

Canadian Centre for Health and Safety in Agriculture

Centre canadien de santé et sécurité en milieu agricole









# 2013 - 2014 ANNUAL REPORT

& SUMMARY OF ACTIVITIES







#### **OUR MISSION**

 ${\sf T}$ O 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



If you are from Saskatoon or frequent the city may have noticed the new Academic Health Sciences E Wing at the intersection of College Avenue and Wiggins. The first floor of that building is our new home, and the bay window facing College Ave on the ground floor is the CCHSA Dr. James Dosman Board Room. We moved to our new home in October of 2013 and I'm sure I speak on behalf of everyone at CCHSA that we are very excited to be here. Our new space is home to state-of-the-art laboratories funded through a 5.8M Canadian Foundation for Innovation Infrastructure grant (University/Provincially matched to 15.2M). Collectively titled the National Agricultural Industrial Hygiene Laboratory, dedicated labs are focused on highly specialized areas including vibration & ergonomics, occupational hygiene, knowledge translation, injury control, occupational health screening, mass spectrometry, respiratory health, environmental epidemiology, and teletransmission among others. We look forward to officially opening our new location on October 17th 2014, just prior to the 7th International Symposium.

Notwithstanding such a major move, research and other activities continue. My rough math tells me that total active funding, including research, start-up, equipment and CFI, is around 15.4 million dollars currently. Most equipment for the new labs has arrived, including the recent delivery of the Mikrolar R3000 rotopod vibration simulator http://mikrolar.com/r3000.html. The Agricultural Health and Safety Network is three months into its first year of a five year strategic plan and has already reached its 1-2 year goal of 215 member Rural Municipalities. This means approximately 73% of Saskatchewan RMs are members of the Network http://aghealth.usask.ca. The Network also received an increase in funding from the Ministry of Agriculture, \$125K in total up from 100K the year before – thank you once again to the Ministry for the support and vote of confidence. CCHSA just underwent a Strategic Planning session in late June, with participation of Faculty, Staff, Board Members, previous Directors, and other colleagues. It was an engaging and stimulating session, with expert facilitation by Dr. Bruce Reeder from Community Health and Epidemiology. A report will be forthcoming and then the challenging part begins - to act on what was learned and move forward with the plan towards achieving the goals laid out.

Last, but certainly not least, planning is well underway for the 7th International Symposium: Safety and Health in Agricultural and Rural Populations – Global Perspectives, to be held in Saskatoon October 19-22, 2014. Almost 300 abstracts have been submitted and it is shaping up to be a great event bringing together colleagues, students, and partners from all over the world in the areas of agricultural, rural, and occupational health. Please check out the Symposium website at http://sharp2014. usask.ca.

I continue to be grateful for all the help and support from everyone at the Centre, making this work a privilege and pleasure. Wishing you a wonderful Saskatchewan summer and upcoming year,

Sincerely,

Niels Koehncke, MD, MSc, FRCPC

Acting Director,

Canadian Centre for Health & Safety in Agriculture

#### RESEARCH

2012-2017 ASSESS. REDRESS. RE-ASSESS: Addressing Disparities in Respiratory Health Among FIRST NATIONS PEOPLE

#### Purpose and objectives:

The First Nations Lung Health Project (Assess, Redress, Re-assess: Addressing Disparities in Respiratory Health among First Nations People) involves working in partnership with the two on-reserve communities: Community A and Community B. Purpose of this project is to evaluate relationships between individual and contextual factors and respiratory health. The project was launched in 2012 and will continue through to 2017.

The objectives of the study are:

- 1. To conduct an assessment of relationships between health determinants and respiratory outcomes in First Nations people living in two rural reserve communities;
- 2. For the communities to develop and conduct intervention
  - strategies aimed at addressing and redressing issues identified in the consultation process and those emerging from baseline studies;



3. To reassess by means of a pro-

Beardy's & Okemasis First Nation Treaty Day Duck Lake, SK spective evaluation of lung function and the effectiveness of intervention strategies;

4. To assess health care utilization patterns with regard to respiratory health outcomes.

The first two components (questionnaire evaluation of principal individual and contextual factors and clinical studies of lung function and allergy tests) of the first objective have been completed through population-based studies in the two First Nations communities. Baseline data collection has been completed. The third component (environmental measures in homes) is in progress. As a part of Objective 2, eight focus groups in the two communities were conducted to find out their views and their perception of housing conditions. The follow-up data collection (Objective 3) will occur in 2016. One of the other objectives of the study was capacity development. In the first phase of the study, University

students were trained from the communities to conduct blood pressure measurements, pulmonary function tests, and allergy tests. Two high school students were recruited from the community to transcribe the focus group audio tapes. In addition, the project benefitted greatly from having local young people leading the recruitment and testing for the study.

#### Progress to date:

Completed interviewer-administered questionnaires were obtained from 406 households (participation rate 70.0%) comprising 874 adults (participation rate 55.7%) living in those households. We obtained lung function measurements (FVC, FEV1, FEV1/ FVC ratio) on 672 adults (86.0% of 781 who consented to take part

in the lung function testing); allergy skin prick tests on 670 adults (86.8% of 772 who consented to take part in the allergy testing); and blood pressure, height and weight on 796 adults. Children study was conducted in four schools in the communities. Six hundred and three study packages were distributed to students in grades 1-12 in the study areas. 351 were returned with completed questionnaires and consents (response rate 58.2%).



Senator Allan Bird Memorial School, Montreal Lake, SK

Of these, 307 (50.9%) students underwent clinical assessments including questionnaire evaluation, lung function testing, and allergy testing. Environmental study is in progress. So far we have collected about 150 floor dust samples and 16 air samples from households in the research communities. The analyses of the results of the baseline study are well underway. To date the investigators have presented and published six abstracts at national and international conferences.

#### **The Research Team:** Principal Investigators on the project

are: James A Dosman, Punam Pahwa, and Sylvia Abonyi of the University of Saskatchewan and Jo-Ann Episkenew, Director of the Indigenous Peoples Research Centre, University of Regina. Co-Applicants include Donna Rennie, Josh Lawson, Shelley Kirychuk, Chandima Karunanayake, Niels Koehncke, Mark Fenton, John Gordon, and Bonnie Janzen from the University of Saskatchewan, Ambikaipakan Senthilselvan and Malcolm King from the University of Alberta, Greg Marchildon from the University of Regina, and Leslie McBain from the First Nations University of Canada. Dr. Tom Smith-Windsor of Prince Albert (also Associate Dean, Rural Health College of Medicine) is Medical Advisor to the study. Other participants include Roland Dyck, John Dosman, Breanna Davis, Amy Zarzeczny, Louise Hagel, Kathleen McMullin, and Health Directors of Community A and Community B.

This study was funded by a grant from the Canadian Institutes of Health Research

## RURAL DEMENTIA CARE ACTION RESEARCH (RADAR) - Research Developed in Partnership with Community

A Decision-Maker Advisory Council, consisting of front-line health care providers and managers, family members of people with dementia, health region representatives, international researchers, and governmental and community based organizations provides guidance to the team's research. This input ensures that research is relevant to the people of our province. The Advisory Council also actively supports the research team by taking research results back to their communities. This iterative process informs the development and implementation of all team projects, and ensures that research knowledge is shared and put into practice.

Each year the RaDAR Decision-Maker Advisory Council, researchers, students, and others interested in rural dementia care meet for a two-day knowledge exchange Summit. The 6th Annual Summit of the Knowledge Network in Rural and Remote Dementia care was held in Saskatoon on October 24th and 25th, 2014. This year's Summit included invited guest Dr. Carrie Bourassa from First Nations University of Canada who is a co-lead of CCNA Team 20 (see paragraph below about CCNA). The Alzheimer Society of Saskatchewan (ASOS), a key member of the RaDAR team,



also had a strong prescence at the Summit. Over the past year ASOS received increased funding from the provincial government to expand its First Link program to four rural health regions. The 2013 Summit meeting was the first time the new First Link Coordinators from around the province came together to meet each other with 12 ASOS staff present at the event.

Students play an important role at the Summit each year; participating as researchers, and developing their skills in sharing and disseminating knowledge. For 2013, we were pleased to have the financial support of Pfizer to be able to offer a student poster



prize. This year's recipient was Psychology student Camille Branger for her poster titled "Factor analysis of the 12-item Zarit Burden Interview in caregivers of persons diagnosed with dementia". More information about the Summit can be

found on the team's website: http://www.cchsa-ccssma.usask.ca/ruraldementiacare/knrrdc.html

#### **RADAR Team Activities**

Team members are involved in a variety of complementary research interests. Current projects include:

• Rural and Remote Memory Clinic

The flag-ship project of the RaDAR team is the Rural and Remote Memory Clinic (RRMC). The clinic focus is diagnosis and management of atypical and complex cases of suspected dementia, where an interdisciplinary team assessment is most needed. Patients are seen by a neurologist, neuropsychology team, nurse,

physical therapist, and dietitian. The clinic streamlines processes to reduce repeated patient travel and to shorten the time to diagnosis by coordinating the team assessment on one day. The Saskatchewan TeleHealth network is then used for follow-up appointments. The Rural and Remote Memory Clinic was operated as a research project for the first five years, and now receives on-going funding from the Saskatchewan Ministry of Health. To date about 450 patients have been seen in the clinic, along with their family members. In August 2013 the clinic moved into a new space in the new Health Sciences



E-Wing building on campus specifically designed for the RRMC, and supported with funding from the Canadian Foundation for Innovation. This beautiful new space is much more comfortable and functional for team members, patients, and families. The layout and technologies that were custom-built to support the team facilitate training of student clinicians, and provide a better clinic-day experience for visiting patients and families. The clinic is shared with other researchers and is used to host a monthly Huntington's Disease clinic.

• Canadian Consortium on Neurodegeneration in Aging (CCNA)

The Canadian Consortium in 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. This 5-year initiative brings together 340 researchers across 20 research teams, organized into three Themes (prevention, treatment, care). 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 Rural and Indigenous research streams address three common research areas: community-based primary healthcare, appropriate tools for assessment and management of dementia, and building capacity to enhance the dementia care skills of rural health care providers and to develop a new generation of rural dementia care researchers.

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 teams to adapt best practices in dementia care to the local setting to address identified gaps. Pilot projects will investigate the clinical support tools (eg, assessment instruments, care pathways) needed by rural primary health care providers and will explore strategies for specialist-to-rural primary health care provider skills training and decision support. The research will begin in the summer of 2014



• Sun Country Dementia Working Group

Debra Morgan and Julie Kosteniuk are research members of the

Sun Country Health Region Dementia Working Group along with executive leadership from the Alzheimer Society of Saskatchewan and Sun Country Health Region. The group formed to improve health care services for individuals with dementia and to assist with the expansion of the Alzheimer Society's First Link program into the health region. The researchers' role has been to offer expertise in best practices in dementia care, assist with the collection of local data, and increase the health region's research capacity. This research-with-practice partnership has resulted in the collection of local data such as the Dementia Learning Needs Assessment Survey of Home Care staff to identify their work activities related to caring for individuals with dementia, perceived competence in performing these activities, and interest in continuing educational opportunities related to these activities. Data collection took place December 2012 to March 2013. Survey results and other local data will help to inform the health region's development of educational programs for health region staff and policy decisions impacting services for individuals with dementia and their families.

 Research developed in partnership with Health Quality Council

RaDAR and the Saskatchewan Health Quality Council are collaborating on a project to address the dearth of current epidemiological data regarding dementia in Saskatchewan. This project consists of:

- 1. a narrative review of nine national dementia plans to identify main themes;
- 2. an environmental scan examining the availability of dementia-related services across the care continuum and the primary health care orientation of dementia-related services, by health region; and
- a population-based retrospective cohort study of de-identified data from 10 linked administrative databases to identify prevalence, incidence, and patterns of health service use among individuals with dementia over a 12-year period (2001 to 2013).

Comparison of actual practices and recommended best practices in dementia care will identify gaps at the health region level across Saskatchewan and highlight practice, policy, and research priorities. This project is guided by a Steering Committee whose members include leadership from the Alzheimer Society of Saskatchewan, SK Ministry of Health, family physicians, nurse practitioners, Home Care client care coordinators, and RaDAR team members.

From Research to Action – Gateway to Rural International Initiatives in Dementia

In 2011 service providers, researchers and practitioners from around the world met at the 26th Alzheimer's Disease International Conference in Toronto, Canada to share their knowledge and experience about rural issues in dementia care. Debra Morgan was one of these initial researchers from countries including United Kingdom, Canada, France, Sweden, Australia and India who developed a vision to more effectively share initiatives that would improve the lives of rural people with dementia across the globe. In 2012 Alzheimer's Disease International facilitated a survey throughout its worldwide member associations. The survey results endorsed the benefits of connecting rural based services through a web based platform. The Gateway for Rural International Initiatives in Dementia (GRIID) emerged as a response to this survey and is now seeking contributions from around the world. You can learn more, and

contribute, at: www.ruraldementia.com





#### **Team Website**

To learn more about the

research and activities of the RaDAR team, please visit their rural dementia care website: www.cchsa-ccssma.usask.ca/ruraldementiacare

CCHSA faculty member Dr. Debra Morgan and members of the interdisciplinary Rural Dementia Care Action Research (RaDAR) team have been working together since 2003 to improve dementia care in rural settings.

## THE SASKATCHEWAN FARM INJURY PROJECT (SFIP) – PHASE 2

#### **Purpose and Objectives**

The purpose of SFIP-Phase 2 is to extend and expand study of the cohort assembled in SFIP Phase 1 in the context of the Population Health Framework (CIHR). In SFIP-Phase 2 our primary focus will be specific types of farm injury and their determinants in vulnerable subgroups of the agricultural population. Second, we will conduct a series of analyses in order to explore promising risk factors for farm injury as well as risk factors for other outcomes. Third, we will use the opportunity to evaluate components of a provincial agricultural health and safety initiative. The long-term goal of the project is to provide new information that will inform the development of interventions directed at the prevention of injury within both farm populations and agricultural production settings. The new features of Phase 2 will be: 1) to develop a cohort of farming and non-farming rural children and youth and 2) for the first time we will examine musculoskeletal injuries in a population of Canadian farmers.

#### The Research Team:

The research team comprises members from Saskatchewan, Ontario, Alberta, the United States and Australia.

Dr. Will Pickett (Queen's University) and Dr. Jim Dosman (University of Saskatchewan) will lead the research team. Co-investigators include Dr. Josh Lawson (University of Saskatchewan), Dr. Barbara Marlenga (Marshfield Clinic, Wisconsin, USA), Dr. Robert Brison (Queen's University), Dr. Lesley Day (Monash University), Dr. Don Voaklander (University of Alberta), Dr. Catherine Trask (University of Saskatchewan), Dr. Niels Koehncke (University of Saskatchewan) and Ms Louise Hagel (University of Saskatchewan). Ms. Valerie Elliot is the project research assistant.

#### **Trainees:**

Three graduate students, Ms. Yvonne Dewit, Ms. Michelle McMillan and Mr. Samuel Essein are participating in the project. Ms. Dewit and Ms. McMillan are Master's candidates from Queen's University and Mr. Essein is a Master's candidate from the University of Saskatchewan. All the students are using baseline data to conduct their research.

#### **Progress to Date:**

Baseline data collection for the Farm Family Cohort was conducted January to March 2013. There are 1,218 farms and 2,850 persons living on those farms enrolled in the study. The data has been electronically encoded and data analysis is ongoing. The follow-up study for this cohort began in November 2013. The baseline data collection for the children's cohort was conducted in February and March of 2014. The project was conducted with the co-operation of 45 schools in rural communities. There are 2,399 children currently enrolled in the study. The follow-up study for the children's cohort will begin in November 2014.

This project is funded by the Canadian Institutes for Health Research (CIHR). For detailed information about the study including a list of publications please contact Louise Hagel, Study Manager at louise.hagel@usask.ca.

## THE SASKATCHEWAN RURAL HEALTH STUDY (SRHS)

#### **Purpose and Objectives:**

SRHS is a large observational prospective study of respiratory health in rural dwellers in Saskatchewan. The goal of the SRHS is to develop a better understanding of the factors that influence respiratory health in rural Saskatchewan. Our hope is that this will lead to more effective respiratory health promotion and respiratory disease prevention efforts.

#### The Research Team:

The research team is lead by Dr. James Dosman and Dr. Punam Pahwa of the University of Saskatchewan. Co-investigators include Dr. Josh Lawson, Dr. Donna Rennie, Dr. Chandima Karunanayake, Dr. Shelley Kirychuk, Dr. Niels Koehncke, Dr. Bonnie Jensen, Dr. Roland Dyck from the University of Saskatchewan and Dr. Yue Chen, University of Ottawa, and Dr. Ambikaipan Senthilselvan, University of Alberta. Ms. Louise Hagel is the Project Manager and Ms. Valerie Elliot is the Research Assistant.

#### **Trainees:**

We have five graduate students participating in the project. Mr. Guangming Zhao, Mr. Luan Chu, Ms. Lakshmi Balakrishnan all master's candidate at the University of Saskatchewan. Ms. Rebecca Barry, Queen's University, and Ms. Meenu Rai, University of Saskatchewan, who have successfully defended their master's theses.

#### **Progress to Date:**

The project was launched in 2009 and will continue through to 2015. The baseline study was conducted in 2010/2011 and 8,257 adults from 4,622 rural households participated along 2,383 children attending schools in the study areas. The follow-up study was conducted during the winter of 2014. The follow-up mail survey is complete and clinical assessments are ongoing. To date 2,838 households and 841 children who participated at baseline have responded to the follow-up survey. Other components of the study currently underway are the environmental study of grain dust exposure and the health care utilization study. The analyses of the results of the baseline study are well underway. To date the investigators have published 8 manuscripts in peer reviewed journals.

This project is funded by the Canadian Institutes for Health Research (CIHR). For detailed information about the study including a list of publications please contact Louise Hagel, Study Manager at louise.hagel@usask.ca

#### THE SASKATCHEWAN FARM INJURY SURVEIL-LANCE PROGRAM

CCHSA continues to participate as the provincial collaborator in the Canadian Agriculture Injury Reporting program. This program has been ongoing in Saskatchewan since 1995. Existing mortality and morbidity data bases are used to track fatal and hospitalized farm injuries in the province. The farm injury surveil-

lance data bases currently hold de-indentified data for 410 fatal injury cases for the period 1990 to 2011 and 5135 hospitalized farm injury cases for the period 1990 to 2007. The provincial data are shared with the Canadian Agriculture Injury Reporting program at the University of Alberta and comprise part of the Canadian Agriculture Injury database.

The co-investigators on this project are Ms. Louise Hagel and Dr. Niels Koehncke of the Canadian Centre for Health and Safety in Agriculture, University of Saskatchewan. Collaborators on this project include the Office of the Provincial Coroner, the Saskatchewan Ministry of Health and the Occupational Health and Safety Division of the Saskatchewan Ministry of Labour Relations and Workplace Safety.

This project is funded by the Canadian Centre for Health and Safety in Agriculture, the Occupational Health and Safety Division of the Ministry of Labour Relations and Workplace Safety, Government of Saskatchewan, Canadian Agriculture Injury Reporting, the Canadian Agriculture Safety Association and Agriculture and Agri-food Canada.

#### MASS SPECTROMETRY LABORATORY

The Mass Spectrometry (MS) Laboratory of the Canadian Centre for Health and Safety in Agriculture (CCHSA) is part of the National Agricultural Industrial Hygiene Laboratory, which was established with CFI and University of Saskatchewan matching funds, and is housed in the new Health Sciences Building, College of Medicine. The MS lab is equipped with state of the art instrumentation capable of environmental (e.g. air particulates, dust) and agricultural samples analysis, pesticide analysis, global proteomics (e.g. identification of proteins, analysis of protein modification, characterization of protein-protein interaction), quantitative proteomics for discovery and validation of biomarkers, small molecule (drugs) analysis, metabolomics and clinical proteomics. Dr. G. Katselis is the lead CCHSA faculty in research programs focused on MS-based method development in the areas of agricultural and rural medicine, environmental and occupational health, clinical proteomics and metabolomics. His current research interests are: 1) Development of mass spectrometry-based techniques for the discovery, characterization, and validation of respiratory distress biomarkers in rural and agricultural populations. 2) Identifying biomarkers of human exposure to pesticides in order to prevent adverse health effects. This is done by developing mass spectrometry-based proteomic methods to detect biomarkers in serum, urine, and tissue samples from agricultural populations that have been exposed to pesticides. 3) Use of mass spectrometry-based techniques for the identification of biomarkers in various diseases such as cancer and diabetes. Research Team: George Katselis, Ph.D., Shelley Kirychuk, Ph.D., (Collaborator), Amanda Lambrecht, M.Sc., (Research Technician) and Olasoji Awoyera and Noman Hassan. (Students).

#### **CAPACITY BUILDING**

#### THE NATIONAL PARTNERS FUND

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

The Guardian categories, ranging from Bronze Guardians to Platinum Guardians recognize lifetime contributions of current and previous contributors in addition to new contributors.

Maura Gillis-Cipywnyk, Director of Institutional Advancement, is responsible for coordinating the program in consultation with the Management Committee which is comprised of 3 members who are Contributors and 3 members from the University of Saskatchewan. Current members include Chair: Lyndon Carlson, Vice-President, Marketing and Product Development, Farm Credit Canada; Terry Baker and University of Saskatchewan representatives: Dr. Niels Koehncke, Acting Director, Canadian Centre for Health and Safety in Agriculture, Dr. Bill Albritton, College of Medicine; Sue Verhille - Long, Financial Services Division.

This year's focus has been primarily on securing sponsorship for the 7th International Symposium: "Safety & Health in Agricultural and Rural Populations" to be held October 19-22, 2014 in Saskatoon.

## GRADUATE TRAINING PROGRAM IN PUBLIC HEALTH AND THE AGRICULTURAL RURAL ECOSYSTEM (PHARE)

The CIHR Strategic Training Initiative in Health Research entitled, "Public Health and the Agricultural Rural Ecosystem" (PHARE) provides scholarship support along the development continuum from Master's through to Post Doctoral Fellows to train and mentor young scientists. Trainees participate in an annual conference and an online agriculture medicine/public health course and seminar. The PHARE national graduate training program has a May 31st deadline for applications and runs until 2015.

#### 2013-2014 PHARE awardees:

#### **Post Doctoral Fellows**

- Renée Dallaire, Université Laval. PhD
- Juanita Bacsu, University of Saskatchewan
- Pascale Blais-Lecours, Université Laval
- Allison Cammer, University of Saskatchewan
- Joe Enright, University of Saskatchewan
- Amanda Froehlich-Chow, University of Saskatchewan
- Liz Gordon, University of Regina
- Kyungsu Kim, University of Alberta
- Stacey Lovo Grona, University of Saskatchewan
- Abayomi Olaniyi, University of Saskatchewan



- Oluwafemi Oluwole, University of Saskatchewan
- Shinjini Pal, University of Ottawa
- Robin Repta, University of British Columbia
- Janna Schurer, University of Saskatchewan
- Paulo Rogers da Silva Ferreira, Université Laval
- Arcadio Viveros Guzman, University of Saskatchewan
- Ming Ye, University of Alberta.

#### Master's

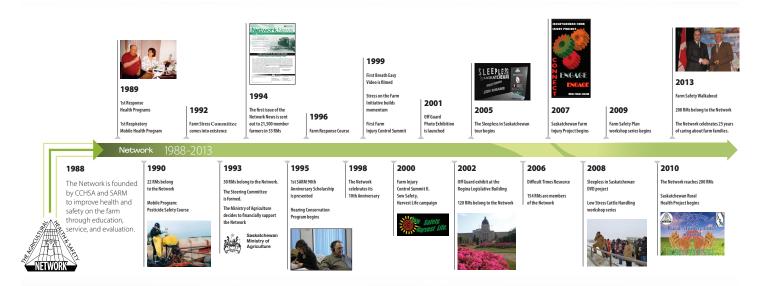
- Yvonne DeWit, Queen's University
- Géraldine Layani, Université Laval

#### **SERVICES**



### THE AGRICULTURAL HEALTH AND SAFETY NETWORK Celebrates 25 years!

The Canadian Centre for Health and Safety in Agriculture (CCHSA) partnered with the Saskatchewan Association of Rural Municipalities (SARM) and six Rural Municipalities (RMs) in 1988 and founded the Agricultural Health and Safety Network with the mission to improve health and safety on the farm through education, service, and evaluation research. In 2013, the Network celebrated its 25th Anniversary. This organization is now in its 26th successful year, providing occupational health and safety services to 208 RMs that are members of the Network. The Network continues to grow with a membership list of over 29,000 farm families. This steady increase attests to the viability and success of an agricultural health and safety program that is unique to Saskatchewan.



#### **Partnerships**

The Network works to develop community partnerships and relationships with local RMs and various organizations to increase awareness of farm health and safety. The Network also continues to partner with other organizations to increase the effectiveness of the program.

The Saskatchewan Alliance for Safety and Health in Agriculture (SASHA) is a provincial group that meets once a year to provide collaborative opportunities for the organizations that participate. It is an opportunity to work with other organizations that are also interested in farm safety, to prevent overlap of services and resources, and to best use our financial resources.

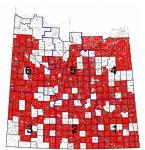
CCHSA will continue to host these annual meetings to ensure that all provincial farm safety organizations have the opportunity to build strong partnerships with each other.

#### **Strategic Planning Meeting**

CCHSA held a Strategic Planning Meeting June 2013 to address the future planning and direction of the Network. The recommendations from this meeting were used to develop the formal five year plan that will guide future Network activities.

#### Membership

Current membership includes 208 RMs. These RMs pay an annual fee of \$3.75 per active farm family to benefit from the Network resources and services. The maximum Network membership fee continues to be capped at \$1200 per RM. These partnerships act as the foundation of the Network and



provide leverage to draw in additional resources to better serve Saskatchewan farmers, their families and their workers.

The Network receives funding from RM fees, the Saskatchewan Ministry of Agriculture and other grants.

#### **Steering Committee**

The Steering Committee is an advisory group composed of RM councilors and a Saskatchewan Ministry of Agriculture representative. These committee members represent the voices of Saskatchewan farmers, their families and their workers to 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	Stanley Lainton	RM of Coalfields #4
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	Gary Hoppe	RM of Glenside #377
	Rick Bjorge	Ministry of Agriculture

#### **Hearing and Respiratory Clinics**

Clinics are an educational and screening service provided to rural residents in the Network RMs. A registered nurse works with farmers and their families in their local community to increase awareness of health and safety risks associated with respiratory and noise hazards on the farm, develop methods to reduce their exposure and show how together with their physician they can monitor the effects such hazards have on their health.

#### **Electronic Education**

The Network uses several avenues of electronic education. First, member RMs receive periodic emails to keep them up to date with coming events and opportunities. Second, our

website is a tool to get all of our resources electronically and is a location for our on-line videos. Third, Facebook has become another avenue for the Network to get information out to rural Saskatchewan. Lastly, we have produced one webinar with the Ministry of Agriculture last year, and intend to do more in the future.

#### **Network Newsletters**

This resource is published twice a year and mailed to Saskatchewan farm families that are enrolled in the Network by their RM. Currently over 29,000 farm families receive this farm safety reminder that includes current opportunities, scholarship information, farm safety tips and contact information.

This issue celebrated the Network's 25th anniversary year. It displayed a timeline, explained the founding of the Network, and discussed what the Network has become. It also talked about the long term CCHSA health and safety initiatives and research at CCHSA







Network Team

#### Winter Issue 2013

This issue introduced our new location. It discussed the Network's strategic planning, the Canadian farm safety record, awareness of Hantavirus, and included CCHSA research updates.

#### **Annual Package**

The winter issue of the Network News was delivered with the



Save Your Breath: Respiratory Safety in Agriculture resource tucked into the centre fold. It was created as a complement to the previous year's respiratory Safety DVD which is available both on the website as well in hard copy from the Network. CCH-SA research recognizes that respiratory hazards on the farm are a major concern

for the agricultural industry, and continues to focus on farming related health issues including respiratory disease, and chemical and environmental exposure in the work-place.

#### **SARM Scholarship**

History: In 1995, the Saskatchewan Association of Rural Municipalities (SARM) auctioned 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 Centre for Health and Safety in Agriculture (CCHSA). These funds initiated the SARM 90th Anniversary \$1,000 Student Scholarship in Agricultural Safety & Rural Health. The Founding Chairs Program at CCHSA maintains the scholarship.

This year two scholarships of \$1500 were awarded to two students who submitted the best essay about The Importance of Safety and Health on Our Farm or Safety and Health Hazards on Our Farm.



Bevan Jensen RM of Milden # 286

"In time, I hope that statistics will be able to report a much lower number of fatalities and injuries related to the agriculture industry. I believe this will only happen as each farm takes on the responsibility to provide a safe and healthy work environment for everyone concerned."



Hannah Friesen RM of Laird # 404

"So you see, it is hard work that makes us, both tractors and farmers, who we are. But it is safety, I think, which keeps us around, year after year, producing food for all the world and handing down our responsibilities to the newest of generations."

#### TECHNICAL REPORTS & PRESENTATIONS RELEVANT TO ACADEMIC FIELD

#### **KTE & Invited Presentations**

**Lawson J.** Asthma across an urban-rural gradient. Paper presented at: Saskatchewan Thoracic Society Professional Education Day; 2013; Saskatoon, SK

**Kosteniuk J, Morgan D.** Dementia Learning Needs Assessment. Presentation and large group discussion at the Knowledge Network in Rural and Remote Dementia Care: Sixth Annual Summit, Saskatoon, October 25, 2013.

**Kosteniuk J.** 2013. Dementia Care in Rural Primary Health Care. Canadian Centre for Health and Safety in Agriculture Seminar. Saskatoon, April 2, 2013.

**Trask C.** Ergonomics and Musculoskeletal Health: Three Flavours of Research. College of Kinesiology Research Seminar, University of Saskatchewan, November 17, 2013, Saskatoon, Canada.

**Trask C.** Ergonomics and Musculoskeletal Health: Three Flavours of Research. College of Medicine Grand Rounds, University of Saskatchewan, October 2, 2013, Saskatoon, Canada.

Morgan D, Kosteniuk J, Crossley M, O'Connell M.E, Kirk A, Stewart N, Dal Bello-Haas V, Forbes D, Innes A, McBain L, Mou H, Parrott E. Team 20 of the Canadian Consortium on Neurodegeneration in Aging (CCNA): Rural Dementia Action Research (RaDAR). A poster presentation at Health Care Quality Summit, Saskatoon, May 7, 2014.

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and Health Quality Council Baseline Dementia Gap Analysis. Presentation to Sun Country Health Region Dementia Strategic Planning Meeting. Weyburn, April 17, 2014.

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Morgan D, Kosteniuk J, Stewart N, Karunanayake C, Beever Rob, O'Connell M. Psychometric Evaluation of the Telehealth Satisfaction Scale (TeSS). A poster presentation at Knowledge Network in Rural and Remote Dementia Care: Sixth Annual Summit, Saskatoon, October 24, 2013.

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**Morgan D**, Kosteniuk J. 2013. Rural Dementia Care Research Program. Presentation to Health Quality Council. Saskatoon, April 23, 2013.

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**Trask C.** Preliminary ergonomic evaluation of barn tasks in intensive swine production. Journal of Agromedicine, Oct, 18(4):367-78. http://www.ncbi.nlm.nih.gov/pubmed/24125052.

### CONFERENCE PROCEEDINGS & ABSTRACTS

Adebayo O, Trask C, Khan MI, Bath B. Prevalence of Low Back Disorders in Farmers: consideration of gender distribution, job context and commodity. Saskatchewan Epidemiology Association (SEA) Annual Conference. November 7-8, Regina, Canada.

**Birkett P, Dunlop A, Edvardsson D, Cutler C, Innes A, Board M, Cash M, Morgan D, Cammer A, Dias A.** Gateway to Rural International Initiatives in Dementia (GRIID) connecting services internationally. Alzheimer's Australia

15th National Conference, Tile of Life – Coulouring the Future, Hobart, Tasmania, May 14-17, 2013.

Branger C, O'Connell M, Morgan D. Factor analysis of the 12-item Zarit Burden Interview in caregivers of persons diagnosed with dementia. 74th Annual Canadian Psychological Association Conference, Quebec, QC, June 13-15, 2013.

Cammer A, Morgan D, Crossley M, Stewart N, Kirk A, Forbes D, D'Arcy C, Dal Bello-Haas V, McBain L, O'Connell M, Bracken J, Kosteniuk J. Evolution of a community-based participatory approach in a rural and remote dementia care research program. A poster presentation at The 12th Conference of the Canadian Rural Health Research Society, Prince George, November 13-15, 2013.

Cammer A, Whiting S, Morgan D. The intersection of resident-centered care and best practices for nutrition care in long-term care. Gerontological Society of America Annual Meeting, New Orleans, LA, November 20-24, 2013

**Cammer A, Morgan D, Innes A.** Evaluation of a knowledge translations and exchange initiative in rural and remote dementia care. Gerontological Society of America Annual Meeting, New Orleans, LA, November 20-24, 2013.

Cammer A, O'Connell M, Morgan D, Whiting S. Functional ability to eat and drink in persons with Alzheimer versus non-Alzheimer dementias. Canadian Association on Gerontology 42nd Annual Meeting Halifax, NS, October 17-19, 2013.

Chu L, Rennie DC, Cockcroft D, Pahwa P, Dosman JA, Hagel L, Karunanayke C, Lawson J. Do farming exposures protect school age children from hayfever and atopy?[abstract]. In: American Journal of Respiratory and Critical Care Medicine. American Thoracic Society International Conference; 2014; San Diego, CA. Meeting Abstracts. 189, 2014.

Dal Bello-Haas V, O'Connell M, Morgan D, Crossley M. Lessons learned: Feasibility and acceptability of a telehealth delivered exercise intervention for rural-dwelling individuals with dementia and their caregivers. Canadian Association on Gerontology 42nd Annual Meeting Halifax, NS, October 17-19, 2013.

Dosman JA, Gjevre JA, Karunanayake C, Rennie DC, Lawson J, Hagel L, Dyck R, Gordon J, Pahwa P. Predicting sleep apnea in the clinic[abstract]. In: Chest. Chest World Congress; 2014; Madrid, Spain. Meetign Abstracts. 145, 2014.

**Essien S, Trask C.** Association between whole body vibration and low back disorder in farmers: a systematic review. 7th International Symposium on Agricultural and Rural Health, Saskatoon, Canada, October 2014.

Estabrooks C, Poss J, Norton P, Doupe M, Morgan D, Squires J, Cummings G. When facility averages mislead: The importance of unit level quality monitoring. Podium presentation. Academy of Health Annual Research Meeting, Baltimore, MD, June 23-25, 2013.

Guarrasi J, Trask C, Kirychuk S, Sanson C. A systematic review of occupational exposure to hydrogen sulfide in livestock operations. 7th International Symposium on Agricultural and Rural Health, Saskatoon, Canada, October 2014.

Janzen B, Bryce R, Karunanayake C, Hagel L, Dosman JA, Pahwa P. & the Saskatchewan Rural Health Study Research Group. What explains socioeconomic Inequalities in Health in a Rural Canadian population? The Canadian population Society Annual Meeting, June 5-7, 2013, Victoria, British Colombia, Canada.

#### **CONFERENCE PROCEEDINGS & ABSTRACTS**

Karunanayake C, Lawson J, Rennie DC, Hagel L, Dosman JA, Pahwa P. Assessing airflow obstruction in a rural population: The Saskatchewan Rural Health Study[abstract]. In: Chest. Chest World Congress; 2014; Madrid, Spain. Meeting Abstracts. 145, 2014.

Kosteniuk J, Wilson E, Penz K, Andrews M, MacLeod M, Stewart N, Kulig J. Development and testing of the Primary Health Care Engagement (PHCE) scale: Nursing Practice in Rural and Remote Canada (RRN2) Pilot Study. A poster presentation at TUTOR-PHC Alumni Knowledge Translation and Networking Symposium, King City, May 3, 2013.

Lawson J, Rennie D, Dyck R, Cockcroft D, Pahwa P, Oluwole O, Afanasieva A. Childhood asthma and related conditions along an urban-rural gradient[abstract]. In: American Journal of Respiratory and Critical Care Medicine. American Thoracic Society International Conference; 2014; San Diego, CA. Meeting Abstracts. 189, 2014.

Lawson J, Goodridge D, Rennie D, Marciniuk D, Zhao G. Participation and activity limitation in Canadian children[abstract]. In: American Journal of Respiratory and Critical Care Medicine-Abstract Issue. American Thoracic Society International Conference; 2013; Philadelphia, USA. 187:A4567, 2013.

Madani K, Vlaski E, Rennie D, Lawson J. An investigation of reasons for international variation in asthma prevalence[abstract]. In: American Journal of Respiratory and Critical Care Medicine. American Thoracic Society International Conference; 2014; San Diego, CA. Meeting Abstracts. 189, 2014.

Morgan D, Kosteniuk J, Stewart N, Karunanayake C. Validity and Reliability of the Rural and Remote Memory Clinic Telehealth Satisfaction Questionnaire. The 66th Annual Scientific Meeting, The Gerontological Society of America, November 20-24, 2013, New Orleans, Louisiana, USA.

Morgan D, Kosteniuk J, Crossley M, O'Connell M, Kirk D, Stewart N, Dal Bello-Haas V, Forbes D, Innes A, Vaitheswaran S, Murdoch A. Rural primary health care for dementia: A Community-based participatory research approach. A poster presentation at Gerontological Society of America 66th Annual Scientific Meeting, New Orleans, November 20-24, 2013.

Morgan D, Cammer A, Crossley M, Stewart N, Kirk A, Forbes D, D'Arcy C, Dal Bello-Haas V, McBain L, O'Connell M, Bracken J, & Kosteniuk J. Evolution of a community-based participatory approach in a Rural and Remote Dementia Care Research Program. Canadian Association for Health Services and Policy Research Annual Conference, Vancouver, BC, May 28-31, 2013.

O'Connell M, Enright J, Crossley M, Morgan D. Dementia caregiver burden: Associated with apathy/disinhibition vs neuropsychological tests or iADLs. Gerontological Society of America Annual Meeting, New Orleans, LA, November 20-24, 2013.

Pahwa P, Karunanayake CP, Rennie DC, McMullin K, Lawson J, Seesequasis J, Naytowhow A, Owusu-Kyem A, Hagel L, Abonyi S, Episkenew J-A, Dosman JA. Prevalence of chronic bronchitis in First Nations People. The Chest World Congress 2014, 21-24 March 2014, Madrid, Spain.

Pahwa P, Abonyi S, Karunanayake C, Rennie D, Lawson J, McMullin K, Seeseequasis J, Naytowhow A, Fenton M, Janzen B, Hagel L, King M, Kirychuk S, Koehncke N, McBain L, Senthilselvan A, Marchildon G,

Smylie J, Episkenew J-A, Dosman JA. An application of a population health framework to understand respiratory health among First Nations People. Canadian Public Health Association 2013 Annual Conference, Ottawa, Canada, June 9-12, 2013.

Rennie DC, Hagel L, Karunanayake C, Dosman JA, Lawson JA, Pickett W, Pahwa P. Access to health care and the respiratory health of households members in Rural Saskatchewan: The Saskatchewan Rural Health Study. Canadian Respiratory Conference 2014, April 24 - 26, 2014, Calgary, Alberta, Canada.

Rennie DC, Karunanayake C, Pahwa P, Chen Y, Lawson JA, Hagel L, Dosman JA. Assessing associations between asthma and obesity: measures of adiposity. In: American Journal of Respiratory and Critical Care Medicine-Abstract Issue. American Thoracic Society International Conference; 2013; Philadelphia, PA. 187: A4559, 2013.

Rennie DC, Karunanayake C, Pahwa P, Hagel L, Seeseequasis J, Naytowhow A, Russell B, Warkentin S, Dosman J & the First Nations Lung Health and Saskatchewan Rural Health Study Groups. A Study of the respiratory health of First Nations children living in rural Saskatchewan: Methodological approaches and comparisons with the Saskatchewan Rural Health Study: Children's component. The 12th Canadian Rural Health Research Society Conference, November 13-15, 2013, Prince George, BC, Canada.

Rennie D, Karunanayake C, Dosman J, Lawson J, Abonyi S, Episkinew J, McMullen K, Russell B, Warkentin S, Naytowhow A, Pahwa P. Domestic risk factors for childhood asthma and wheeze in a First Nations population. In: American Journal of Respiratory and Critical Care Medicine. American Thoracic Society International Meetign; 2014; San Diego, CA. Meeting Abstracts. 189, 2014.

Rumsey D, Rezaei E, Karunanayake C, Oen K, Rosenberg AM, Shiff N. Predicting progression from oligoarticular to polyarticular juvenile arthritis. The American College of Rheumatology Pediatric Rheumatology Symposium 2014, April 3-6, 2014. Orlando, FL, USA. Arthritis & Rheumatology 2014; 66(S11): p. S104.

**Sabounchi NS, Jungheim E, Hovmand P, Osgood ND, Dyck RF.** Modeling Pregnancy weight gain for early childhood and maternal obesity prevention. Institute for Public Health's 6th Annual Conference. Washington University in St. Louis. St. Louis, MO. October 15-16, 2013.

Shrestha R, Trask C, Lanovaz J, Paterson Q, Dinh A. Lab-based validation of an occupational kneeling sensor. Association of Canadian Ergonomists 44th Annual Conference. October 8-10, Whistler, Canada.

**Sokoluk S, Rennie DC, Lawson J, Goodridge D.** A comparison of asthma severity to quality of life (QOL) perceptions: children with asthma and their caregivers. In: American Journal of Respiratory and Critical Care Medicine-Abstract Issue. American Thoracic Society International Conference; 2013; Philadelphia, PA. 187: A4562, 2013.

**Trask C, Mathiassen SE, Wahlström J, Forsman M.** Getting what we pay for: Comparing the cost efficiency of observation and directs measurement of working posture. Association of Canadian Ergonomists 44th Annual Conference. October 8-10, Whistler, Canada.

**Trask C, Shelley Kirychuk.** Musculoskeletal symptoms and biomechanical exposures in intensive swine production. North American Agricultural Safety Summit. September 25-27, Minneapolis, USA.

**Trask C, Mathiassen SE, Wahlström J.** Getting what we pay for: comparing the cost efficiency of direct and observed trunk posture methods. 8th International Conference on the Prevention of Work-related Musculoskeletal Disorders: PREMUS 2013. July 8-11, Busan, Korea.

**Trask C.** Musculoskeletal risk factors of intensive swine operations: the Ergo-pig project. PREMUS 2013. July 8-11, Busan, Korea.

Xiao L, Rennie D, Oluwole O, Afanasieva A, Lawson J. Validation of a community support scale and its role in childhood asthma[abstract]. Paper presented at: 12th Conference of the Canadian Rural Health Research Society; 2013; Prince George, BC

## FACULTY, STUDENTS & STAFF NEWS & AWARDS

#### **AWARDS**



James A. Dosman, recipient of the "Distinguished Service In Agricultural Safety And Health" at the 2013 North American Agricultural Safety Summit by the Board of Directors of the Agricultural Safety and Health Council of America (ASHCA), for his pioneering research in agricultural diseases and ongoing commitment to the safety and health of North American

farm workers and their families.

**Catherine Trask**, Winner of the Best Paper Presentation Award, 8th International Conference on the Prevention of Work-related Musculoskeletal Disorders: PREMUS 2013. July 8-11, Busan, Korea.

**Debra Morgan** has been designated a visiting professor in the School of Health & Social Care at Bournemouth University, UK, until December 2015.

**Debra Morgan** was awarded the Bronze Medal Research Award from the Department of Medicine, University of Saskatchewan in May, 2013.

MI Khan, Second prize of the Saskatchewan Epidemiology Association Best Poster award. Systematic review of low back disorders in farmers: Low back disorder research in developed & developing nations. Saskatchewan Epidemiology Association (SEA) Annual Conference. November 7-8, Regina, Canada.

**Julie Kosteniuk** was Appointed Professional Research Associate at CCHSA in September 2013. She also received a CIHR Institute Community Support Travel Award (Institute of Health Services and Policy Research) in May 2013.

Allison Cammer received a CIHR Institute Community Support Travel Award (Institute of Aging) in November, 2013 and; a graduate student travel award from the Canadian Association on Gerontology in October, 2013.

**Allison Cammer** received the Canadian Association on Gerontology's Schlegel-University of Waterloo Research Institute for Aging PhD award in October, 2013.

**Joseph Enright** received a two-year Fellowship with the Technology Evaluation in the Elderly Network (funded by the federal Networks of Centers of Excellence Program) in April of 2014.

#### **GRADUATE STUDENTS**

**Muhammad Khan**, PhD in Community Health and Epidemiology, "Exposure to risk factors for low back disorder in farmers", Primary Supervisor, Community Health and Epidemiology, University of Saskatchewan, Canada, 2014-present.

**Samuel Essien**, MSc in Community Health and Epidemiology, "Whole Body Vibration as a Risk Factor for Musculoskeletal Symptoms in Saskatchewan Farmers". Primary Supervisor, Community Health and Epidemiology, University of Saskatchewan, Canada, 2013-present

**Michelle McMillan**, MSc in Community Health and Epidemiology, "Musculoskeletal symptoms and physical exposures in Saskatchewan farmers". Co-supervised with Dr Will Pickett, Dept. of Community Health and Epidemiology, Queen's University, Canada, 2013-present.

**April Liu**, MSc in Community Health and Epidemiology, "Can Data Collected for Occupational Safety and Health Regulation Enforcement Be Used to Predict Exposure of Hand-Arm Vibration?". Primary Supervisor, Community Health and Epidemiology, University of Saskatchewan, Canada, 2012-present.

**Joseph Enright,** PhD Candidate, Psychology, thesis: Reminiscence for Caregivers of Persons with Dementia: A Model of Burden and Telehealth Service Delivery Consideration.

**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: An examination of best practices, training, and decision-making in nutrition care for residents with dementia in rural and urban long-term care homes.

**Tracey 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.

#### FACULTY, STUDENTS & STAFF NEWS & AWARDS

#### SUMMER STUDENT AND RESEARCH ASSISTANTS

**Miranda Andreas**, Master of Public Health student working on the project "Knowledge Translation Plan for the Saskatchewan Farm injury Project". University of Saskatchewan, Canada

**Justene Guarrasi**, Master of Public Health student working on the project "Systematic literature review of H2S exposure levels prior to adoption of ACGIH recommended limits". University of Saskatchewan, Canada

**Muhammad Khan & Olugbenga Adebayo,** Master of Public Health students working on the project "Systematic literature review of low back disorders in agriculture". University of Saskatchewan, Canada

Sanasi Jayawardena, from the University of Western Ontario spent a few months at CCHSA as part of her scholarship program. Sansai is a recipient of the Loran Award, a prestigious undergraduate scholarship administered by the Canadian Merit Scholarship Foundation, valued at up to \$80,000 and awarded to 30 students each year. The Loran Award is granted over four years of study, and consists of tuition waivers, living stipends, summer enrichment funding, and mentoring.

CCHSA HOME IN THE ACADEMIC HEALTH SCIENCES CENTRE, E-WING, UNIVERSITY OF SASKATCHEWAN





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