers, and individuals from governmental and community based organizations. The annual Rural Dementia Care Summit and ongoing communication between RaDAR and network members helps to ensure that research knowledge is relevant, shared broadly, and put into practice.



Honourable Greg Ottenbreit,  
Minister Responsible for Rural and  
Remote Health and  
Dr. Debra Morgan



Dr. D. Seitz

RaDAR researchers and the Knowledge Network in Rural and Remote Dementia Care, as well as students and others interested in rural dementia care, meet face-to-face annually for a two-day *Knowledge Exchange Summit*. This year the 8th Annual Summit of the Knowledge Network in Rural and Remote Dementia care was held in Saskatoon on October 27th and 28th. The Summit featured two Canadian keynote presenters: Dr. Dallas Seitz, a geriatric psychiatrist from Kingston, Ontario (Division of Geriatric



Dr. J. Holroyd-Leduc

Psychiatry, Queen's University), and Dr. Jayna Holroyd-Leduc, a geriatrician from Calgary, Alberta (Associate Professor, University of Calgary). The Summit was also pleased to host the Honourable Greg Ottenbreit, Minister Responsible for Rural and Remote Health, who brought greetings from the Government of Saskatchewan. This year's Summit participants included many of the Alzheimer Society of Saskatchewan's First Link Coordinators from the six health regions across the province that currently have coordinators.

More information about the Summit, including a report, and photos from the event, can be found on the RaDAR team's website under the Summit tab: [www.ruraldementiacare.usask.ca](http://www.ruraldementiacare.usask.ca)

## RADAR TEAM MEMBER ACTIVITIES

### RURAL AND REMOTE MEMORY CLINIC

The flag-ship project of the RaDAR team is the family-centred Rural and Remote Memory Clinic (RRMC) which is located in Health Sciences E-wing, University of Saskatchewan. The clinic focus is diagnosis and management of atypical and complex cases of suspected dementia, where an interdisciplinary team assessment is most needed.

The clinic streamlines processes to reduce repeated patient travel and to shorten the time to diagnosis by coordinating a team assessment on one day. The Saskatchewan



Leslie Holfeld at CCD8, Ottawa

TeleHealth network is then used for follow-up appointments. The RRMC was operated as a research project for the first five years, and now receives on-going funding from the Saskatchewan Ministry of Health. Since it was established in 2004, 512 patients have been seen in the clinic and attended follow-up appointments, with over 2000 patient appointments provided and 2300 accompanying family caregivers seen. CCHSA-affiliated RRMC team members include: Lynette Epp (data entry manager); Allison Cammer (dietitian); Leslie Holfeld (nurse); Chandima Karunanayake

## RESEARCH

(data analyst); and Duane Minish (psychometrist). Other clinic team members include Dr. Andrew Kirk (neurologist), Dr. Megan O'Connell (neuropsychologist), Katherine Stevenson (physical therapist), Rhonda Loeppky (physical therapist), and psychology graduate students who complete practicum placements in the clinic.

### **CANADIAN CONSORTIUM ON NEURODEGENERATION IN AGING (CCNA)**

The Canadian Consortium on Neurodegeneration in Aging (CCNA) was established by the Canadian Institutes of Health Research in April 2014 to address the growing prevalence of neurodegenerative diseases affecting cognition, such as Alzheimer Disease and other dementias. CCNA Team 20 brings together 23 researchers and decision-makers from three provinces and the UK to focus on Issues in Dementia Care in Rural and Indigenous Populations. The Team 20 Rural research stream includes RaDAR team members and is led by Debra Morgan, CCHSA. The Team 20 Indigenous research stream is co-led by Kristen Jacklin, *Laurentian University* and Carrie Bourassa, *First Nations University of Canada*.

The CCNA Rural research stream focuses on developing and evaluating effective and sustainable models of primary health care for dementia by identifying current gaps in rural dementia care and priorities for intervention, and then working with primary health care (PHC) teams to adapt best practices in dementia care to the local setting to address identified gaps. In collaboration with one PHC team each year, the intervention involves adapting clinical support tools (eg, assessment instruments), coordinating team-based care, and providing specialist-to-rural primary health care provider skills training and decision support. Progress to date: Phase 1 baseline data collection to identify gaps and strengths in dementia care best practices in Sun Country Health Region has been completed. The sample included patients/caregivers, regional decision-makers, and primary health care team members. Phase 2, the intervention study, has been ongoing since summer 2015 in collaboration with one PHC team in Sun Country. Collaboration with the second PHC team will begin Fall 2016.

### **SUN COUNTRY DEMENTIA STEERING GROUP**

In 2013, Sun Country Health Region established the Sun Country Dementia Steering Group which currently functions as the regional dementia working group to close gaps in dementia care, as well as the CCNA Team 20 Regional Advisory Committee.



*Sun Country Dementia Steering Group*

Led by the Regional Director of Population Health Promotion, the group includes Sun Country leadership from the sectors of home care, primary health care, long-term care, social work, and chronic disease management, as well as the Alzheimer Society of Saskatchewan. Progress to date: This partnership has resulted in several conference presentations/posters, a technical report, and 3 peer-reviewed manuscripts (2 published and 1 accepted).

### **RESEARCH IN PARTNERSHIP WITH SASKATCHEWAN HEALTH QUALITY COUNCIL**

RaDAR and the Saskatchewan Health Quality Council have been collaborating since 2012 to address the shortage of current epidemiological data regarding dementia in Saskatchewan. This collaboration is guided by a Steering Committee whose members include leadership from the Alzheimer Society of Saskatchewan, family physicians, nurse practitioners, Home Care client care coordinators, and RaDAR team members. Representatives from the SK Ministry of Health serve as consultants to the Steering Committee. Progress to date: Phase 1, a multi-method investigation of dementia and related services in SK, has been completed. Phase 2 is underway to identify health service use among individuals before and after first identification of dementia in SK, using administrative data. Team 20 Synergy Project involves collaborations between Team 20 Rural (RaDAR) and Team 20 Indigenous members to apply SK and ON dementia case definitions to compare dementia epidemiology (numbers of new and existing cases) across the two provinces. To date, the RaDAR team has produced several conference posters/presentations, 2 technical reports, and 3 peer-reviewed manuscripts. We have also given several invited lectures and provided radio and print interviews to translate our findings to the public. The reports are available on the RaDAR team website: [www.cchsa-ccssma.usask.ca/ruraldementiacare/radar.html](http://www.cchsa-ccssma.usask.ca/ruraldementiacare/radar.html).



## RESEARCH

### **AGE-WELL PROJECT: RRITE**

*Ageing Gracefully across Environments using Technology to Support Wellness, Engagement, and Long Life*

As part of the national AGE-WELL NCE, RaDAR team member Megan O'Connell is the Project Lead for Rural/Remote Indigenous Technology needs Exploration (RRITE). This study is assessing how technology might improve the lives of older adults living outside big cities and Indigenous people. This research is novel to this team (i.e., not a continuation or extension of our existing work in rural and remote dementia care). We did not have access to a suitable sample, as our rural and remote samples all have cognitive complaints. We gambled on use of random dialing to all rural and remote Saskatchewan phones (landlines and cell phones) and were successful in obtaining a sample of rural and/or remote older adults. Although 10 in the sample were from a small city of 10,500, most were from smaller centers under 5,500. We gathered brief data from 621 rural and/or remote Saskatchewan adults over age 60, and have a sample of over 300 who we are contacting for Phase 2. A sub-sample of the 621 responded to a query to describe a time when they needed assistance. Most of these respondents talked about needing physical assistance due to strength limitations or medical conditions but a sizable proportion needed help with technology, like using a computer. Another sub-sample responded to a query about worries they have as they age, and a sizeable portion reported worries related to aging in the context of geographic isolation and lack of accessible services.

### **SENATE PRESENTATION ON "THE ISSUE OF DEMENTIA IN OUR SOCIETY"**

In April 2016 RaDAR team member Dr. Andrew Kirk, Neurologist, was invited to give evidence to the Standing Senate Committee on Social Affairs, Science and Technology. The committee was studying the issue of dementia in Canadian Society, and Dr. Kirk shared with the committee the kinds of research activities undertaken by the RaDAR team, and challenges faced by Canadians with dementia living in rural and remote areas of the country. Committee members were very interested in the Rural and Remote Memory Clinic and in how the clinic model could be adapted to other rural and remote settings in Canada.

### **BILOKRELI FAMILY TRUST FUND**



*Members of the Bilokreli family with Dr. Debra Morgan*

The Bilokreli family have established the RaDAR Trust Fund and generously committed \$25,000 per year over the next three years. The fund supports RaDAR's research and knowledge exchange activities, and supports student researchers by funding Student Poster Prizes at the annual rural dementia Summit.

### **STUDENTS ASSOCIATED WITH THE RADAR TEAM:**

- **RACHEL BURTON:** PhD Candidate, Psychology, thesis: *Delivering cognitive rehabilitation by telehealth videoconferencing to individuals with dementia in rural areas.*
- **ALLISON CAMMER,** PhD Student, Nutrition, thesis: *Nutritional care best practices for urban and rural long-term care residents with dementia.*
- **JESSICA CAMPOLI,** PhD Student, Psychology. *Jessica is investigating the role of defense mechanisms in romantic relationships.*
- **TRACY DANYLYSHEN-LAYCOCK.** PhD Candidate, Health Sciences, thesis: *Examining the relationship between facilitation and sustainability of a dementia care training program in rural long-term care homes.*
- **JOSEPH ENRIGHT,** PhD Candidate, Psychology, thesis: *Identity and Caregiver burden in Dementia: An Evaluation of Telehealth reminiscence for Informal Caregivers.*
- **BEN GOULD,** Masters student, Psychology. *Ben is exploring user needs for technology to support aging well in a First Nations community.*
- **KATHLEEN KULYK,** Masters student, Nursing, thesis: *Evaluating the construction and validity of a questionnaire assessing healthcare providers perceptions of rural dementia care pathways.*
- **ANDREA SCERBE,** Masters student, Psychology. *Andrea holds a fellowship from the CCNA project on Technology for Specialist to Rural Primary Care Provider Support for Dementia Diagnosis and Management.*
- **LESLIE MALLOY-WEIR,** PhD, Health Policy, Postdoctoral Fellow, project: *Evaluation of the outreach component of the Alzheimer Society of Saskatchewan's First Link Program.*

### **EFFECT OF LOW DOSE CARBON DIOXIDE AND AMMONIA ON BARN DUST INDUCED LUNG INFLAMMATION.**

We hypothesize that CO<sub>2</sub> and NH<sub>3</sub> are capable of inducing increased innate immune responses to barn dust exposure at levels currently deemed safe workplace exposure levels. We therefore will address the lowest level of concentration of CO<sub>2</sub> and NH<sub>3</sub> capable of inducing an immunological synergism with response to barn dust and LPS. *Kiryuchuk S (Principal Investigator), Schneberger D (Co-principal Investigator)*

### **BARN DUST EXPOSURE AND LUNG INFLAMMATION IN ANIMALS AND WORKERS.**

The role of lung surfactant, In this proposal we aim to characterize the signaling pathways by which barn dust modifies expression of surfactant protein D (SpD). *Kiryuchuk S (Principal Investigator), Schneberger D (Co-principal Investigator), Singh B (Co-investigator), Wyatt T (Co-investigator), Wilson J (Co-investigator)*.

### **REDUCING PATHOGEN DISTRIBUTION FROM ANIMAL TRANSPORTATION.**

The growth and success of the pork industry has been due to access to high quality genetic stock. Risk of infection to this stock during transport is of great concern. This project will develop a commercial size filtered transport vehicle and test pathogen transfer during transport. The transport trailer has been built, and we are currently building the ventilation system to support the unit. Once the trailer and components are complete we will be road testing the unit, adding animals, and testing the ability of the unit to reduce pathogens during transport. *Kiryuchuk S (Principal Investigator), Laprise C (Co-investigator), Dosman J (Co-investigator), Senthilselvan A (Co-investigator)*.

### **USING THE “OMIC SCIENCES” TO UNDERSTAND RESPIRATORY HEALTH CHANGES IN SWINE WORKERS.**

The team has just completed the RNA analysis of samples from new swine workers. We are in the process of analyzing the results, writing papers, and preparing an applications to NSERC and CIHR to follow-up on hypotheses related to inflammation and chronic adaptation in response to endotoxin. *Predicala B (Principal Investigator), Crowe T (Co-investigator), Kiryuchuk S (Co-investigator)*.

### **NEEDS ASSESSMENT FOR A TB AND HUMAN IMMUNODEFICIENCY VIRUS/ACQUIRED IMMUNODEFICIENCY SYNDROME (HIV/AIDS) CO-INFECTION CONTROL PROGRAM IN SASKATCHEWAN.**

The needs assessment is complete and papers and a thesis are currently in draft stages. *Kiryuchuk S (Principal Investigator)*.

### **WHOLE BODY VIBRATION SIMULATION**

Whole body vibrations are the shakes, bumps, and jolts that are transmitted from the vehicle to an occupant and it can be problematic if the exposure is excessive.

The goal of this study is to measure changes in human performance when exposed to physically and mentally demanding work and realistic whole body vibrations. The results of this study may have implications on the development of work interventions, including strategies such as job rotation and work scheduling.

### **SASKATCHEWAN FARMERS BACK STUDY**

This study addresses low back disorders in Saskatchewan farmers, and will provide information on exposure to risk factors, extent of low back pain and disability, and self-initiated preventative measures.

Studies in other jurisdictions and farm products show farmers have higher prevalence of low back disorders than non-farmers, resulting in disability, healthcare costs, and loss of farm income. Although this is anticipated to be true in Saskatchewan, the extent, impact, and causes of low back disorders have not been investigated in Saskatchewan farmers.

The results of this study will allow for cost-effective studies of these determinants in the future. By identifying safety measures, this study will also allow future research evaluating the effectiveness of prevention.

### **EVALUATING USE OF NEEDLE-LESS INJECTORS IN SWINE PRODUCTION**

Agriculture in general, and pig farming in particular, have many risk factors for musculoskeletal injury and disorders. Being a production-oriented and economically-driven industry, the rapid intensification in pork production has continually introduced new processes and equipment (such as needle-less injectors), although the pace of developing workplace health and safety evaluation tools has not kept up with progress on the production side. This study will investigate the implementation of needle-less injectors in terms of cost, productivity, injury rates, biomechanical exposures, and worker preference; and develop a suite of decision-making tools for evaluating the occupational health and safety benefits, as well as business impacts, of new technologies.

### WALKING AWAY FROM CHRONIC LOW BACK PAIN

Chronic low back pain is a highly prevalent and expensive health issue. Eighty percent of the population will describe being afflicted with it sometime in their life and about 20 per cent will develop chronic lower back pain contributing disproportionately to Canada's \$12-billion in health-related costs for treatment.

Fortunately, exercise can play a key role in health recovery and pain management, with pedometer-driven walking particularly effective in the management of chronic health conditions. However, so far little research has specifically investigated the use of walking as a health strategy for chronic low back pain. The clinical trial developed by a team of researchers from the School of Physical Therapy and Canadian Centre for Health and Safety in Agriculture is designed to test the effectiveness of a 12-week walking program compared to education-only to treat chronic low back pain. (*Stephan Milosavljevic, principal investigator, School of Physical Therapy, and CCHSA, University of Saskatchewan*)

### INTERNATIONAL ASTHMA RESEARCH PROGRAM

From October 2008, Dr. Rennie and Dr. Lawson have been participating in an international, multicenter study of childhood asthma: the Belarus, Ukraine, Poland Asthma Study (BUPAS). The aim of this international collaboration was to address the lack of information on asthma and limited research capacity in the way of epidemiological expertise in Eastern Europe, especially with regard to childhood asthma. Much of the collaboration has focused on integrating research and education regarding pediatric asthma and has been conducted by an interdisciplinary team of international researchers from the fields of medicine, epidemiology, and nursing. A major action of this group is to conduct workshops on epidemiology, research methods, and data analysis as well as to identify research-related priorities for asthma and aid in local, national, and international knowledge dissemination of the BUPAS initiative.

The initial research collaboration has expanded to include primary data collection sites in Canada (Saskatchewan), Republic of Macedonia, and Republic of Georgia. What makes this collaboration even more exceptional is that researchers from the various centres are actively involved in research and work in areas where there is extensive agricultural industry. By working through this program, we have been able to expand our research activities and improve our global understanding of asthma as well as reciprocal learning and training opportunities.

### SASKATCHEWAN LUNG HEALTH RESEARCH PROGRAM

The Saskatchewan Lung Health Study was initiated to quantify the amount of asthma and health care utilization for asthma in children as well as to identify risk factors for childhood asthma. In spring 2013, we conducted a cross-sectional study examining the prevalence and severity of asthma across an urban-rural gradient in Saskatchewan. A follow-up survey was completed in 2015. As part of this follow-up survey, clinical testing was also completed including spirometry, exercise challenge testing, skin prick testing, and urine collection for metabolomic and proteomic analyses. In addition to this, dust samples were collected from the homes of participants. Finally, as part of this research program, data will be received from Saskatchewan Health to investigate the health care utilization and prescription medication use.

### PERSONAL MONITORING PROGRAM

As part of the SHRF-CID program, we have been developing a personal monitoring backpack to be used in children's health studies. Objective measures are preferable in epidemiological studies but they are often not used. It is important to use valid measures of exposure to avoid biased associations. Our overall aim of this pilot study is to develop and test the feasibility of a personal air sampling pack for children to be used in lung health studies. As part of this we will assess the presence and quantity of environmental exposures [specifically: endotoxin (lipopolysaccharides), beta glucans, and muramic acid (peptidoglycans)] in dust collected by personal samplers while also comparing this to settled house dust in order to test the effectiveness of using personal exposure monitors in children.



## CAPACITY BUILDING

### CANADIAN AGRISAFETY APPLIED RESEARCH PROGRAM

**CANADIAN AGRISAFETY APPLIED RESEARCH PROGRAM, AGRICULTURAL DEVELOPMENT FUND. ANIMAL HOUSING ENVIRONMENTS.**

Two projects were funded under this initiative:

#### 1. Reducing Pathogen Distribution from Animal Transportation.

The first project is headed by the Prairie Swine Centre, in Saskatoon, Saskatchewan. The project is designing an animal transport trailer that facilitates control of airborne pathogen contamination during transport and improves operational efficiencies such as cleaning and disinfection. This is important to the Canadian Swine Industry, particularly when transporting expensive genetic breeds between facilities, often over long distances. Current threats such as Porcine Epidemic Diarrhea Virus (PEDv) make transportation an important element for the industry.

#### 2. Reducing Pathogen Between and From Animal Production units.

This project is evaluating several methods and combinations of methods to determine the most effective methods to reduce pathogen levels during production. The methods are currently being researched at a test facility with a small number of animals. Once the most effective method(s) has been determined, the method(s) will be tested on a trial basis and evaluated in a full-scale facility.

*Kiryuchuk S (Co-principal Investigator), Duchaine C (Co-principal Investigator), Lemay S (Co-investigator), Whittington L (Co-investigator), Predicala B, Girard M, Letourneau V.*

### THE NATIONAL PARTNERS FUND

The original Founding Chairs Program renamed the National Partners Fund was established in 1989. The program goal is to create a secure financial base for CCHSA and provide opportunities for new program initiatives. A portion of the funds are used for special research projects, scholarships for graduate students and knowledge translation.

The fund is administered by a Founding Chairs Management Committee who meet twice yearly to make recommendations regarding the fund which is administered by the University of Saskatchewan. The Committee membership is comprised of 3

members who are Contributors and 3 members from the University of Saskatchewan. Current members are: Todd Klink, Vice-President, Marketing and Product Development, Farm Credit Canada, replacing Lyndon Carlson who retired; Terry Baker, former Chair of the Board of Viterra, Dr. Niels Koehncke, Director, Canadian Centre for Health and Safety in Agriculture, Dr. Marek Radomski, Assistant Dean of Medicine replacing Dr. Preston Smith Dean of Medicine; Sue Verhille-Long, Financial Services Division, UofS.

Maura Gillis-Cipywnyk, the Director of Institutional Advancement, is responsible for coordinating the program in consultation with the Director and the Management Committee.

In 2015, the focus was on plans for the Centre's 30th anniversary in 2016 in addition sponsorship campaign.

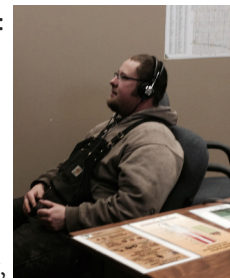
Future plans involve engaging Corporations in supporting specific program initiatives.

### CANWORKSAFE

CANWORKSAFE provides modern and comprehensive occupational health surveillance and screening for workplaces in Saskatchewan.

The three main programs that CANWORKSAFE currently delivers include:

1. Hearing Screening Program for Saskatchewan Municipality Employees Delivered to 14 Rural Municipalities /or Town workplaces July 2015- April 2016
2. Novozymes Bio Ag Limited Saskatoon Employees Respiratory health screening, Quantitative Fit Testing and Audiometric Screening May/June 2015.
3. Swine Workers Health Maintenance Program for several swine barns in Saskatchewan and Manitoba. Respiratory health screening and audiometric screening June 2015.



CANWORKSAFE programs provide an opportunity for workers to have regular health screening focused on their occupational exposures. Workers receive current health resources and education specific to the workplace that assists to reduce the risk of developing occupational health diseases and disabilities. Appropriate personal protective equipment options are reviewed and referrals to occupational medicine physicians are arranged. Regular occupational health screening promotes healthy lifestyles and productivity that is well received by CANWORKSAFE program participants.



## OCCUPATIONAL HEALTH AND SAFETY PROGRAM FOR COLLEGE AGRICULTURE STUDENTS

CCHSA is excited to have joined a three year national project partnership with AgriSafe Network (USA) with sponsorship from CHS and 3M Canada, to provide occupational health and safety programs to agriculture college students in Saskatchewan and Alberta. Our goal is to empower students to recognize agricultural health and safety risks associated with their work environments and become their own health



Invest in Your Health  
Educate. Prevent. Protect.

advocates. Based on students' agricultural exposures we equip them with the tools that will help them stay healthy and safe in their work envi-



ronment. The tool kit includes a combination of an interactive lecture, demonstration of personal protective equipment,

health screenings and review of appropriate resources. Students also receive a personalized fit 3M PPE take home startup kit.

The first *Invest in Your Health* programs were presented during the week of March 28th-April 1, 2016 at the *University of Saskatchewan* in Saskatoon, SK and *Parkland Trades and Technology Center* Yorkton, SK. In 2015-2016 we reached 100 students and we plan to reach 400 students in each of the next two years.

## CANADIAN AGRISAFETY APPLIED RESEARCH PROGRAM: A PROGRAM OF RESEARCH & DEVELOPMENT

Agrivita Canada Inc. is a not-for-profit corporation with the objective of promoting health and safety research and its effective application to the agricultural sector. Agrivita has close ties with the Canadian Centre for Health and Safety in Agriculture (CCHSA), as the Centre is both home to Agrivita and is involved in the Canadian AgriSafety Applied Research Program. The Canadian AgriSafety Applied Research Program is an initiative of Agrivita Canada Inc. The program supports applied research projects with

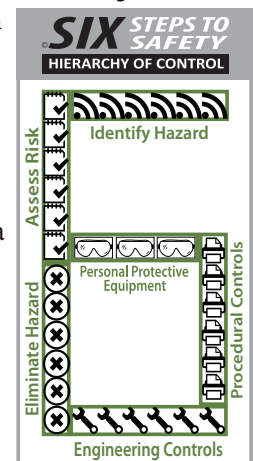
the objective of bridging the gap between agricultural research and its application in the agricultural sector. The program is funded under Growing Forward 2 (GF2), a policy framework of Agriculture and Agri-Food Canada (AAFC) with matching funds provided by partners in research and industry.

The AgriSafety Program is working to improve health and safety among agricultural workers through two projects. The first is the Low-Cost Roll Over Protective Structures Intervention Project, which aims to create and test a process to lower the cost of installing ROPS on older tractors by enabling farmers to build their own with engineered plans. Currently, the ROPS project is in its third year with an ongoing pilot program to have farmers build ROPS for testing and installation on tractors. The ROPS project aims to build on the pilot results by developing a national program for the farm public.

The second project is the Animal Housing Environments Project, which has two components. Part A - Air Quality in Canadian Pig Buildings Project, aims to offer the swine industry an efficient strategy to reduce airborne contaminants and protect the health of workers in production facilities. The project has completed testing of exposed workers to various pathogens and has begun testing different methods for reducing bioaerosols in swine buildings. Part B of the Animal Housing Environments Project, is the Reducing Pathogen Distribution from Animal Transport, aims to develop and design an improved transport trailer for swine that will facilitate control of airborne pathogen contamination and improve operational efficiencies such as cleaning and disinfection. To date the project has run simulations to improve the design of animal transport trailers and has begun to assemble a prototype trailer that will undergo further testing and economic analysis.

## THE NATIONAL SUMMIT ON THE CONTROL OF AGRICULTURAL INJURY AND DEATH

This year in partnership with Agrivita Canada Inc., CCHSA and CREOD, the National Summit on the Control of Agricultural Injury and Death was held in Saskatoon in June. The Summit brought together stakeholders from all sectors including: researchers, policy makers, producers, industry, and health & safety. The 2016 Summit was a great success with over 100 attendees from across Canada and a few from the USA. The Summit was an opportunity for stakeholders to discuss current priorities for applied research and objectives for future research, including next steps.



# SERVICES



## THE AGRICULTURAL HEALTH AND SAFETY NETWORK

The Canadian Centre for Health and Safety in Agriculture (CCHSA) partnered with the Saskatchewan Association of Rural Municipalities (SARM) and six Rural Municipalities in 1988 to found the Agricultural Health and Safety Network with the mission “to improve health and safety on the farm through education, service, and evaluation research.” The Network is now in its 28<sup>th</sup> successful year, providing occupational health and safety services to 219 RMs that are members of the Network reaching over 27,000 farm families,

### MEMBERSHIP RECRUITMENT AND FUNDING

The Network’s current membership includes 219 RMs. These RMs pay an annual fee of \$3.75 per active farm family to benefit from the Network resources and services. The maximum membership fee continues to be capped at \$1200 per RM. These partnerships act as the foundation of the Network and provide leverage to draw additional resources to better serve Saskatchewan farmers, their families and agricultural workers. The Saskatchewan Ministry of Agriculture also provides funding to the Network.

### STEERING COMMITTEE

The Steering Committee is an Advisory Group composed of RM councilors and a Saskatchewan Ministry of Agriculture representative. These committee members, who represent the voice of Saskatchewan farmers, their families and their workers, provide direction and feedback on programs delivered in the Network. Their support and input are invaluable to the Network.

The members of the Steering Committee are as follows:

Division 1		OPEN
Division 2	Duane Filson	RM of Wood River #74
Division 3	Floyd Thunstrom	RM of Coteau #255
Division 4	Brenda Zemluk	RM of Elfros #307
Division 5	Eugene Matwishyn	RM of Prince Albert #461
Division 6		OPEN
Andre Bonneau		Ministry of Agriculture

## NETWORK AGRICULTURAL SAFETY DISCOVERY DAYS

The **Network Discovery Days** are farm safety education days for rural Saskatchewan children. A Discovery Day is an afternoon event where children visit multiple farm safety stations to explore and participate in learning activities such as hazard identification, grain safety, avoiding chemical exposure, and fire safety. After participating, each participant is provided with a family farm safety package and activity booklet to take home.



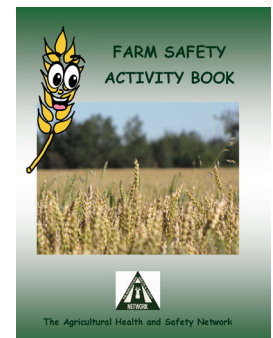
The Network reached over 1500 children at 22 schools and community events in the spring of 2016.

## NETWORK NEWSLETTER & OTHER PUBLICATIONS



In 2015-2016 the Network focused on safety for farm children. Inside ***Growing up on the Farm Safely*** are results of current CCHSA research as well as strategies for keeping farm children healthy and safe. The goal is that preventable injuries and fatalities on the farm be eliminated.

The new ***Farm Safety Activity Booklet*** covers topics such as machinery safety, grain safety, safety around animals, sun safety, hearing safety, and more.



The 2015 spring issue promoted Roll Over Protective Structures (ROPS) on the cover and highlighted some of the current applied research work on ROPS. Other articles focused on Network activities, back research updates, grain bag disposal, depression and sleep, zoonotic diseases in children, hantavirus, and heat illnesses.



The 2016 winter issue launched our *family safety* theme. The cover highlighted this theme and the educational resource sent out with it is called *Growing Up on the Farm Safely*. Other family farm safety topics included information on the Network Strategic Plan, Child find Saskatchewan, immunizations, eye exams, research updates, and scholarship information.



## SARM SCHOLARSHIP

In 1995, the Saskatchewan Association of Rural Municipalities (SARM) actioned off the first copy of its history book “The Building of a Province: Commemorating the 90th Anniversary of the Saskatchewan Association of Rural Municipalities.” This auction netted the sum of \$2,600 which the SARM Board of Directors contributed to the Canadian Center for Health and Safety in Agriculture (CCHSA). These funds initiated the SARM 90th Anniversary \$1,000 Student Scholarship in Agricultural Safety and Rural Health. The Founding Chairs Program at CCHSA now maintains the scholarship.

This year two scholarships of \$1500 were awarded to grade 12 students, Darby Chappell from Langham, RM of Corman Park, # 344 and Emily Wushke from the RM of Willowdale # 153. Students were asked to submit essays about (a) The importance of safety and health on our farm or (b) Safety and health hazards on our farm.



Darby Chappell

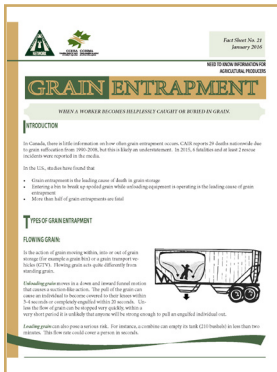
*“A person should not only plan for safety, but also for general wellness. Within our family, we take pride in how organized and efficient we work. Our family is quite athletic, and sports oriented; staying active allows us all to take a break from work and focus on fun or activity. We also stop equipment for lunch breaks even if the meal is brought to the field. This allows all workers in our family a short break to ensure fatigue is controlled. Before leaving our house, each worker grabs a water bottle/jug of water to ensure hydration is maintained. While working hot summer days, every tractor is equipped with air conditioning to help us stay cool to prevent heatstroke. During the winter months every worker is provided warm working clothing to avoid frost bite, and to ensure workers don’t get cold during long tasks. As simple as it may be, working outside allows some noticeable health benefits for farmers.”*



Emily Wushke

*“Stress is another major concern with farming that can cause numerous casualties. Some may not be aware, but stress can cause serious heart problems, including heart attacks, strokes and hypertension. Farmers deal with broken-down equipment, fluctuating prices for their commodities, and the biggest worry of all, Mother Nature. Farmers have a constant worry about what will happen after the next storm; if their crops will survive or be destroyed. Many times, farmers find themselves looking at excellent crops that are producing very well and will soon be ready to hay or combine until, a few days later, a big storm comes and wipes everything out. Crops provide food for communities and income for families, and this is why families find themselves in great deals of stress, worrying about bills and what will happen next. Stress is more dangerous than people realize and therefore must be taken very seriously. These health issues prove that there are not only physical disadvantages to being a farmer, but mental ones as well, and every little possible effect must be taken into consideration when planning the safety of the farm. The farm is only as safe as the owner and the people living and working on it make it.”*

The *Grain Entrapment* factsheet was created to educate farmers, their families and workers about the risk associated with handling grain. The resource highlights the different types of grain entrapment, current facts, and prevention and safety measures.



## CLINICS

Clinics for farmers are offered by the Network to promote the overall health and well-being of farm families and farm workers. Network member RMs are invited to host either a Respiratory Health or Hearing Loss Prevention Clinic for active farm family ratepayers in their local communities or farmers have the option

to phone the Network to make an appointment to attend a **ONE2ONE** Clinic at the CCHSA clinic at the University of Saskatchewan.



## THE NETWORK ELECTRONIC EDUCATION

The Network encourages links to educational safety resources that are relative to a variety of farming operations. The Network is active on Facebook and Twitter. Follow the Network @ SaskAgSafety.

### KNOWLEDGE TRANSLATION (KTE)

Morgan D. (Editor), Rural Dementia Care: Strategies to Improve the Care of Persons with Dementia in Rural and Remote Areas ([www.ruraldementiacare.usask.ca](http://www.ruraldementiacare.usask.ca)). A website highlighting team-based research in rural and remote dementia care. April 2008 to present.

Morgan D. (Founding Editorial Member), Gateway to Rural International Initiatives in Dementia (GRIID) (<http://www.ruraldementia.com>). A website for sharing dementia initiatives and information hosted by an international team of dementia researchers, practitioners and service providers seeking to advance the provision of dementia care support and services in rural areas internationally. Countries represented in this collaboration include: Australia, Canada, India, Sweden, The United Kingdom. April 2014 to present.

Kosteniuk J, Morgan D. (Co-editors). RaDAR Newsletter available at [www.cchsa-ccssma.usask.ca/ruraldementiacare/radar.html](http://www.cchsa-ccssma.usask.ca/ruraldementiacare/radar.html)

Morgan D. (Chair & Presenter). Summit 8 - Knowledge Network in Rural and Remote Dementia Care - 8th Annual Summit. Knowledge exchange meeting of research team and Decision-Maker Advisory Council, Saskatoon, SK, October 27th & 28th, 2015.

Morgan D. (Producer), Kosteniuk J, O'Connell ME, Kirk A, Minish D. (2015, September 8). CCNA Team 20: Issues for Dementia Care in Rural Populations [Video file]. Available from <https://vimeo.com/138618279>

Kosteniuk J. 2016. Rural Dementia Action Research Team. Presentation to the Strasbourg Dementia Workshop. May 10, 2016.

Crossley M, Morgan D. The Northern Cultural Assessment of Memory (N-CAM): A protocol designed to detect cognitive change in Indigenous peoples. Webinar presented nationally online. Hosted by brainXchange in partnership with the Alzheimer Society of Canada and the Canadian Consortium on Neurodegeneration in Aging. Saskatoon, SK, (and presented live across Canada online) October 29th, 2015. Recorded archive of presentation available online at [vimeo.com/144396136](http://vimeo.com/144396136)

Morgan D, Kosteniuk J. A report on dementia and related services in Saskatchewan. Invited presentation at Changing the Culture in Long-Term Care: 25th Annual Conference presented by Saskatchewan Seniors Mechanism, Regina, SK, June 10th, 2015.

### TECHNICAL REPORTS

Kosteniuk J, Morgan DG, O'Connell ME, Kirk A, Crossley M, Teare G, Stewart NJ, Dal Bello-Haas V, McBain L, Mou H, Forbes D, Innes A, Quail JM. 2015. Simultaneous Time Trends in Dementia Incidence and Prevalence, 2005-2013, Saskatchewan, Canada. Saskatoon, Saskatchewan: University of Saskatchewan. 26 pgs. <http://www.cchsa-ccssma.usask.ca/ruraldementiacare/>

Kosteniuk J, Morgan DG, Quail JM, Teare, GT, Kulyk K, O'Connell ME, Kirk A, Crossley M, Stewart NJ, Dal Bello-Haas V, McBain L, Mou H, Forbes D, Innes A, Bracken J, Parrott E. 2015. A Multi-Method Investigation of Dementia and Related Services in Saskatchewan: Final Report and Recommendations. Saskatoon, Saskatchewan: University of Saskatchewan. 178 pgs. <http://www.cchsa-ccssma.usask.ca/ruraldementiacare/>

Morgan D, Minish D. (June 2015). Summit 7 Final Report. Final report from the seventh annual summit of the knowledge network in rural and remote dementia care, October 21st & 22nd 2014. Report printed at the University of Saskatchewan (24 pages).

Rotter T, Kinsman L, Bath B, Goodridge D, Elizabeth H, Dobson R, Sari N, Jeffery C, Adegboyega L, Kutz M, Bourassa C, Westhorp G. A First Phase Evaluation of Saskatchewan's Lean Health Care Transformation: Final report. 2015. 55 p. <http://research-groups.usask.ca/rotter/documents/select-publications/Lean%20Report%20-%20Full.pdf>.

### INVITED PRESENTATIONS

Dyck RF. Chronic Kidney Disease in Canada's Indigenous Peoples. Symposium on Diabetes-Associated Micro and Macro Vascular Diseases in Indigenous Populations. World Diabetes Congress. Vancouver, Canada. November 30 – December 4, 2015.

Lawson JA. Publishing in Scientific Journals: The Whys, Hows, and Special Considerations. Presented : 2nd International Conference of the Higher School's Pulse; Opole, Poland. May 2015

Lawson JA. Geographic variation in childhood asthma. Presented: the Respiriology and Pediatrics Department in Batumi, Republic of Georgia. May 2015

Lawson JA. Geographic variation in childhood asthma. Presented: the Epidemiology and Respiriology Departments in Skopje, Macedonia. May 2015



**Bath B, Gabrush J, Fritzler R, Dickson N, Bisaro D, Kyla B, Shah T.** Mapping the Physiotherapy Profession in Saskatchewan: Examining Rural versus Urban Practice Patterns. *Physiotherapy Canada*. 2015 Jul; 67(3):221-231.

**Brozek G, Lawson J, Shpakou A, Fedortsiv O, Hryshchuk L, Rennie D, Zejda J.** Childhood asthma prevalence and risk factors in three Eastern European countries - The Belarus, Ukraine, Poland Asthma Study (BUPAS): An international prevalence study. *BMC Pulmonary Medicine*. 2016.

**Brozek G, Shpakou A, Lawson J, Zejda J.** Rural dwelling and temporal trends in relation to childhood asthma and related conditions in Belarus: A repeated cross-sectional survey. *Journal of Agromedicine*. 2015;20:332-40.

**Chen Y, Rennie D, Karunanayake C, Janzen B, Hagel L, Pickett W, Dyck R, Lawson J, Dosman J, Pahwa P, and the Saskatchewan Rural Health Study Group.** Income adequacy and education associated with the prevalence of obesity in rural Saskatchewan, Canada. *BMC Public Health*. 15:700, July 2015. DOI: 10.1186/s12889-015-2006-9

**Chu L, Rennie D, Cockcroft D, Pahwa P, Dosman JA, Hagel L, Karunanayake C, Lawson JA.** Agreement between Questionnaire Report of Allergy-related Outcomes in School-age Children and Objective Measures of Atopy: The Saskatchewan Rural Health Study. *Clinical and Experimental Allergy*. 2015, 45: 1337-45.

**Clay L, Milosavljevic S, Trask C.** Predicting whole body vibration exposure from occupational quad bike use in farmers. *Safety* 1(1) 79-83, 2015. <http://www.mdpi.com/2313-576X/1/1/71/html>

**Crockett K, Arnold C, Farthing J, Chilibeck P, Bath B, Baxter-Jones A, Kontulainen S.** Bone Strength and Muscle Properties in Older Women With and Without a Recent Distal Radius Fracture. *Osteoporosis International*. 2015 Oct;26(10):2461-9.

**DeWit Y, Pickett W, Lawson J, Dosman J.** Farm Activities and Agricultural Injuries in Youth and Young Adult Workers. *Journal of Agromedicine*. 2015;20:318-26.

**Dosman J, Hagel L, King N, Koehncke N, Kirychuk S, Trask C, Neudorf J, Day L, Voaklander D, Pickett W.** The hierarchy of control in the epidemic of farm injury *Journal of Agromedicine*. 2015; 20:360-369 <http://dx.doi.org/10.1080/1059924X.2015.1048401>

**Dyck RE, Karunanayake C, Janzen B, Lawson J, Ramsden VR, Rennie DC, Gardiply PJ, McCallum L, Abonyi S, Dosman JA, Episkenew JA.** Do discrimination, residential school attendance and cultural disruption add to individual-level diabetes risk among Aboriginal people in Canada? *BMC Public Health*. 15:1222, December 2015. DOI 10.1186/s12889-015-2551-2.

**Enright J\*, O'Connell ME, MacKinnon S, Morgan D.** Predictors of completion of executive functioning tasks in a memory clinic dementia sample. *Applied Neuropsychology: Adult*. 2015; 22(6), 459-64. doi:10.1080/0/23279095.2014.992070

**Goodridge D, Westhorp G, Rotter T, Dobson R, Bath B.** Lean and leadership practices: development of an initial realist program theory. *BMC Health Services Research*, 2015 Sept 7;15:362.

**Guarrasi J, Trask C, Kirychuk S.** A Systematic Review of Occupational Exposure to H2S in Livestock Operations. *Journal of Agromedicine*. 2015, 20(2): 224-235 <http://www.tandfonline.com/doi/full/10.1080/1059924X.2015.1009667>

**Hagel L, King N, Dosman JA, Lawson J, Trask C, Pickett W, & Saskatchewan Farm Injury Cohort Study Team.** Profiling the safety environment on Saskatchewan farms. *Safety science*, 2016; 82, 103-110. <http://www.sciencedirect.com/science/article/pii/S0925753515002325>

**Karunanayake C, Hagel L, Rennie DC, Lawson JA, Dosman JA, Pahwa P.** Prevalence and risk factors of respiratory symptoms in rural population. *Journal of Agromedicine*. 2015; 20:317-21.

**Karunanayake CP, Rennie DC, Hagel L, Lawson J, Janzen B, Pickett W, Dosman JA, Pahwa P.** Access to specialist care in rural Saskatchewan: The Saskatchewan Rural Health Study. *Healthcare*. 2015; 3:84-99.

**Kosteniuk J, Morgan D, O'Connell M, Kirk A, Crossley M, Teare G, Stewart N, Dal Bello-Haas V, McBain L, Mou H, Forbes D, Innes A, Quail J.** Simultaneous temporal trends in dementia incidence and prevalence, 2005-2013: A population-based retrospective cohort study in Saskatchewan, Canada. *International Psychogeriatrics*. First published online June 29, 2016. doi:10.1017/S1041610216000818

**Kosteniuk J, Morgan D, O'Connell ME, Kirk A, Crossley M, Teare G, Stewart N, Dal Bello-Haas V, Forbes D, Innes A, Quail J.** Incidence and Prevalence of dementia in linked administrative health data in Saskatchewan, Canada: a retrospective cohort study. *BioMed Central Geriatrics*, 2015; July;15(73). doi:10.1186/s12877-015-0075-3.

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- Morgan D, Kosteniuk J, O’Connell M, Dal Bello-Haas V, Stewart N, Karunanayake C. Dementia-related work activities of home care nurses and aides: Frequency, perceived competence and continuing education priorities. *Educational Gerontology*, 2016; 42(2), 120-135. doi:10.1080/03601277.2015.1083390
- Morgan D, Kosteniuk J, Stewart N, O’Connell ME, Kirk, A, Crossley M, Dal Bello-Haas V, Forbes, D, Innes A. Availability and primary health care orientation of dementia-related services in rural Saskatchewan, Canada. *Home Health Care Services Quarterly*, 2015, 34(3-4), 137-158. doi:10.1080/01621424.2015.1092907
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- Sharma M, Lawson J, Kanthan R, Karunanayake C, Hagel L, Rennie D, Dosman J, Pahwa P. Factors Associated With the Prevalence of Prostate Cancer in Rural Saskatchewan: The Saskatchewan Rural Health Study. *Journal of Rural Health*. 2015; 32:125-35
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- Trask C, Khan MI, Adebayo O, Boden C, Bath B. Equity in who gets studied: Examining inequities in the low back disorder literature. *Journal of Agromedicine*. 2015; 20:273–281 <http://www.tandfonline.com/doi/full/10.1080/1059924X.2015.1042178>



## CONFERENCE PROCEEDINGS & ABSTRACTS

Assante B, Bath B, Adebayo G, Trask C. Prevalence and risk factors of Low Back Pain among Waste Collection Workers: A Systematic Review. **Presented:** Saskatchewan Epidemiology Association (SEA) 15th Annual Fall Symposium; 2015 Oct

Asante B, Bath B, Adebayo O, Trask C. Prevalence and risk factors of LBP among Waste Collection Workers: A Systematic Review. **Presented:** Saskatchewan Epidemiology Association, 15th Annual Fall Symposium. November 5-6, 2015, Regina, Canada.

Balakrishnan L, Rennie D, Dosman JA, Hagel L, Karunanayake C, Pahwa P, Lawson J. The Evaluation of Lung Function in Relation to Rural Exposures Among Children, [Publication Number: A2326][abstract]. In: American Journal of Respiratory and Critical Care Medicine 191;2015:A1713. **Presented:** American Thoracic Society International Conference; 2015; Denver, Colorado, USA.

Bath B, Lovo Grona S, O'Connell M, Milosavljevic S, Sari N. Bridging the Rural-Urban Health Care Access Gap for Chronic Back Disorders through Teams and Technology. **Presented:** CIHR Institute of Musculoskeletal Health and Arthritis Young Investigators Forum; 2015 Oct; Kananaskis, AB

Brozek G, Lawson J, Baranski, Szumilas D, Zejda J. Allergic disorders in relation to asthma and spastic bronchitis in children[abstract]. **Presented:** European Respiratory Society; 2015; Amsterdam, Netherlands

Brozek G, Shpakou A, Lawson J, Zejda J. Prevalence of asthma, allergic disorders and symptoms in children in the Grodno region (Belarus): A comparison of epidemiological studies completed in 2009 and 2014 as part of BUPAS[abstract]. **Presented:** European Academy of Allergy and Clinical Immunology; 2015; Barcelona, Spain

Dal Bello-Haas V, O'Connell ME, Morgan D. Room for Improvement? How physically fit are people with early-stage memory problems. **Presented:** World Confederation for Physical Therapy Congress 2015. Singapore, May 1-4, 2015.

Dal Bello-Haas V, O'Connell ME, Morgan D. Is physical fitness, as measured by the Senior Fitness Test, related to falls in people with early-stage memory problems? **Presented:** World Confederation for Physical Therapy Congress 2015. Singapore, May 1-4, 2015.

Dyck RF, Karunanayake C, Janzen B, Lawson J, Rennie D, Ramsden V, Gardiply J, McCallum L, Abonyi S, Dosman J, Episkenew JA, Pahwa P. Influence of Racism, Residential School Attendance, and Cultural Disruption on Diabetes Prevalence among First Nations people. **Presented:** World Diabetes Congress. Vancouver, Canada. November 30 – December 4, 2015.

Dyck RF, Gao A, Jiang Y, Osgood N. An Agent-Based Model for Projecting Diabetic End Stage Renal Disease in Saskatchewan. **Presented:** World Diabetes Congress. Vancouver, Canada. November 30 – December 4, 2015.

Essien S, Trask C, Koehncke N, Bath B. Whole Body Vibration and Low Back Disorder among Saskatchewan Farmers: investigating the effect of follow-up duration. **Presented:** 14th Conference of the Canadian Rural Health Research Society; 2015 September 20 th-22nd; Edmonton, AB

Essien S, Trask C, Koehncke N, Bath B. Whole Body Vibration and Low Back Disorder among Saskatchewan Farmers: Investigating the Effect of Follow-up Duration. **Presented:** 4th Conference of the Canadian Rural Health Research Society Better Health for Rural Canadian: from Evidence to Practice; 2015 Sep 20-22; Edmonton, AB

Essien S, Bath B, Trask C. Investigating the association between self-reported lower extremity and low back symptoms among Saskatchewan farmers. **Presented:** Saskatchewan Epidemiology Association (SEA) 15th Annual Fall Symposium; 2015 Oct

Forbes D, Strain L, Blake C, Peacock S, Harrison W, Woytkiw T, Hawranik P, Thiessen E, Morgan D, Innes A. Dementia care evidence: Contextual dimensions that influence use in Canadian northern rural home care centres. **Presented:** 68th Annual Scientific Meeting, The Gerontological Society of America. Orlando, FL, November 18-22, 2015.

Gjevre JA, Sharma M, Dosman J, Karunanayake C, Pahwa P. Prevalence of rheumatoid arthritis medication use in the sleep laboratory population and the association with obstructive sleep apnea. **Presented:** Canadian Rheumatology Association 2016 CRA Annual Scientific Meeting, February 17-20, 2016, Lake Louise, Alberta, Canada.

Gjevre JA., Sharma M, Dosman J, Karunanayake C, Pahwa P. Prevalence of neuroactive medication use in the sleep laboratory population and the association with obstructive sleep apnea. **Presented:** Canadian Respiratory Conference 2016, April 14 - 16, 2016 - Halifax, Nova Scotia, Canada.

Gjevre JA, Rai M, Karunanayake C, Dosman JA, Pahwa P. Comparison of screening tools used in a sleep laboratory referral population. **Presented:** SLEEP 2015, the 29th Annual Meeting of the Associated Professional Sleep Societies, LLC (APSS), June 6 –10, 2015, Seattle, WA, USA.

Gould B, O'Connell ME, Enright J, Morgan D. Reliable Change (RCI) on Repeatable Battery for the Assessment of Neuropsychological Status (RBANS) in a dementia sample. 44th Annual Scientific and Educational Meeting. **Presented:** Canadian Gerontological Association. Calgary, AB, October 23-25, 2015.

Hackett P, Abonyi S, Dyck RF. Body Mass Index of First Nations Children and Youth on First Entering Canadian Prairie Residential Schools – 1919 to 1953. **Presented:** 16th International Congress on Circumpolar Health. Oulu, Finland. June 6-8, 2015.

Holfeld L, O'Connell ME, Morgan D, Kosteniuk J, Kirk A, Stewart N, Cammer A, Stevenson K, Loepky R, Minish D. Rural and Remote Memory Clinic: A one-stop memory clinic saves travel burden for rural/remote families. **Presented:** 8th Canadian Conference on Dementia. Ottawa, ON, October 1-3, 2015.

Karunanayake C, Rennie D, Lawson JA, Dosman JA, McMullin K, McCallum L, Gardiply JP, Seesequasis J, Abonyi S, Episkenew Jo-Ann, Pahwa P, & the First Nations Lung Health Project Team. Life Style Factors Contributing to Obesity among First Nations Children. **Presented:** The 14th Conference of the Canadian Rural Health Research Society (CRHRS): Better Health for Rural Canadians: from Evidence to Practice. September 20th - 22nd, 2015, Edmonton, AB, Canada.

## CONFERENCE PROCEEDINGS & ABSTRACTS

- Katapally T, Episkenew J, Karunanayake C, Abonyi S, Dosman J, Pahwa P. Inter-generational transmission of historical trauma: The role of Canada's Indian Residential Schools in the Respiratory Health of Contemporary First Nations. **Presented:** The Canadian Public Health Association conference 2015, May 25-28, Vancouver, BC, Canada.
- Khan M, Trask C, Essien S, Bath B, Boden C. Manual material handling as a risk factor for low back disorder in farmers: A systematic review. **Presented:** Saskatchewan Epidemiology Association (SEA) 15th Annual Fall Symposium; 2015 Oct
- Khan M, Essien S, Bath B, Boden C, Trask C. Manual Material Handling (MMH) as a risk factor for low back disorder in farmers: A systematic review; **Presented:** Saskatchewan Epidemiology Association (SEA) 15th Annual Fall Symposium. 2015; November 5-6 Regina, Canada.
- Kiryuchuk S, Katselis G, Dawicki W, Awoyera O, Lawson J, Rennie D, Koehncke N, Cockroft D, Owusu-Kyem A, Graham B, Gordon J. Outdoor aerosols and respiratory health outcomes in two Saskatchewan communities. **Presented:** American Association for Aerosol Research; 2015 Oct 12-16; Minneapolis, Minnesota
- Kiryuchuk S, Rennie D, Karunanayake C, Lawson J, Russell E, Seesequasis J, Gamble E, Bird D, Naytowhow A, Pahwa P, Abonyi S, Episkenew J-, Dosman J. Housing conditions and respiratory outcomes in two Saskatchewan First Nations Communities. **Presented:** 14th Conference of the Canadian Rural Health Research Society; 2015 Sep 20-22; Edmonton, Alberta
- Kiryuchuk S, Rennie D, Karunanayake C, Lawson J, Russell E, Seesequasis J, Petite R, Bird D, Roberts F, Pahwa P, Abonyi S, Episkenew Jo-Ann, Dosman JA & the First Nations Lung Health Project Research Team. Addressing Housing and Respiratory Health through Community Engagement in Two Saskatchewan First Nations Communities. **Presented:** The 14th Conference of the Canadian Rural Health Research Society: Better Health for Rural Canadians: from Evidence to Practice. September 20th - 22nd, 2015, Edmonton, AB, Canada.
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- Kosteniuk J, Morgan D, O'Connell ME, Kirk A, Crossley M, Teare G, Stewart N, Dal Bello-Haas V, McBain L, Mou H, Forbes D, Innes A, Quail J. Simultaneous temporal trends in dementia incidence and prevalence, 2005-2013: a population-based retrospective cohort study in Saskatchewan, Canada. **Presented:** 8th Canadian Conference on Dementia. Ottawa, ON, October 1-3, 2015.
- Kosteniuk J, Morgan D, Seitz D, Holroyd-Leduc J, O'Connell ME, Kirk A, Stewart N. A study protocol for adapting and evaluating PC-DATA in rural primary health care. **Presented:** 14th Conference of the Canadian Rural Health Research Society. Edmonton, AB, September 20-22, 2015.
- Jaindl B, Dykes L, Coulthard J, Naylen J, Rochelau N, Bath B, Clay L, Idrees M, Trask C. (2016) Get 'er done: experiences of Saskatchewan farmers living with low back disorders. **Presented:** Canadian Physiotherapy Association's National Congress. May 26-28, 2016, Victoria, Canada.
- Janzen B, Karunanayake C, Hagel L, Lawson JA, Rennie DC, Pickett W, Senthilselvan A, Dosman JA, Pahwa P, for the Saskatchewan Rural Health Study Team. Determinants of Lung Function in Rural-Dwelling Women and Men. **Presented:** 48th Annual Meeting of the Society for Epidemiologic Research; 2015 Jun 16-19; Denver, Colorado USA.
- Janzen B, Episkenew J-A, Abonyi S, Karunanayake C, Gardipy J, Arnault D, Dosman JA, Pahwa P, & the First Nations Lung Health Project Research Team. Social and Economic Patterning of Self-Reported Discrimination among on-Reserve First Nations Women and Men in Saskatchewan, Canada. **Presented:** The Canadian Public Health Association conference 2015, May 25-28, Vancouver, BC, Canada.
- Lawson JA, Rennie D, Hagel L, Karunanayake C, Hagel L, Chu L, Pahwa P, Dosman JA. Atopic and Non-Atopic Childhood Asthma in a Rural-Dwelling Population, [Publication Number: A1713][abstract]. In: American Journal of Respiratory and Critical Care Medicine 191;2015:A1713. **Presented:** American Thoracic Society International Conference; 2015; Denver, Colorado.
- Lawson JA, Rennie DC, Karunanayake C, Hagel L, Pahwa P, Dosman JA. A longitudinal assessment of asthma and wheeze among rural dwelling children. **Presented:** The International Society for Environmental Epidemiology, Sao Paulo, Brazil, August 30 - September 3, 2015.
- Liu A, Trask C. Hand-Arm Vibration Assessment Using Exposure Prediction Models: A Systematic Review. **Presented:** IEA, 19th World Congress on Ergonomics. 2015; August 9-14, Melbourne, Australia.
- Liu A, Trask C, Pahwa P. Developing Exposure Prediction Models for Occupational Hand-Arm Vibration Exposure Using Administrative Data - A Cost-Effective Method of Hand-Arm Vibration Assessment. **Presented:** IEA, 19th World Congress on Ergonomics. 2015; August 9-14, Melbourne, Australia.
- Mahmood R, Trask C, Katselis G. Proteomic and Metabolomic Profiling of Chronic Lower Back Pain - A Literature Review. **Presented:** Saskatchewan Epidemiology Association (SEA) 15th Annual Conference. 2015; November 5-6 Regina, Canada
- Malloy-Weir LJ, Schwartz L, McKibbin KA, Yost JKT. Empirical relationships between numeracy and treatment decision making: A scoping review. **Presented:** Canada Annual Scientific Meeting. Halifax, Nova Scotia: May 11, 2015.
- Malloy-Weir LJ, Begoray D & Tatlock J. Nurses' perceptions of health literacy in adolescent patients: A qualitative descriptive study. **Presented:** UK Health Conference: Health Literacy at the Deep End: Addressing Health Inequalities. Glasgow, Scotland. March 18, 2016.
- Malloy-Weir L J, Schwartz L, McKibbin KA & Yost J. Charting a course to identify the contribution(s) of health literacy and numeracy to treatment decisions. **Presented:** UK Health Conference: Health Literacy at the Deep End: Addressing Health Inequalities. Glasgow, Scotland. March 18, 2016.



McFadden B, Jones McGrath K, Lowe T, Thiessen C, Irinici S, Shah T, Bath B. Examining Supply and Demand of Physiotherapy in Saskatchewan: What's the Relationship Between Where Physiotherapists Work and Population Health Needs? **Presented:** Canadian Physiotherapy Association Congress; 2015 Jun; Halifax, NS

McMullin K, Ramsden V, Gardipy J, McCallum L, Karunanayake C, Janzen B, Lawson J, Rennie D, Abonyi S, Dosman J, Episkenew JA, Pahwa P. Community Reflections on Addressing Environmental Challenges in Two First Nations. **Presented:** The 14th Conference of the Canadian Rural Health Research Society (CRHRS): Better Health for Rural Canadians: from Evidence to Practice. September 20th - 22nd, 2015, Edmonton, AB, Canada.

Morgan D, Kosteniuk J, O'Connell M E, Stewart N, Kirk A, Bracken J, Crossley M, Dal Bello-Haas V, Forbes D, Innes A, McBain L, Mou H, Parrott E. CCNA Team 20: Issues in Dementia Care for Rural and Indigenous Populations. **Presented:** 8th Canadian Conference on Dementia. Ottawa, ON, October 1-3, 2015.

Morgan D, Kosteniuk J, Stewart N, O'Connell ME, Kirk A, Crossley M, Dal Bello-Haas V, Forbes D, Innes A. Availability and primary health care orientation of dementia-related services in rural Saskatchewan, Canada. **Presented:** 68th Annual Scientific Meeting, The Gerontological Society of America. Orlando, FL, November 18-22, 2015.

Naqshbandi-Howard M, Paquette-Warren J, Tompkins J, Fournie M, Dannenbaum D, Dyck RE, Bailie R, Harris S. FORGE AHEAD Program: Assessing Readiness for Chronic Disease Care Mobilization in Canadian First Nations. **Presented:** World Diabetes Congress. Vancouver, Canada. November 30 - December 4, 2015.

O'Connell ME, Kirk A, Morgan D. Neuropsychological issues in the diagnosis of frontal variant frontotemporal dementia (fv-FTD): Executive function error interpretation may be useful for the elusive assessment of the ventromedial/orbitofrontal prefrontal circuits. **Presented:** 8th Canadian Conference on Dementia. Ottawa, ON, October 1-3, 2015.

O'Connell ME, Kirk A, Mou H, Morgan D. Financial consequences of early onset dementia: Focus on dementia due to frontotemporal lobar degeneration (FTD). **Presented:** 44th Annual Scientific and Educational Meeting, Canadian Gerontological Association. Calgary, AB, October 23-25, 2015.

Pahwa P, Karunanayake C, Hagel L, Rennie D, Elliot V, Lawson J, Janzen B, Kirychuk S, Pickett W, Senthilselvan A, Chen Y, Dosman J. Understanding respiratory health outcomes in rural populations: a longitudinal Saskatchewan Rural Health Study. **Presented:** 14th Canadian Rural Health Research Society Conference; 2015 Sep 20-22; Edmonton, Alberta.

Ramsden VR, McKay S, McMullin K, Seesequasis J, Gardipy J, L Gamble, J Nelson, Laura McCallum, F Ross, C Karunanayake, S Abonyi, J-A Episkenew, P Pahwa, JA Dosman. First Nation Lung Health Program: Community Chosen Intervention. **Presented:** North American Primary Care Research Group Annual Meeting, Cancun, Mexico, October 24-28, 2015.

Rennie D, Karunanayake C, Lawson JA, Dosman J, McMullin K, Arnault D, Gardipy J, Seesequasis J, Abonyi S, Episkenew J, Pahwa P. Damp Housing is a Risk Factor for Atopic Asthma and Wheeze in a First Nations Population of Children, [Publication Page: A2172][abstract]. In: American Journal of Respiratory and Critical Care Medicine 191;2015:A2172. **Presented:** American Thoracic Society International Conference; 2015; Denver, Colorado, USA.

Rostami M, Heiden M, Mathiassen SE, Trask C. Variance components of observed postural exposure: the effect of partly visible periods. **Presented:** Saskatchewan Epidemiology Association, 15th Annual Fall Symposium. November 5-6 2015, Regina, Canada.

Seesequasis J, Episkenew Jo-Ann, Dosman JA, Abonyi S, Rennie D, Ramsden V, Kirychuk S, Karunanayake C, Pahwa P, for the First Nations Lung Health Project Team. Addressing Inequities in Respiratory Health: A Focus on First Nations Housing. **Presented:** Healing Our Spirit Worldwide (HOSW) 2015, The Seventh Gathering, Hamilton, Aotearoa, New Zealand, November 15-19, 2015.

Taylor Gjevre R, Nair B, Sharma M, Bath B, Trask C, Penz E, Stewart S. Participant Recruitment for Rural RA Care Delivery Model Trial. **Presented:** Canadian Rheumatology Annual Scientific Meeting; 2016 Feb 17-20; Lake Louise, AB

Trask C, Zeng X, Khan M, Kociolek A, Bath B. The Farmers Back Study: Exposure Prediction Modelling as a Step Towards Prevention. **Presented:** CIHR Institute of Musculoskeletal Health and Arthritis Young Investigators Forum; 2015 Oct; Kananaskis, AB.

Trask C. The Farmers Back Study: Exposure Prediction Modelling as a Step Towards Prevention. CIHR Institute of Musculoskeletal Health and Arthritis (IMHA), **Presented:** Young Investigators Forum, October 22-23, 2015, Kananaskis, Alberta, Canada. Invited Published Abstract.

Zahan R, Khan S, Rennie D C, Karunanayake C, Dosman J, Episkenew J, Abonyi S, Pahwa P, Seesequasis J, Arnault D, Gardipy J. Spirometric Reference Equation for Aboriginal Children in Saskatchewan. **Presented:** The Canadian Society for Epidemiology and Biostatistics 2015 -CSEB Conference, Toronto, ON, Canada, June 1-4, 2015.

Zeng X, Kociolek A, Khan M, Bath B, Trask C. From combines to horses: measuring whole-body vibration exposure among Saskatchewan farmers. **Presented:** Saskatchewan Epidemiology Association (SEA) 15th Annual Fall Symposium. 2015; November 5-6 Regina, Canada. Second prize of the Saskatchewan Epidemiology Association Best Poster award.



CCHSA Masters and PhD Students



## 2015 SHRF ACHIEVEMENT AWARD TO DR. DEBRA MORGAN



**Dr. Debra Morgan** was presented the Saskatchewan Health Research Foundation 2015 Achievement Award at the annual Santé! Awards held during Health Research Week. The SHRF Media release noted that Dr. Morgan's work has fundamentally changed health service delivery in Saskatchewan for older adults with dementia and their family caregivers through the establishment of the innovative, telehealth-supported Rural and Remote Memory Clinic. "SHRF is pleased to recognize and celebrate Dr. Morgan for her contributions and expertise, her leadership and mentorship, and her dedication to improving human health," said SHRF CEO Heather Magotiaux. "We are fortunate to have Dr. Morgan actively working here in Saskatchewan."



**Top Research Fellowship Award, Socio-health, Saskatchewan Health Research Foundation** Comment: Awarded to Dr. Tayyab Shah, Post-Doctoral Fellow, Co-supervisors Dr. Steve Milosavljevic and **Dr. Brenna Bath**. "Toward Equitable Distribution of Primary Health Care: A Comparative Geospatial Examination of Access to Community Based Health Services Across Canadian Prairie Provinces"

**Special Recognition Award from the Saskatchewan Physiotherapy Association.** Awarded to collaborators involved in the development, implementation and evaluation of the Lighthouse physiotherapy service pilot project. (**B. Bath** Co-PI), April, 2016

**First Place People's Choice Poster Award,** Canadian Physiotherapy Association National Congress, May 2015: Examining Supply and Demand of Physiotherapy in Saskatchewan: What's the Relationship Between Where Physiotherapists Work and Population Health Needs? Awarded to: McFadden B, Jones McGrath K, Lowe T, Thiessen C, Irinici S, Shah T, **Bath B.**



In October 2015, **Debra Morgan** and the Rural Dementia Action Research (RaDAR) team were highlighted in an article on the Canadian Institutes of Health Research (CIHR) website for their ongoing work with the Rural and Remote Memory Clinic. The Clinic started as a research pilot project funded by CIHR in 2004, and continues thanks to ongoing support from the Government of Saskatchewan. Full article at <http://www.cihr-irsc.gc.ca/e/49485.html>

## STUDENT AWARDS

**Upkardeep Singh:**

- ITRaP PhD training award. 2015-16, \$20,000
- University of Saskatchewan, College of Graduate Studies, Graduate Scholarship Award, \$21,000. 2016-2019
- University of Saskatchewan, College of Medicine, Proficiency Award. 2016





  
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*Annual Report compiled & designed by Sueli B. de Freitas  
Edited by: Maura Gillis-Cipywnyk*