



IAREH News 2004 - 2005

Message from the Chair

"Building the Future"

Our vision of becoming the first and best in Canada and in the world in our research, postgraduate training, knowledge translation and outreach is materializing in the establishment of the Canadian Centre for Health and Safety in Agriculture (CCHSA). Changes at the University of Saskatchewan and across Canada are facilitating these goals. At the University of Saskatchewan we are planning for a new faculty to house the CCHSA national laboratory. We have an academic development plan aimed at achieving an outstanding core of scientists. Funds received from the Canadian Institutes of Health Research allow us to lead a national network of 55 scientists at 13 participating universities across Canada. We have developed a national training program for students at the Masters', PhD and postgraduate levels called "Public Health and the Agricultural Rural Ecosystem". Across Saskatchewan 158 municipalities now enroll more than 20,000 farm families in the Agricultural Health and Safety Network. These are exciting times in which we are achieving a climate of excellence for our research undertaking, training of our students, and sharing the results of our research with the broad community.

At this time, I would like to recognize the three Departments of the Government of Saskatchewan, Health, Agriculture and Food and Labour that make our work possible. Many individuals and organizations that contribute to our success include the Saskatchewan Health Research Foundation and the Canadian Institutes of Health Research, bring life-giving support to our effort. Our colleagues across the University of Saskatchewan, particularly in the Colleges of Nursing, Agriculture, the Western College of Veterinary Medicine and VIDO, provide the scientific linkages and moral support that are an important element of our success. Many private sector organizations including companies, co-operatives and foundations contribute to the success of our Founding Chairs Program. Our achievements and successes would not have been possible without your contributions.



Photo by: Sueli B. de Freitas

Finally, I want to thank our students, staff and faculty for your creativity and hard work in making the effort possible. To all of you, most sincere congratulations and best wishes on an excellent year.

To all my heartfelt thank you!

Sincerely,

William Albritton, Dean
College of Medicine
Chair, Board of Directors
Institute of Agricultural Rural and Environmental Health

Founding Chairs Program

In support of the Canadian Centre for Health and Safety in Agriculture, the Founding Chairs Development Fund Committee established the *BUILDING THE FUTURE* Campaign in conjunction with the University of Saskatchewan's "Thinking the World of Our Future" campaign. Campaign Co-chairs are Dennis Banda, Past President of Federated Co-operatives and LuAn Mitchell-Halter, President and CEO, Save the Planet. Industry, corporations and individuals are being invited to help realize the vision for the Centre through their contributions for equipment, special research projects, students training and knowledge translation. An official fund raising launch will take place in 2006.

Public Health: Canadian Centre for Health and Safety in Agriculture (CCHSA) / Centre Canadien de Santé et de Sécurité en Milieu Agricole

Funded under the CIHR Institute of Population and Public Health, Centres for Research Development, it includes 55 scientists in 10 Canadian universities as well as 7 international scientists and a Decision Maker's Advisory Council made up of representatives from government and communities in every province. Addressing the themes "What we breathe", "What we eat and drink", "How we work" and "How we live", the goal is to increase grant council funding, train students and effect knowledge translation. The program links Canadian and International researchers in new and more effective partnerships with the goal of addressing an important national issue. The Pilot Project program has funded four projects which provide interdisciplinary teams of researchers and their stakeholders with core infrastructure support, to access other research funds to develop integrated programs of research and knowledge exchange. Three post-doctoral fellows have also been funded in collaboration with the PHARE program. The Junior/Senior Release Time Support Program has funded one junior faculty member, which provides a stipend for salary replacement for the release of teaching duties to be used to increase time for CCHSA research.

Research

Prairie Ecosystem Study (PECOS)

As part of the PECOS study, gas chromatograph mass spectrometry analysis was used to measure concentrations of bromoxynil in plasma from residents of a cereal producing region during spring herbicide application. Bromoxynil is a phenolic herbicide which is widely used in production of cereals and other crops. Bromoxynil was detected in 44% of samples from men and 15% of samples from women. Bromoxynil was more likely to be detected in groups of individuals with higher body mass index. Funded by: Eco-Research Program, Tri-council Secretariat and the National Health Research Development Program.

Grainhandlers, Genetic Polymorphisms and Respiratory Health

Genetic polymorphisms, occupational exposures and lifestyle factors may each contribute to declines in respiratory health. Currently employed grainhandlers have volunteered for an international study to investigate the relative contribution of those factors. Funded by: In-kind by I.ARE.H and Kumamoto University, Japan.

Obstructive Pulmonary Disease and Risk of Cancer

A cohort study has been devised to study the potential relationship between obstructive pulmonary disease and risk of developing selected cancers. Funded by Health Canada.

One-Stop Memory Clinic for Seniors Living in Rural and Remote Saskatchewan

In March 2004, a team of researchers at the University of Saskatchewan implemented a new one-stop multidisciplinary Rural and Remote Memory Clinic that provides assessment, diagnosis, and management of early stage dementia for seniors living in rural and northern Saskatchewan. Telehealth videoconferencing is used for pre-clinic assessment and follow-up. At the one-day clinic in Saskatoon, patients have a comprehensive assessment by a team of specialists. Evaluation of the clinic and telehealth component will provide valuable information about the usefulness of this approach in improving access to specialized services for rural and

northern seniors. A number of related studies are being conducted by the team, including an evaluation of Magnetic Resonance Spectroscopy in enhancing accuracy of early diagnosis of dementia, a study of dementia care in northern Saskatchewan from the perspective of Registered Nurses, and an examination of challenges in accessing dementia care services by seniors in northern Saskatchewan. Funded by: Canadian Institutes of Health Research, University of Saskatchewan, Saskatchewan Health Research Foundation, and the Alzheimer Society of Saskatchewan. Telehealth Saskatchewan provides personnel and technical support.

Work Experiences of Nursing Aides Employed in Rural Nursing Homes

Behavioral disturbances are a common feature of many types of dementia and a frequent cause of admission to nursing homes. Physically aggressive behaviors are the most extreme example, and the most difficult for caregivers. Nursing aides provide most of the personal care to nursing home residents and therefore have more exposure to these behaviors compared to other staff. A team of researchers at the University of Saskatchewan is conducting a study to learn from nursing aides what they perceive as the causes of physically aggressive resident behavior and how they respond to these situations. Because earlier studies have been conducted in large urban facilities, this study will focus on rural nursing homes, which are often smaller and have less access to specialized programs and resources. Results will improve our understanding of these incidents and help in identifying intervention strategies. Funded by: The Saskatchewan Health Research Foundation.

Bridging the Gap between Environmental Contaminants and the Health of First Nations Communities.

First Nations people have long recognized that human health is intimately connected to the well being of the natural environment and the impact of environmental contamination has been a major human health issue for many First Nations Communities. To date, the links between environmental exposures and disease within First Nations communities remains elusive. The Federation of Saskatchewan Indian Nations in collaboration with the Saskatchewan Research Council and the University of Saskatchewan are conducting a community-based participatory research project aimed at investigating the potential links between environmental contaminants in First Nations Communities and Health using the Regional Health Survey data.

Exposure to Endotoxin and the Lung

Exposure to endotoxin results in or is associated with inflammatory response, airway remodeling and development of airways obstruction and/or asthma in exposed workers. Mutations at the Toll-like receptor 4 (TLR4) locus confer respiratory hyporesponsiveness to inhaled endotoxin. The range of human respiratory response to endotoxin is also presumably governed by polymorphisms of other genes yet to be described. Funded by: Canadian Institutes of Health Research.

Longitudinal Study with Farmers

In February 2004 a longitudinal study was completed with swine farmers, grain farmers and non-farming rural dwellers. This group of participants had been seen in 1990/91 and 1994/95 as well. The pulmonary function and exposure history data gathered from the 550 participants is currently being analyzed. Funded by: Canadian Institutes of Health Research.

Cross-sectional Study with Fully employed Swine Workers

As the swine industry is developing in the Prairies, the farming portrait is also changing with bigger operations that rely strongly on employed

labour compared to owner operated barns. In February 2004, a cross-sectional study was started to collect data on fully employed swine workers and non-farming rural dwellers. This makes the present research unique, as previous studies were done with swine farmers, who had a mixture of exposures from swine and grain farming. This study will continue during the winters of 2005 and 2006. Funded by: Canadian Institutes of Health Research.

Effect of Indoor Air Quality and Production Practices on Respiratory Health in Exposed Poultry Workers in Western Canada

This study involves collecting environmental samples (dust, endotoxin, ammonia and carbon dioxide) during the worker's work-shift and conducting health indicator measurements (lung function, respiratory symptoms, inflammatory response) before and after the worker has been in the poultry barn for their shift. Funded by: Canadian Institutes of Health Research.

The results, to date, indicate that workers who work with poultry which are raised in cages report more work related symptoms of cough, phlegm and wheeze and have greater changes in their lung function over the work-shift than do workers who work with poultry that are raised on the floor. To help us better understand why there may be differences between the workers response based on the type of poultry housing, we are further investigating each type of poultry barn (cage and floor based). Funded by: Canadian Institutes of Health Research.

Humboldt Cross Sectional Study

As part of the "Endotoxin and the Lung" study, the community of Humboldt, SK was visited in winter and spring of 2003/2004. Adults and children were included in this phase of the study. Questionnaires, pulmonary function testing and skin prick allergy testing were completed along with collection of genetic material from both adults and children. The purpose of this study was to include as many people from the community as possible to look at the relationship between genetic factors and respiratory disease. Funded by: Canadian Institutes of Health Research.

Humboldt Study of Asthma in Children

Based on data collected from the Humboldt cross-sectional study, children who were 5 to 17 years of age were selected as either cases or controls. Cases had a history of either asthma or wheeze while controls were free from these conditions. The purpose of this study was to investigate the relation between the indoor environment, specifically the independent and joint effects of endotoxin and tobacco smoke exposures, and lung health. The field work for this study began in March 2005 through the collection of questionnaire data, saliva samples, pulmonary function testing, floor dust measurements and two week peak flow monitoring of cases. Funded by: Canadian Institutes of Health Research.

Case-Control Study of Farm Machinery Injuries – Prairie Region of Canada (CCFMI)

Farm machinery related injuries are a major cause of death and disability on Canadian farms. The objectives of this study are aimed at identifying potentially modifiable risk factors associated with the individual, the environment and the farm machine, with a view to applying this knowledge to appropriate injury abatement strategies. The data collection phase of the study was completed by March 31, 2005. The analysis and publication of the data is ongoing. This study was funded by the Canadian Institutes of Health Research.

Canadian Agricultural Injury Surveillance Program (CAISP) – Saskatchewan Project

The surveillance of fatal and hospitalized farm-related injuries occurring on Saskatchewan farms is ongoing. The first comprehensive, population based report describing the frequency, severity and patterns of injury occurring on Saskatchewan farms was published in June, 2000. A second round of surveillance has been completed and an updated report for the time period 1990 to 2000 will be available in 2005. Funded by I.ARE.H, CAISP through a grant provided by the Canadian Agricultural Safety Association of Agriculture and Agri-Food Canada.

Student's Research

Allison Cammer, MSc Candidate. Thesis title: *Exploring Issues of Access in Utilization of Dementia Care Services by Seniors in Northern Saskatchewan*. PHARE Fellowship Recipient.

Chandrashekar Charavaryamath, PhD Candidate. Thesis title: *Multiple Exposures to Swine Barn Air and Lung Inflammation*. Department of Veterinary Biomedical Sciences, University of Saskatchewan. Founding Chairs Scholarship Recipient.

Abekar Chaukla, Summer Project Title: *Nonmalignant Respiratory Diseases and Cancer*. Department of Physiology, University of Saskatchewan and Institute of Agricultural Rural and Environmental Health.

Pamela Farthing, MSc. Candidate. Thesis Title: *A Study of the Relationships Between farming Activities and Respiratory Health in School Age Children*. I.ARE.H and Community Health and Epidemiology, University of Saskatchewan. Canadian Nurses Respiratory Association and Founding Chairs Scholarship Recipient.

Sunita Ghosh, PhD Candidate Thesis Title: *Modeling the longitudinal Changes in the Prevalence of Asthma in Canadian Female Population: An Analysis of National Population Health Survey (NPHS) Data*. College of Graduate Studies and Research Scholarship Recipient.

Patrina Gunness, MSc Candidate Thesis Title: *Mechanism of 2,4-Dichlorophenoxyacetic Acid – Induced Cytotoxicity*. Department of Toxicology, University of Saskatchewan. PHARE Fellowship Recipient.

Alomgir Hossain, MSc M.MATH Candidate. *Cross Canada Study of Pesticides and Health data analysis*. Summer Project. Department of Mathematics and Statistics and Institute of Agricultural Rural and Environmental Health. Institute of Agricultural Rural and Environmental Health, University of Saskatchewan Masters' Fellowship Recipient.

Shelley Kirychuk, PhD Candidate Thesis Title: *Endotoxin and Dust Distribution in Poultry Barns in Saskatchewan*, Interdisciplinary Studies (Industrial Hygiene).

Erin Laing, MSc Candidate Thesis Title: *West Nile Virus Risk Assessment in Rural Communities of Saskatchewan*. Department of Community Health and Epidemiology, University of Saskatchewan. PHARE Fellowship Recipient

Swanda Lanting, PhD Candidate Thesis Title: *Developing an Assessment Protocol to Detect Cognitive Impairment and Dementia in Aboriginal Seniors and to Investigate Cultural Differences in Cognition*. Department of Clinical Psychology, University of Saskatchewan. PHARE Fellowship Recipient.

Josh Lawson, PhD Candidate Thesis Title: *Effects of Endotoxin and Tobacco Smoke Exposure on Asthma and Asthma-like Symptoms in Children*. Department of Public Health Sciences, University of Alberta. Public Health and the Agricultural Rural Ecosystem – PHARE Fellowship Recipient.

Merry-Lynn McDonald, PhD Candidate Thesis Title: *Genetic Epidemiology of Atopy and the Hygiene Hypothesis*. Interdisciplinary Studies, Institute of Agricultural Rural and Environmental Health, University of Saskatchewan. Public Health and the Agricultural Rural Ecosystem – PHARE Fellowship Recipient.

Claire McGuigan, MSc Candidate. Thesis Title: *Genotoxicity and Cytotoxicity of Nitrate and Other Rural Drinking Water Contaminants*. Founding Chairs Scholarship and Toxicology Centre Graduate Scholarship Recipient.

David Vickers, M.Sc. Candidate Thesis Title: *Pertussis in Rural Areas of Saskatchewan: Surveillance of Morbidity and Changing Seasonal Profiles*. Community Health and epidemiology, Founding Chairs Scholarship Recipient.

Services

CANWORKSAFE

CANWORKSAFE has been busy in the last year. After a successful Sheet Metal Worker Screening Program in April 2004, some of the workers were followed up in April 2005. As well, the grainworker surveillance program continues with more interest in the hearing testing this year.

Canworksafe programs provide an opportunity for workers to have a regular health screening focused on their occupational exposures, and to receive current health information and education. This type of regular screening can help detect changes to health over time, identify changes or problems early and provide intervention, and educate workers to help reduce the risk of developing occupational health problems. Visit the website for more information on programs at: <http://iareh.usask.ca/occhealth/services.php>

Agricultural Health and Safety Network

In an effort to provide agricultural health and safety services to Saskatchewan farm families, the Institute of Agricultural Rural and Environmental Health, formerly Centre for Agricultural Medicine and the Saskatchewan Association of Rural Municipalities (S.A.R.M.) joined forces in 1988.

Eight new rural municipalities (R.M.s) joined the Network and two dropped out in the past year bringing the total membership to 154. This number of RMs is more than half of the total RMs in the province. The Network continues to benefit from the input of our steering committee, comprising six rural municipal leaders each representing one of the six divisions of S.A.R.M.

Rural Health Extension Programme's 2004-2005 Initiatives

OffGuard Photographic Exhibition: The OffGuard Photographic exhibition highlighting farm machinery injuries completed a two year tour of the province under the auspices of the Organization of Saskatchewan Arts Councils. From March 2003 to January 2005, the exhibition was shown in the following Saskatchewan communities: Watrous, North Battleford, Eston, Weyburn, Fort Qu'Appelle, Wynyard, Rosthern, Yorkton, Estevan, Outlook, Regina Beach, Maple Creek, Assiniboia, Preeceville, Melfort, Shaunavon, and Broadview. A University of Saskatchewan President's Grant enabled the printing of 2,000 OffGuard catalogues to be distributed in conjunction with the tour.

Media Award for Excellence in Farm Injury Control Reporting:

In 2002, with assistance from the Canadian Agricultural Safety and Health Program, I.ARE.H established a Media Award for Excellence in Farm Injury Control Reporting. The award's objective is to encourage Saskatchewan media to communicate farm injuries as preventable and predictable events. Media kits were mailed to newspaper, radio and

television outlets throughout Saskatchewan encouraging prominent and responsible farm injury control reporting during the production season. Jason Matity from CTV was presented with this award in November at the Farm Injury Control Summit. *Lonely Harvest*, his subject title, featured the dangers farmers face when working alone during the busy harvest season.

Farm Injury Control Summit – Nov. 8, 2004

The sixth annual Summit was attended by approximately one hundred delegates representing agricultural producers and producer groups, farm safety and health professionals, ag-related industry, rural municipal councils, and the provincial government. The Summit was co-hosted by I.ARE.H and SARM and sponsored by Saskatchewan Workers' Compensation Board, and the Agricultural Institute of Management in Saskatchewan (AIMS). Speakers included Louise Hagel, I.ARE.H, on Saskatchewan farm injury statistics; Harry Stilborn, Saskatchewan Labour, on the rights and responsibilities of agricultural owner operators; and Michelle Williams, producer, Wolseley, SK, on how injury incidents change lives. Cameron Wilk of Saskatchewan Agriculture Food and Rural Revitalization moderated the afternoon focus groups on safety training for new agricultural workers.

New Resources:

The annual package mailed in March included I.ARE.H's updated Farm Safety Audit Module 2: Driveline Safety, a Farm Emergency Information pamphlet, a Heart and Stroke Foundation fact sheet and Network News Spring 2005 with a lead story by Sean Silver on "Prescription Medications and Increased Injury Risk". A new slide talk presentation, entitled West Nile virus, was developed and pilot tested. I.ARE.H Slide Talk Presentations on eight topics are available for purchase or on loan to anyone interested in delivering one in their community. All Network printed materials are available at: <http://iareh.usask.ca/rhep/teaching.php>.

Program Delivery:

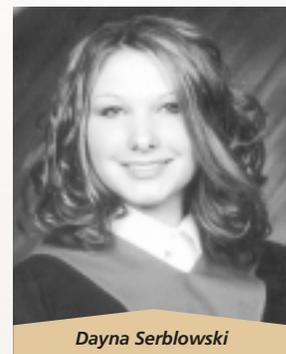
Farm Response Courses were offered in four RMs: Wolseley (#155); Fox Valley (#171); Moose Jaw (#161); and Turtle River (#469). The Respiratory Health Program for Farmers drop-in-clinics were held in Cambria (#44); Viscount (#341); and Fox Valley (#171); and Belle Plaine Hutterite Colony. Drager Safety provided N95 disposable dust masks which were given to producers at Respiratory Health clinics. The Hearing Conservation Program for Farmers drop-in-clinics were held in Cambria (#6); Lake Johnston (#102), Sutton (#103); Viscount (#341), Humboldt (#370); and Great Bend (#405); and Belle Plain Hutterite Colony. All these clinics were assisted by the Public Health Nurses who were trained in the Agricultural Health and Safety for Nurses training program offered by the Rural Health Extension Programme.

Newsletters:

Distributed twice a year to the farm families in the Network, the fall issue featured stories on rabies in rural Saskatchewan, farmyard power line safety, the winner of the 2004 SARM Scholarship and a safety alert for the livestock antibiotic Micotil 300®.

Student Scholarship:

Initiated in 1996 with funds from SARM and continued support from the Founding Chairs Fund, this award is given each year, to a grade 12 student, for a well written farm safety essay to support post-secondary education. This year's winner is Dayna Serblowski of the RM of Humboldt (#370). She is planning to enter the College of Agriculture at the University of Saskatchewan with the goal of pursuing a career in Veterinary Medicine.



Dayna Serblowski

Agricultural Health and Safety Training for Nurses:

This program is a partnership between the Rural Health Extension Program and the Regional Health Authorities. The Regional Health Authorities have identified a public health or primary care nurse as an agricultural health and safety nurse in ten health regions. The nurses act as farm safety and health consultants in their health regions and through partnership with the Network offer programs and services to farm families across the province. An annual professional development day was held at I.ARE.H on November 9th 2004 in conjunction with the sixth Farm Injury Control Summit.



Nurses at the Annual Professional Development Day.

Papers and Technical Reports

Andrews ME, Stewart N, Pitblado R, Morgan D, Forbes D, D'Arcy C. *Registered nurses working alone in rural and remote Canada.* Canadian Journal of Nursing Research, 2005; 37(1):14-33.

Baczkó I, Jones L, Mc Guigan CF, Manning Fox JE, Gandhi M, Giles WR, Clanachan AS, Light PE. *Plasma-membrane KATP channel-mediated cardioprotection involves posthypoxic reductions in calcium overload and contractile dysfunction: mechanistic insights into cardioplegia.* E-journal, March 2005. FASEB J.

Bharadwaj L, Dhami K, Schneberger D, Stevens M, Renaud C, Ali A. *Altered gene expression in human hepatoma HepG2 cells exposed to low-level 2,4-dichlorophenoxyacetic acid and potassium nitrate.* Toxicol in Vitro, 2005; 19:603-619.

Biem HJ, Klimaszewski A, Chen F. *Computer telephony in healthcare.* Electronic Healthcare. 2004;7:80-86.

Biem HJ. *Making the link: continuity of care.* Canadian Journal of Continuing Medical Education, Nov 2004; 105-108.

Boychuk Duchscher J, Morgan D. *Grounded theory: Reflections on the emergence vs. forcing debate.* Journal of Advanced Nursing, 2004; 48(6): 605-612.

Dimich-Ward H, Lawson JA, Hingston A, Chan-Yeung M. *Impact of workplace smoking policy on the respiratory health of food and beverage servers.* Scandinavian Journal Work Environmental Health, 2005; 31:75-81.

Forbes D, Jansen S, Duncan V, Morgan D. *Melatonin for cognitive impairment (Protocol).* The Cochrane Database of Systematic Reviews, 2005, Issue 2. Oxford: Update Software.

Forbes DA, Morgan DG, Bangma J, Peacock S, Pelletier N, Adamson J. *Light therapy for managing sleep, behaviour, and mood disturbances in dementia.* (Cochrane Review). In: The Cochrane Library, 2004; Issue 2. Chichester, UK: John Wiley & Sons, Ltd.

Frangou E, Lawson J, Kanthan R. *Evaluation of angiogenesis in male breast cancer.* World Journal of Surgical Oncology, 2005; 3:16-30

Hadjistavropoulos H, Biem HJ, Kowalyk K. *Measurement of continuity of care in cardiac patients: reliability and validity of an in-person questionnaire.* Canadian Journal of Cardiology, 2004;20:883-891.

Lawson JA, Senthiselvan A. *Asthma epidemiology: Has the crisis passed?* Current Opinion Pulmonary Medicine, 2005; 11:79-84.

Li Y.Z., Chénard L, Lemay S.P., Gonyou H.W. *Water intake and wastage at nipple drinkers by growing-finishing pigs.* Journal of Animal Science 2005; 83:1413-1422.

Morgan D, Stewart N, Crossley M, D'Arcy C, Biem J, Kirk A, Forbes D. *Dementia care in rural and remote areas: The first year of a CIHR New Emerging Team.* Canadian Journal of Nursing Research, 2005; 37(1):177-182.

Raju DL, Grover VK, Shoker A. *Can error in Glomerular Filtration Rate formulas explain their poor performance in transplant patients?* Letters to editor, Kidney International, 65 (6), 2004, 2445-2446.

Raju DL, Grover VK, Shoker A. *Limitations of glomerular filtration rate equations in the renal transplant patient.* Clinical Transplantation, 2005; 19:259-268.

Raymond G D, Mhanni AA., Grover VK, Lemire EG. *The Diagnosis of Pervasive Developmental Disorders: A Retrospective Analysis* College Newsletter, A publication of the College of Physicians & Surgeons of Saskatchewan, 2004; 20(59):11-12.

Semchuk KM, McDuffie HH, Senthiselvan A, Cessna AJ, Irvine DG. *Body Mass Index and bromoxynil exposure in a sample of rural residents during spring herbicide application.* Journal Toxicology and Environmental Health, Part A, 2004; 67:1321-1352.

Stewart N, D'Arcy C, Pitblado R, Morgan D, Forbes D, Remus G, Smith B, Andrews ME, Kosteniuk J. *A profile of registered nurses in rural and remote Canada.* Canadian Journal of Nursing Research, 2005; 37(1):122-145.

Torlakovic G, Grover VK, Torlakovic E. *Easy method of assessing volume of prostate adenocarcinoma from estimated tumor area: Using prostate tissue density to bridge gap between percentage involvement and tumor volume.* Croat Med Journal, 2005; 46(3):423-428.

Technical Reports Relevant to Academic Field:

Coshan R, Koehncke N. *Researched and updated information on West Nile Virus and precautions for outdoor workers – updated guideline was re-distributed to outdoor workplaces.* 2004.

Hagel L, Rennie D, Koehncke N. *Development of a proposal submitted to Sask Health to share hospitalization data on agricultural injuries for 2001-2004 and annually thereafter.* 2004.

Koehncke N. *Guidelines on the use of safety engineered sharps devices in Saskatchewan.* 2004.

Koehncke N. *Guide to vaccinations in the workplace.* 2004.

Koehncke N. *Medical fitness to wear respirator evaluations – a Guide for Physicians.*

MacLeod M, Kulig J, Stewart N, Pitblado R. *Nursing Practice in Rural and Remote Canada: Final Report to the Canadian Health Services Foundation, 2004.* Co-Investigators: K Banks, D Forbes, R Martin-Misener,

D Morgan, G Remus, E Thomlinson, L Zimmer, C D'Arcy, G Lazure, J Medves, A. Morton, B Smith, C. Vogt. Available on-line at <http://ruralnursing.unbc.ca>.

Stewart N, D'Arcy C, Pitblado R, Forbes D, Morgan D, Remus G, Smith B, Kosteniuk J. *Report of the National Survey of Nursing Practice in Rural and Remote Canada.* Saskatoon, Saskatchewan: University of Saskatchewan, Applied Research/Psychiatry and College of Nursing, 2004.

Conference Proceedings and Abstracts

Ali A, Dhama K, Schneberger D, Stevens M, Bharadwaj L. A *Toxicogenomic Approach to the Assessment of Rural Drinking Water Contaminants.* Presented: Fifth National Canadian Rural Health Research Society Conference, Sudbury, ON, October 21-23, 2004.

Andrews ME, Stewart N, Pitblado R, Forbes D, Morgan D. *The sole RN: Working alone in rural and remote Canada.* Presented: National Nursing Research Conference "Transforming Health Care through Nursing Research: Making it Happen," London, ON, May, 2004.

Biem S, Biem J, Olatunbosun OA. Outpatient induction of labour with controlled release prostaglandin E2 in Saskatoon, Saskatchewan. Presented: Society of Obstetricians and Gynaecologists of Canada, Edmonton, AB, June 25, 2004.

Cammer A, Brownlee M, Archibald K. Assessing the impact of the Good Food Box program. Presented: Life Sciences Graduate Student Conference, University of Saskatchewan, Saskatoon, SK, May 2004.

Cammer A, Morgan D, Crossley M, Kirk D, Biem J, D'Arcy C, Forbes D, Stewart N. Impact of community involvement on study design: Development and evaluation of a rural and remote memory clinic. Presented: Fifth Canadian Rural Health Research Society Conference, Sudbury, ON, October 2004.

Charavaryamath C, Juneau V, Janardhan K, Singh B. TLR-4 mediated pulmonary inflammation following swine barn exposure. Presented: Canadian Centre for Health and Safety in Agriculture (CCHSA) conference, October 2004, Quebec City, QC.

Charavaryamath C, Janardhan K, Singh B. Multiple exposures to swine barn air induced airway hyper-responsiveness and lung inflammation. Presented: European Respiratory Society, Eur Respir J, 24(48):449, Sept 2004, Glasgow.

Charavaryamath C, Janardhan K, Singh B. Multiple exposures to swine barn air: implications on lung function. Presented: National Forum for Young Investigators in Cardiovascular and Respiratory Health. May 2004, Winnipeg, MB.

Charavaryamath C, Singh B. Recruitment and functions of pulmonary intravascular macrophages (PIMs) in sepsis. Presented: Experimental Biology, April 2004. Washington DC.

Chénard L, Senthilsevan A, Dosman JA, Grover VK, Delmaire N, Kirychuk S, Barber E, Rhodes C, Halliday S. Effect of work cessation on lung function in exposed swine farmers: Results of a fourteen-year follow-up". Presented: Fifth Canadian Rural Health Research Society Conference, Sudbury Ontario, 2004.

Crossley M, Lanting S, Morgan D, McBain L. Partnering with aboriginal seniors and rural and remote caregivers to develop a culturally sensitive assessment protocol for cognitive impairment and dementia. Presented: Canadian Association on Gerontology, Victoria, BC, October 21-23, 2004.

Duggleby W, Wright K, Williams A, Degner L, Cammer A, Holtslander L. Methodological issues in developing psychosocial hope interventions for palliative patients and caregivers based on qualitative inquiry. Presented: International Advances in Qualitative Methods, Edmonton, AB, February 2005.

Farthing P, Rennie D, Chen Y, Dosman JA. The relationship between farming activities and asthma and allergy in children: The Humboldt Study. Presented: Canadian Centre for Health and Safety in Agriculture (CCHSA) conference, October 2004, Quebec City, QC.

Fisher KL, Lindstrom BG, Chad KE, Ashworth NL, Harrison EL, Reeder BA, Schultz S, Sheppard MS, Grover VK. Impact of a physical activity intervention on health status in older adults. Presented: Canadian Society for Exercise Physiology conference, 2004.

Forbes D, Morgan D, Bangma J, Peacock S, Pelletier N, Adamson J. Light therapy for managing sleep, behaviour, and mood disturbances associated with Alzheimer Disease and related dementia: A Cochrane review. Presented: National Nursing Research Conference "Transforming Health Care through Nursing Research: Making it Happen," London, ON, May, 2004.

Ghosh S, Pahwa P. Asthma prevalence and its relationship with age, sex, and location: A National Population Health Survey study: 1994-2001. Presented: 12th Annual Life Sciences Research Conference, University of Saskatchewan, Saskatoon, SK, March 17- 18, 2005.

Grover VK, Senthilsevan A, Dosman JA, Chénard L, Delmaire N, Kirychuk S, Barber E, Rhodes C, Halliday S. Cessation of swine barn exposure results in reduction in yearly lung function decline in farmers. Presented: Fifth Canadian Rural Health Research Society Conference, Sudbury, ON, October 2004

Kamencic E, Reeder B, Chad KE, Harrison EL, Ashworth NL, Sheppard MS, Schultz S, Fisher KL, Lindstrom BG, Grover VK. Effects of physical activity programs (class- vs. community-based) on blood pressure and levels of physical activity in hypertensive older adults. Presented: International Society for Aging and Physical Activity's 6th World Congress on Aging and Physical Activity: From Research to Action for an Aging Society London, Ontario, Canada, August 2004.

Lanting S, Crossley M, Dufour L, McBain L, Morgan D. Developing and evaluating a culturally sensitive protocol for the detection of cognitive impairment and dementia through a partnership with aboriginal seniors. Presented: Fifth Canadian Rural Health Research Society Conference, Sudbury, ON, October 21-25, 2004.

Lawson JA, Rennie DC, Senthilsevan A, Cockcroft DW, McDuffie HH. Differences in the patterns of asthma between 2000 and 2003 in a school age population. Presented: 2004 International Conference of the American Thoracic Society, Am J Respir Critical Care Med, 169(7): A384. Orlando, FL, May 21-26, 2004.

Lawson JA. An investigation of the relationship between endotoxin, tobacco smoke exposure and the presence and severity of asthma and asthma-like symptoms. Presented: Fifth Canadian Rural Health Research Society Conference and Fourth International Rural Nursing Congress, Sudbury, ON, October 21-23, 2004.

Leis K, Reeder B, Chad K, Spink K, Harrison L, Ashworth N, Sheppard MS, Schultz S, Lawson J, Fisher K, Lindstrom B. Chronic disease correlates of physical activity in women aged 65 to 79 years. Presented: International Society for Aging and Physical Activity, 6th World Congress on Aging and Physical Activity, 2004; 12(3):422.

Lindstrom B, Fisher K, Reeder B, Chad K, Harrison L, Ashworth N, Sheppard MS, Schultz S, Lawson J. Psychosocial correlates of physical activity in older adults. Presented: International Society for Aging and Physical Activity, 6th World Congress on Aging and Physical Activity, 2004; 12(3):397.

Lindstrom B, Fisher K, Chad K, Harrison L, Reeder B, Ashworth N, Sheppard MS, Schultz S, Lawson J. Determinants of physical activity in community-dwelling older adults. Presented: Canadian Society for Psychomotor Learning and Sport Psychology Conference, Saskatoon, SK, October 14-16, 2004.

Research Grants Received:

Lindstrom BG, Fisher KL, Chad KE, Ashworth NL, Harrison EL, Reeder BA, Schultz S, Sheppard MS, Grover VK. Effectiveness of home-based vs. class-based exercise in older adults. Presented: Canadian Society for Exercise Physiology conference, 2004.

McDonald, M, Bharadwaj, L. Rennie, D., Schneberger, D., Dosman J. NEMO and IRAK-2: Polymorphic Analyses in the Toll-receptor 4 pathway. Presented: Fifth National Canadian Rural Health Research Society Conference, Sudbury, ON, October 21-23, 2004.

McDuffie HH, Quail J, Kvinlaug K, Pahwa P. Similarities and differences among men with testicular and breast cancer stratified by occupation. Presented: American Association for Cancer Research, Orlando, 2004.

McDuffie HH, Pahwa P, Grover VK. Pulmonary function and risk of cancer: an inverse relationship? Presented: 4th Annual Saskatchewan Cancer Research Day, Saskatoon, 2005.

Morgan D, Crossley M, Stewart N, D'Arcy C, Forbes D, Normand S, Cammer A. Physically aggressive behaviour toward nursing aides in rural nursing homes with and without Special Care Units. Presented: Gerontological Society of America Annual Meeting, Washington, DC, November 2004.

Morgan D, Forbes D, Janzen B, Biem J, Peacock S, Adamson J, Pelletier N, Forbes S. Canadians with Alzheimer disease: Prevalence and utilization of health care services. Presented: Gerontological Society of America Annual Meeting, Washington, DC, November 21-25, 2004.

Morgan D, Crossley M, Kirk A, D'Arcy C, Stewart N, Biem J, Forbes D, McBain L, Basran J, Harder S. Development and evaluation of a multidisciplinary one-stop memory clinic for rural and remote seniors utilizing telehealth for pre- and post-clinic assessment. Presented: Canadian Association on Gerontology, Victoria, BC, October 21-23, 2004.

Reid J, Biem J, Boctor M, Card S, Orvold J, Wong J. Glycemic control strategies in hospitalized patients with type 2 diabetes: a randomized controlled trial. Presented: Canadian Society of Internal Medicine, Quebec, QC, June 2-6, 2004.

Rennie DC, Lawson JA, Senthilselvan A. Assessment of caregiver's quality of life and reported respiratory symptoms of children with asthma. Presented: 2004 International Conference, Am J Respir Critical Care Med, 169(7): A288. Orlando, FL, May 21-26, 2004.

Stewart N, Morgan D, Hintz P, Andrews M, Forbes D. Workplace safety in rural dementia care settings. Presented: National Nursing Research Conference "Transforming Health Care through Nursing Research: Making it Happen," London, ON, May, 2004.

Whiting S, Dahl W, Cammer A, Jones K, Hauser L. The acceptability and laxative effects of a flax fiber supplement. Presented: Experimental Biology, FASEB Journal, 18(5II):A910, Washington DC, April 2004.

Invited Presentations

Stewart N, Cammer A, Morgan D, McBain L, Biem J, Crossley M, D'Arcy C, Forbes D, Kirk A. Strategies to improve the care of persons with dementia in rural and remote Saskatchewan: New Emerging Team update. Poly-Partite Meeting, Prince Albert, SK, November 2004.

Morgan D. Strategies to improve the care of persons with dementia in rural and remote Areas: CIHR New Emerging Team Projects. CIHR Institute of Aging Regional Seniors' Workshop on Research, Regina, SK, June 25, 2004.

Koehncke N. "Doctor, Am I ready to return to work?" Prince Albert family physicians, Prince Albert, SK, November 9, 2004.

Hadjistavropoulos H, Biem J, Neville S, Garratt S, McNeil D, Jacobs T, Bierlein C, McMillan S, Smith DL, Kessler P, Parrot E. Framework Based Tool for Identifying and Facilitating Continuity of Care. Health Services Research Foundation two year operating grant. Awarded June 2004.

Chilibeck P, Biem J, Whiting S, Pahwa P, Spink K. Effectiveness of Flax Lignan and Exercise Training for Improving Lipid Profiles. Heart and Stroke Foundation of Canada two year operating grant, Awarded April 2004.

Feddes J, Chénard L. Hydrogen Sulphide in Swine Confinement Facilities: Finding Solutions to Reduce Exposure to Workers and Animals. Canadian Centre for Health and Safety in Agriculture (CCHSA).

Skomro R P, Grover V. Can Obstructive Sleep Apnea (OSA) be diagnosed and treated at home? Randomized trial of home vs. in-lab diagnosis and treatment of OSA.

Morgan D, Crossley M. Northern Community Tour: Rural & Remote Memory Clinic Team, Northern Medical Services, Research Development Grant. August 2004.

Morgan, D. Development of a Protocol for Longitudinal Assessment of Physical Fitness and Gait in Seniors Referred to a Rural and Remote Memory Clinic. College of Medicine Summer Student Research Project, University of Saskatchewan, 2004.

Harder S, Morgan D, Crossley M, Biem J, Kirk A. Magnetic Resonance Spectroscopy in Diagnosis and Prognosis of Mild Cognitive Impairment and Alzheimer's Disease. Saskatchewan Health Research Foundation, Establishment Grant, March 15, 2004.

Dosman JA, McDuffie HH, Bidwell J, Sievers S. 2005 Farm Health and Safety Information Package. Cyril Capling Trust fund, College of Agriculture.

Dosman JA, McDuffie HH, Sievers S, Bidwell J. 2005 Agricultural Health and Safety Network Annual Educational Package. Canadian Agricultural Safety Association (CASA).

Dosman JA, McDuffie HH, Sievers S, Bidwell J. *Prescription Medications and Increased Injury Risk.* Network News Spring 2005. Canadian Agricultural Safety Association (CASA).

Dosman JA, McDuffie HH, Bidwell J, Sievers S. Low Stress Cattle Handling Educational Resources in Ten Provinces. Canadian Agricultural Safety Association (CASA).

Dosman JA, McDuffie HH, Sievers S, Bidwell J. Farm Injury Control Summit VI and Policy Document on Safety Training for New Agricultural Workers in Saskatchewan. Canadian Agricultural Safety Association (CASA).

Reynolds S; Burch J; Keefe T; Koehncke N; Lillquist D; Schwartz D; Tessari J. Endotoxin exposure and genetic factors in organic dust (Corn) lung disease. National Institute for Occupational Safety and Health Centers for Disease Control and Prevention, 2004-2006.

Bharadwaj LA, Judd-Henrey I, Martin P, King AF. *Bridging the Gap Between Environmental Contaminants and the Health of First Nations Communities.* The Assembly of First Nations and Health Canada; National First Nations Environmental Contaminants Program (NFNECP), 2005-2006.

Bharadwaj LA, Judd-Henrey I, Martin P, King AF. *Bridging the Gap Between Environmental Contaminants and the Health of First Nations Communities.* Indigenous Peoples Health Research Center, 2005-2006.

Skomro RP, Cotton D, Reid J, Gjevre J, McNab B, Pahwa P. *Can Obstructive Sleep Apnea (OSA) be Diagnosed and Treated at Home?* Randomized Trial of Home vs. In-lab Diagnosis and Treatment of OSA. Agency: Ralston Brothers Medical Research Fund.

Whittinton L, McDuffie HH, Bidwell J, Couture M. The Pork Interpretative Gallery Youth Safety Awareness and Training Resource for the Canadian Pork Industry. Canadian Agricultural Safety Association (CASA).



Continuing Research Grants

Chilibeck P., Whiting S., Biem J., Case A., Pierson R., Olatunbosun O., Pahwa P. Canadian Institutes of Health Research, "Effect of Combined Exercise Therapy and Phytoestrogen Supplementation on Prevention of Osteoporosis" CIHR Operating Grant: March 2004-2009.

Dosman J.A., Cormier Y., Koehncke N., Senthilselvan A., Feddes J., Classen H., Duchaine C., Guenter W., Hurst T., Wilson P. Effect of Indoor Air Quality and Production Practice on Respiratory Health in Exposed Poultry Workers in Canada. Funded by: Canadian Institutes for Health Research.

Dosman J.A., Babiuk L., Barber E., Brison R., Cormier Y., Guersey J., Kennedy S., Pickett W., Reeder B., Senthilselvan A. National Training Grant, "Public Health in the Agricultural Ecosystem". Funded by: Canadian Institutes for Health Research.

Dosman J.A., Chen Y., Juurlink B.H.J., Pahwa P., Senthilselvan A., Babiuk L., Laprise C., Cormier Y., Rennie D., Rosenberg A., McDuffie H.H., Swartz D., Speer M. Exposure to Endotoxin and Lung Function, Funded by: Canadian Institutes for Health Research.

Bharadwaj, L.A., Nilson, S. Judd-Henrey, I. Investigation of the Effects of Landfill Practices on Environmental Health in Selected First Nations Communities. Assembly of First Nations and Health Canada; National First Nations Environmental Contaminants Program (NFNECP).

Rennie, D.C., Senthilselvan A., McDuffie H.H., Cockcroft D.W., Wilson P., Kirychuk S. Assessment of Indoor Environmental Agents Associated with Damp Housing and Asthma in School Children. Saskatchewan Lung Association., 2002-2004.

Pahwa P, Kirychuk S, McDuffie HH, Dosman JA, Senthilselvan A. Decline in Health-related Quality of Life in Grain Handlers with Chronic Obstructive Pulmonary Disease over Time. Saskatchewan Health Research Foundation (SHRF), Awarded June, 2003.

Bye, Bye

Eve Upshall was hired in 2002 as a summer student to work with Dr. Rennie on several research topics. She worked on and off at I.ARE.H and has decided to go back to finish her honours degree in psychology. Good luck!!

Natalie Delmaire joined the Institute in March 2003 to work on the longitudinal aspects of the Endotoxin and the Lung project. After a few dedicated years working with us, she left to pursue new horizons in Montreal. Best of luck Natalie.

Sean Siever was hired in March 2003 and worked in the Rural Health Extension Program (RHEP) until April 2005. Sean moved to Regina where he is going to work as an Occupational Health and Safety Nurse in a private company. Sean worked diligently at RHEP and enjoyed his contacts with rural Saskatchewan. We will miss him!!

Awards

Student:

Josh Lawson received on May 5, 2004 the Award for Academic Excellence in Epidemiology from the University of Alberta Public Health Sciences. He received as well Honourable mention for Public Health Sciences Student Alumni Award.

Allison Cammer received a Student Research Travel Grant Award in the total of \$1062.00 from the Northern Scientific Training Program.

Claire CF McGuigan, Saskatchewan Toxicology Centre, was awarded on March 9, 2005 a one year NSERC Canada Graduate Scholarship – Masters' Level.



Josh Lawson is presented the Award for Academic Excellence in Epidemiology from Dr. A Senthilselvan

(Annual Report compiled and edited by Sueli B. de Freitas)