



I.ARE.H News 2003 - 2004

Message from the Chair

"The Winds of Change"

As the pivotal event of this last year, our Fifth International Symposium, held October 19-23, 2003, entitled "The Future of Rural Peoples" gathered 532 colleagues from 32 countries to Saskatoon. This event demonstrated that changes in economics, health, communities and the environment are accelerating the agricultural rural ecosystem into vastly altered circumstances. These changes, driven by such diverse factors as the industrialization of agricultural production, climate change, and the re-emergence of infectious diseases, are altering the paradigm of the research that is necessary, the manner in which we partner to do research and training, and the approaches that we take to translate the knowledge that we produce into a useable and useful resource for the farmers and rural people of Saskatchewan, Canada and the world.

As usual, many individuals and organizations contribute to our success. To our students, staff and faculty, your hard work and dedication is recognized and appreciated. To the three departments of the Government of Saskatchewan; Health, Agriculture, and Labour, that make our work possible, our sincere appreciation. To our funding agencies, in particular the Saskatchewan Health Research Foundation and the Canadian Institutes of Health Research, we appreciate your assistance in helping us to achieve excellence in research. To the university administration for your leadership and to colleagues in the Colleges of Nursing, Agriculture, and the Western College of Veterinary Medicine, your collegiality and support is essential in our endeavor. To members representing the private sector, cooperatives and associations that have contributed so generously through our Founding Chairs Development Fund, your generosity supports a sizable proportion of our training and development initiatives. To all the above, and to all of you who have volunteered your time on our Board and the various committees, a sincere thank you. The miracle that I see unfolding would not be possible without each and every one of you.

Congratulations to the students, staff and faculty on an excellent year!

Sincerely,

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



I.ARE.H faculty, staff and students at the Fifth International Symposium Gala Dinner

Research:

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 presumably governed by polymorphisms of other genes yet to be described. Funded by: Canadian Institutes of Health Research.

Longitudinal Study of farmers

In February 2004, a longitudinal study of respiratory health of swine farmers, grain farmers and non-farming rural dwellers was completed. This group of participants had been assessed in 1990/91 and in 1994/95. The data gathered from the 550 participants is currently being analysed. Funded by: Canadian Institutes of Health Research.

Respiratory Health of Fulltime Swine Workers

As the swine industry is developing in the Prairies, the farming portrait is 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 respiratory health data on

fulltime swine workers and non-farming rural dwellers. This is unique research, as previous studies were conducted with swine farmers, who had mixed exposures from swine and grain farming. This study will continue during the winters of 2005 and 2006. Funded by: Canadian Institutes of Health Research.

Public Health and the Agricultural Rural Ecosystem – PHARE

PHARE is a virtual program, lead by I.ARE.H which is accessible through six universities (Dalhousie, Laval, Queen's, Saskatchewan, Alberta, and British Columbia). PHARE provides scholarship support to graduate students at the Master's, PhD, and postdoctoral level. All trainees are required to take a Public Health and the Agricultural Rural Ecosystem online class, a monthly seminar each semester of support, as well as participate in the program's annual conference. For more information: <http://iareh.usask.ca/trainingprograms/phare.php>. Funded by: Canadian Institutes of Health Research.

Public Health: Canadian Centre for Health and Safety in Agriculture (CCHSA)

CCHSA is a national network of scientists led by I.ARE.H. The overall objective of the CCHSA is to address the health of people as a result of working and living in the agricultural rural ecosystem. CCHSA increases research capacity through training and mentoring of masters, PhD, and postdoctoral students along with support for both new and mature researchers and by expanding knowledge translation and exchange activities. Funded by: Canadian Institutes of Health Research.

Effectiveness of Flax Lignan and Exercise Training for Improving Lipid Profiles

Abnormal blood cholesterol levels are a major risk factor for cardiovascular disease and may be improved by eating flaxseed-containing foods. Our objective is to see if a combination of flax supplementation and exercise training is better than either alone for decreasing the total cholesterol to high density lipoprotein ratio in men and women over the age of 55. This proposal seeks to find an optimal non-drug therapy that will improve cholesterol profiles and prevent heart disease and stroke. Funded by: Heart and Stroke Canada.

Effect of Combined Exercise Therapy and Phytoestrogen Supplementation on Prevention of Osteoporosis

Osteoporosis is a disease of bone mineral loss, leading to osteoporotic fracture. Bone mineral levels decline as we age, but especially in women as they go through menopause. This loss of bone mineral at the time of menopause is related to decreased production of estrogen, a hormone involved in maintenance of bone health. Our study will use an estrogen-like compound derived from soy (isoflavones) which is thought to have a positive effect on bone, with no increase in risk of cancers. Results of our study will provide valuable information for women who wish to seek forms of therapy for osteoporosis prevention with minimal side effects. Funded by: Canadian Institutes of Health Research.

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

In October 2003, a team of researchers at the University of Saskatchewan was awarded a 5-year research grant to study strategies

aimed at improving the care of persons with cognitive impairment and dementia who live in rural and northern Saskatchewan. The first project to be undertaken is the development and evaluation of a special new clinic that will use videoconferencing and other innovations to improve access to diagnostic and treatment services. The team has set up a memory clinic in Saskatoon that will provide a one-day, multidisciplinary assessment for seniors in rural and remote communities. The study will involve up to 15 rural communities that are more than 100 km from a major centre. Funding was provided by the Canadian Institutes of Health Research, University of Saskatchewan, Saskatchewan Health Research Foundation, and the Alzheimer Society of Saskatchewan. Telehealth Saskatchewan is providing in-kind support through use of its equipment and personnel. Northern Medical Services (Saskatchewan) provided travel support.



Members of the Rural and Remote Memory Clinic team traveled to four northern communities to meet with care providers. Here team members are shown at the Pinehouse Lake Health Centre (from left to right: Allison Cammer, Debra Morgan, Jay Biem, Louise Dufour, Lesley McBain, and Shawnda Lanting; team member Margaret Crossley took the photograph). The Rural and Remote Memory Clinic study is funded by a Canadian Institutes of Health Research "New Emerging Team" grant (Principal Investigator: Debra Morgan).

Dementia Care in Rural Nursing Homes: The Perspective of Nursing Aides

A team of researchers at the University of Saskatchewan is conducting a study to determine what nursing aides perceive as the causes of physically aggressive behavior from nursing home residents. The study is being conducted in rural settings because earlier research has taken place in large urban centres, which have greater access to specialized services, facilities, and health care providers. Study findings will improve our understanding of the nature of these incidents and help in planning interventions to reduce exposure to resident aggression, improving the work environment for caregivers and the quality of life for residents. Funded by: The Saskatchewan Health Research Foundation.

Landfill Practices and Environmental Health in First Nations Communities in Saskatchewan

This project was aimed at building capacity for First Nations People in the fields of Environmental Health Science by having 12 students from 4 First Nations Communities engage in a Science Journey at the First Nations University of Canada. Funded by: Saskatchewan Research Council and the University of Saskatchewan.

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

Researchers from the Universities of Saskatchewan, Manitoba and Alberta have been funded by the Canadian Institutes for Health Research to examine the differences in the environment between two types of poultry production, cage-raised birds and floor-raised birds and how differences in the indoor environment may impact worker health. The study involves collecting data on worker lung function and other health indicator changes, as well as environmental contaminant levels to which the worker is exposed during a one-day work shift. The worker health data involves a respiratory health questionnaire, worker's respiratory symptom record, blood sample, nasal lavage sample after the work shift and a lung function measurement before and after the work shift. A second component of the project involves collecting environmental measurements across the work shift including dust, gas and endotoxin levels. On the basis of the findings of this project, we propose to work with the industry in Canada to assist in developing occupational hygiene and occupational health programs for workers in this industry. Data collection began in Saskatchewan in the winter of 2001/2002 and this winter's data collection took place in the province of Manitoba.

Investigation of the Effects of Landfill Practices on Environmental Health in Selected First Nations Communities

The impact of environmental contaminants on the health of Indigenous people in First Nations communities across Canada from both present and historical perspective has not been adequately addressed. Contamination of surface and ground water by historical and current landfill sites has been identified as a top priority by both the Saskatoon Tribal Council Health and Family Services Inc. (STC) and the Health Canada Regional Environmental Health Officer for the Saskatchewan Region. This research project focuses on determining the potential impacts to environmental and human health risks that may be associated with present and past waste disposal sites in First Nations communities.

Analysis of Selected Water Quality Parameters at Big Island Lake First Nation

First Nations Communities, such as Big Island Lake First Nation, are concerned with both the source, quality and supply of their drinking water. This project was aimed at building a community-based participatory research project aimed at assessing issues related to water quality. Aspects of the project include GIS mapping of the water-shed to identify potential sources of contamination, survey of water in-take by residents and assessment of drinking water quality.

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

The objectives of the 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 study is being conducted with the co-operation of the Prairie Agricultural Machinery Institute and selected health districts and regional health authorities throughout the

participating provinces. Data collection is ongoing and will end in December 2004. Study results should be available in Spring, 2005. This study was funded by the Canadian Institutes for Health Research.

Saskatchewan Farm Injury Surveillance Program – CAISP Collaboration

The surveillance of fatal and hospitalized farm-related injuries occurring on Saskatchewan farms is ongoing. The second round of surveillance was completed and a comprehensive, population based report describing the frequency, severity and patterns of injury occurring on Saskatchewan farms will be published in June, 2005. This report, Fatal and Hospitalized Farm Injuries in Saskatchewan, 1990 –2001 will be available on our website. Under a new arrangement this year, the surveillance program in Saskatchewan will be conducted in partnership with the Occupational Health and Safety Division of the Department of Labor.

Student's Research

Karen Marcinkiw, M.Sc Thesis Title: Stress and Anxiety among Postpartum Women. Department of Community Health and Epidemiology, College of Medicine. Defended: June 24th, 2003.

Sandra M. Olfert, M.Sc. Thesis Title: Longitudinal Analysis of Pulmonary Function Decline in the Initial Years of Employment in the Grain Industry. Department of Community Health and Epidemiology, College of Medicine. Defended: 2003.

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.

Merry-Lynn McDonald, PhD Candidate Thesis Title: Genetic Epidemiology of Atopy and the Hygiene Hypothesis. Founding Chairs Scholarship Recipient.

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

Allison Cammer, M.Sc. Candidate I.ARE.H and Department of Community Health and Epidemiology, University of Saskatchewan. Founding Chairs Scholarship Recipient.

Norman Bennett, M.Sc. Candidate: Thesis Title: Identifiable Injuries among Aboriginal and Non-aboriginal Population in the Yukon and NWT. I.ARE.H and Department of Community Health and Epidemiology, University of Saskatchewan. Founding Chairs Scholarship Recipient.

Services:

CANWORKSAFE

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:

The Agricultural Health and Safety Network (the Network), is a venture in which the Centre for Agricultural Medicine and the Saskatchewan Association of Rural Municipalities (S.A.R.M.) joined forces in 1988 to provide agricultural health and safety services to 21,000 Saskatchewan farm families. Nineteen new rural municipalities (R.M.s) joined the Network in the past year bringing the total membership to 142.

OffGuard Photographic Exhibition: This exhibition featuring twenty individuals injured in farm machinery incidents continues its tour of rural galleries under the auspices of the Organization of Saskatchewan Arts Councils (OSAC) until March 2005. 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: This award, established with funding from the Canadian Agriculture Safety Program, recognizes the role of media in informing and educating the public about farm-related deaths and injuries and how they can be prevented. The second annual award was presented to The Western Producer for a four-page farm safety section published during Canadian Agricultural Safety Week.

Farm Injury Control Summit – October 22, 2003: The Summit was held in conjunction with the Fifth International Symposium *Future of Rural Peoples*. Co-hosted by the I.ARE.H and S.A.R.M., strategies were discussed to prevent injuries on Saskatchewan farms. Keynote speakers were Louise Hagel from the I.ARE.H with a presentation of a research application of a farm safety audit; Linda West, the executive director of Healthy Families in Westlock, AB, who gave ideas for building community capacity in rural health and safety; and Kendra Ulmer, a 4th year nursing student who gave a presentation on her family's farm safety audit project. The noon luncheon featured the presentation of the second annual I.ARE.H Media Award for Excellence in Farm Injury Control Reporting. Afternoon break-out sessions offered a professional development track for health educators and a farm safety and health issues track for producers.

New Resources: A fact sheet, *Skin Health for Farmers*, was produced and mailed along with *Farm Safety Management Tool: Tractor Safety* and the pamphlets *Sunsense* and *ABCD of Malignant Melanoma* to the 21,000 farm families that are members of the Network. The fact sheets *Rabies: Need-to-Know Information for Agricultural Producers* and *BSE: Need-to-Know Information for Agricultural Producers* were made available for the Canadian Agricultural Safety Association (CASA) website. The *Farm Emergency Information* pamphlet was revised and made available to other provincial farm safety partners and for the CASA website. All Network printed materials are available on the I.ARE.H website. Two new slide talk presentations on *West Nile Virus* and *Preventing Hearing Loss on the Farm* were developed and include a coloured visual presentation, speaker's notes, additional information for the presenter, quizzes and printed resources. These are available for sale or loan from the RHEP office.

Program Delivery: Staff delivered the *Respiratory Health Maintenance Program for Farmers* in the R.M.s of Chester, #125, Cupar, #218, Elfros, #307, Happyland, #231, Chesterfield, #261, Waverley, #44, Viscount, #341, Fox Valley, #171 and the Belle Plaine Hutterite Colony. The Hearing Conservation for Farmers program was held in the R.M.s of Elfros, #307, Cambria, #6, Viscount, #341, Great Bend, #405, Humboldt, #370 and the Belle Plaine Hutterite Colony. *Farm Response* courses were provided in four communities.

Newsletters: Our Saskatchewan newsletter, *Network News*, is mailed to network-member farm families twice a year.

Student Scholarship: Each year a grade 12 student is awarded \$1,000 for a well written farm safety essay. This award, initiated in 1996 with funds from S.A.R.M. and continued support from the Founding Chairs Fund, is awarded to a student to help him or her pursue post-secondary education. This year's winner was Joshua Hrynchyshyn from the R.M. of Buchanan, #304.



Joshua Hrynchyshyn

Agricultural Health and Safety

Training for Nurses: This program better enables public health and primary care nurses to meet the safety and health needs of farm and rural residents. Funding from the Canadian Agricultural Safety Program enabled these nurses to receive the necessary training to become audiometric technicians.

Visit us at: <http://IAREH.usask.ca/rhep.php>



Shannon Laventure, Public Health Nurse;
Kathy Scherger, Public Health Nurse and Cathy Ringrose, Primary Care Nurse

Papers and Technical Reports:

Kowalyk K, Hadjistavropoulos H, Biem HJ. Measuring Continuity of Care for Cardiac Patients: Development of a Patient Self-report. *Canadian Journal of Cardiology*; 20:205-12, 2004.

Biem HJ, Bangma J. Searching for Evidence Efficiently. *Patient Care*, 14:81-89, 2003.

Biem HJ, Wilson TW. Weighing Benefits and Risks: Clot Prevention in Cardiac Care. *Perspectives in Cardiology*, 19:31-41, 2003.

Biem HJ, Turnell RW, D'Arcy C. The Computer Telephony System: Automated Calls for Patient Care. *Clinical and Investigative Medicine*, 26:259-268, 2003. http://collection.nlc-bnc.ca/100/201/300/clinical_and_investigative-ef/2003/cim_26-5/pdf/pg259.pdf

Biem HJ, Hadjistavropoulos H, Morgan D, Biem HB, Pong R. Breaks in Continuity of Care and the Rural Senior Transferred for Medical Care Under Regionalization. *International Journal of Integrated Care*, 3(29):1568-4145, 2003. <http://www.ijic.org/>

Hadjistavropoulos H, Pierce TD, Biem HJ, Franko J. What Are the Initial Perceptions of Multidisciplinary Personnel New to Integrated Care Pathway Development? *Health Management Forum*, 17:14-18, 2003.

Biem HJ, Cotton D, McNeil S, Boehler A, Gudmundson D. Day Medicine: An Urgent Internal Medicine Clinic and Medical Procedures Suite. *Health Management Forum*, 16:17-23, 2003.

Morgan D, Stewart N, D'Arcy C, Werezak L. Evaluating Rural Nursing Home Environments: Dementia Special Care Units vs. Integrated Facilities. *Aging and Mental Health*, 8(3): 257-266, 2004.

Forbes D, Stewart N, Morgan D, Anderson M, Parent K, Janzen B. Individual Determinants of Home Care Nursing and Housework Assistance. *Canadian Journal of Nursing Research*, 35(4): 14-36, 2004.

Morgan D, Semchuk K, Stewart N, D'Arcy C. The Physical and Social Environments of Rural Nursing Homes: Assessing Supportiveness for Residents with Dementia. *Canadian Journal on Aging*, 22(3): 283-296, 2003.

Davies FG, Roesler WJ, Ovsenek N, Bharadwaj L. Troglitazone Reduces Heat Shock Protein 70 Content in Primary Hepatocytes by a Ubiquitin Proteasome Independent Mechanism. *Pharmacological Research*, 48:119-127, 2003.

Bharadwaj LA, Prasad, K. Hydroxyl Radical-Mediator of Nitroglycerin-Induced Relaxation of Vascular Smooth Muscle. *International Journal of Angiology*, 12:1-6, 2003.

Rennie, DC, Lawson, JA Cockcroft, DW, Senthilselvan, S McDuffie, HH Differences in Respiratory Symptoms and Pulmonary Function In Children in 2 Saskatchewan Communities. *Annals of Allergy, Asthma and Immunology*, 92, 52-59, 2004.

Dimich-Ward, H, Guernsey, JR, Pickett, W, Rennie, D, Hartling, L, Brison, R. Gender Differences in the Occurrence of Farm-related Injuries. *Occupational and Environmental Medicine*, 61, 52-56, 2004.

Senthilselvan, A, Lawson, J, Dosman, J Rennie, DC. Stabilization of an Increasing Trend in Physician Diagnosed Asthma Prevalence in Saskatchewan, 1991 – 1998, *Chest*, 124, 438-48, 2003.

Pahwa P, McDuffie HH, Dosman JA, Robson D, McLaughlin JR, Spinelli JJ, Fincham S. Exposure to Animals and Selected Risk Factors Among Canadian Farm Residents with Hodgkin's Lymphoma, Multiple Myeloma or Soft Tissue Sarcoma. *Journal of Occupational and Environmental Medicine*, 45(8): 857-868, 2003.

Harker DB, McConkey B, McDuffie HH, Bernard C. Water Quality Concerns in Cropping Systems: Trends and Advances. Special Issue J Crop Production. Part II 2003; 9: 329-359, 2003.

Pahwa P, Senthilselvan A, McDuffie HH, Dosman JA. Longitudinal Decline in Lung Function Measurements Among Saskatchewan Grain Workers. *Canadian Respiratory Journal*, 10: 135-141. 2003.

Semchuk KM, McDuffie HH, Senthilselvan A, Dosman JA, Cessna AJ, Irvine DG. Factors Associated with Detection of Bromoxynil in a Sample of Rural Residents. *Journal of Toxicology and Environmental Health*, Part A, 2003, 66:103-132, 2004.

Kiryuchuk SP, Senthilselvan A, Dosman JA, Jurio V, Feddes JJR, Willson P, Classen H, Reynolds SJ, Guenter W, Hurst TS. Respiratory Symptoms and Lung Function in Poultry Confinement Workers in Western Canada. *Canadian Respiratory Journal*, Oct; 10 (7): 375-380, 2003.

Ingram M, Crowe T, Wasserman J, Hagel L, Dosman J. On-site Inspections of Auger-related Farm Injuries. *Journal of Agricultural Safety and Health*, 9(2):133-142, 2003.

Dosman J, Lawson J, Kiryuchuk SP, Cormier Y, Biem J, Koehncke N. Occupational Asthma in Newly Employed Workers in Intensive Swine Confinement Facilities. *European Respiratory Journal*, 24(4): 698-702, 2004.

Hagel L, Dosman JA, Rennie DC, Ingram M, Senthilselvan A. Effect of Age on Hospitalized Machine-related Farm Injuries Among the Saskatchewan Farm Population. *Journal of Agricultural Safety and Health*, 10(3):155-162, 2004.

Moshynska O, Sankaran K, Pahwa P, Saxena A. Prognostic Significance of a Short Sequence Insertion in the MCL-1 Promoter in Chronic Lymphocytic Leukemia. *Journal of National Cancer Institute*, 96(9): 673-682, 2004.

Le T, Leis A, Pahwa P, Wright K, Ali K, Reeder B. Quality of Life Issues in Ovarian Cancer Patients and Their Caregivers: A Review. *Journal of Obstetrics and Gynecology*, 26(7): 627-31, 2004.

Baerg J, Kaban J, Tonita J, Pahwa P, Reid D. Gastroschisis: A Sixteen-year Review. *Journal of Pediatric Surgery*, 38(5): 771-774, 2003.

Sperling B, Marschall J, Kennedy R, Pahwa P, Chibbar R. Thymoma: A Critical and Pathologic Review of 65 Cases. *Canadian Journal of Surgery*, 46(1): 37-42, 2003.

Chapters in Books:

Harker DB, McConkey B, McDuffie HH, Bernard C. Water Quality Concerns in Cropping Systems: Trends and Advances. In: *Cropping Systems: Trends and Advances. Parts I and II.* Editor Anil Shrestha, The Haworth Press, New York, 2003.

McDuffie HH, Semchuk KM, Crossley M, Senthilselvan A, Rosenberg AM, Hagel L, Cessna AJ, Irvine DG, Ledingham DL. Prairie Ecosystem Study (PECOS): From Community to Chemical Elements, the Essential Role of Questionnaires. In: Rapport DJ, WL Lasley, DE Rolston, NO Nielsen, CO Quaslet, and AB Damania (eds). 2003. *Managing For Healthy Ecosystems.* Lewis Publishers, Boca Raton, Florida, USA, 1169-1182 pp.

Reports for Industry:

Dahl, WJ, Whiting, SJ, Cammer, A. An Investigation into the Acceptability and Laxative Effects of a Fibre-Containing Supplement (Lignamax) Compared to Metamucil. Final Report to Bioriginal Food and Science Corp., Saskatoon, SK., August 2003.

Brownlee, M, Cammer, A. Evaluating Access to the Good Food Box in the Core Neighborhoods of Saskatoon. Community-University Institute for Social Research (CUISR), Saskatoon, SK, February 2004.

Conference Proceedings and Abstracts:

Hadjistavropoulos H, Biem HJ. Development, Implementation and Evaluation of Integrated Care Pathways: Lessons Learned. **Presented:** Saskatchewan Association of Health Organization (SAHO) Saskatoon, SK, March 22, 2004.

Poon CS, Biem J, Danilkewich A. Mammographic Screening in Older Women: The Impact of Breast Cancer and Co-morbidity on Cost-effectiveness. **Presented:** Radiologic Society of North America Chicago Nov. 30, 2003.

Biem SRD, Biem HJ, Chen F, Olatunbosan F, D'Eon M. A Computer Telephony System for Medical Student Evaluation in Obstetrics and Gynecology. **Presented:** Association of Professors of Obstetrics & Gynaecology. 2003.

Cammer A, Morgan D, Stewart N, D'Arcy C. Creating and Sustaining Dementia Special Care Units in Rural Nursing Homes: Characteristics of Successful Units. **Presented:** Fifth International Symposium Future of Rural Peoples: Rural Economy, Healthy People, Environment, Rural Communities, Saskatoon, SK, October 19-23, 2003.

- Cammer A, Morgan D, Stewart N, Crossley M, Kirk A, Biem HJ, Forbes D, D'Arcy C.** Strategies to Improve the Care of Persons with Dementia in Rural and Remote Areas. **Presented:** College of Nursing Annual Research Conference, Saskatoon, SK, March 2004.
- 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 2003.
- D'Arcy C, Morgan D, Stewart N, Kosteniuk J.** Job Satisfaction Among Nurses in Rural and Remote Areas of Canada. **Presented:** Fifth International Symposium Future of Rural Peoples: Rural Economy, Healthy People, Environment, Rural Communities, Saskatoon, SK, October 19-23, 2003.
- Biem J, Hadjistavropoulos H, Morgan D, Biem H, Pong R.** Breaks in Continuity of Care: The Rural Senior Transferred for Medical Care Under Regionalization. **Presented:** Fifth International Symposium Future of Rural Peoples: Rural Economy, Healthy People, Environment, Rural Communities, Saskatoon, SK, October 19-23, 2003.
- Forbes D, Stewart N, Anderson M, Morgan D, Parent K.** Two Distinct Subgroups of Home Care: The Interface of Medical and Social Policy. Global Nursing Scholarship Conference, Rome, IT, June 2003.
- Ghosh S, Pahwa P, McDuffie HH, Dosman JA.** Differential Effect of the Duration of Follow-up on the Predicted Lung Function Measurements. **Presented:** Canadian Society for Epidemiology & Biostatistics (CSEB) Biennial Meeting, Halifax, NS, June 8-11, 2003 and the Fifth International Symposium Future of Rural Peoples: Rural Economy, Healthy People, Environment, Rural Communities, Saskatoon, SK, October 19-23, 2003.
- Chen Y, Rennie DC, Lockinger L, Dosman J.** Gender, Environmental Tobacco Smoke and Pulmonary Function in Children. **Presented:** Fifth International Symposium: Future of Rural Peoples Rural Economy, Healthy People, Environment, Rural Communities, Saskatoon, SK, October 19-23, 2003.
- Seeley J, Rennie DC, Lawson J, Senthilselvan A.** The Prevalence of Obesity and Being Overweight in Children Living in Two Saskatchewan Rural Communities. **Presented:** Fifth International Symposium Future of Rural Peoples: Rural Economy, Healthy People, Environment, Rural Communities, Saskatoon, SK, October 19-23 2003.
- Bidwell J, Lockinger L, McDuffie HH, Dosman JA.** An Agricultural Health and Safety Training Program for Nurses. **Presented:** Fifth International Symposium, Future of Rural Peoples: Rural Economy, Healthy People, Environment, Rural Communities, Saskatoon, SK, October 19-23, 2003.
- Marcinkiw K, Rennie D, Mpofu D, McDuffie HH.** Stress, Social Support, and Self-Esteem in Rural and Urban Postpartum Women. **Presented:** Fifth International Symposium, Future of Rural Peoples: Rural Economy, Healthy People, Environment, Rural Communities, Saskatoon, SK, October 19-23, 2003.
- Rennie DC, Senthilselvan A, Lawson J, McDuffie HH.** Comparison of Acute Respiratory Symptoms in Children from Two Rural Communities. **Presented:** Fifth International Symposium, Future of Rural Peoples: Rural Economy, Healthy People, Environment, Rural Communities, Saskatoon, SK, October 19-23, 2003.
- Pahwa P, McDuffie HH, Dosman JA, Spinelli JJ, Fincham S, McLaughlin JR, Robson D.** Hodgkin's Disease: Cigarette Smoking, Pesticide Exposure and Family History of Cancer. **Presented:** Fifth International Symposium, Future of Rural Peoples Rural Economy, Healthy People, Environment, Rural Communities, Saskatoon, SK, October 19-23, 2003. Proceedings of the American Association of Cancer Research, 44:1468, 2003 (AACR meeting postponed due to SARS).
- McDuffie HH, Quail J.** Host Factors, Occupation and Testicular Cancer in Saskatchewan, Canada 1979-2000. Accepted: Canadian Society for Epidemiology & Statistics. **Presented:** Fifth International Symposium Future of Rural Peoples: Rural Economy, Healthy People, Environment, Rural Communities, Saskatoon, SK, October 19-23, 2003.
- McDuffie HH, Nakagawa K, Shindo J, Pahwa P, Hashimoto M, Kirychuk KP, Ishizaki T, Hucl P.** Occupational Exposure to Pubescent Canary Seed and Health II. Grainhandlers, Pulmonary Function and Tumor Necrosis Factor Alpha Polymorphism. **Presented:** Canadian Society for Epidemiology and Biostatistics, Halifax, June, 2003 and Fifth International Symposium Future of Rural Peoples: Rural Economy, Healthy People, Environment, Rural Communities, Saskatoon, SK, October 19-23, 2003.
- McDuffie HH, Nakagawa K, Pahwa P, Kirychuk SP, Gomes J, Hucl P.** Occupational Exposure to Pubescent Canary Seed and Health I – Study Designs. **Presented:** Canadian Society for Epidemiology and Biostatistics, Halifax, June 2003 and Fifth International Symposium Future of Rural Peoples: Rural Economy, Healthy People, Environment, Rural Communities, Saskatoon, SK, October 19-23, 2003.
- Nakagawa K, Nakada N, Shindo J, McDuffie H, Pahwa P, Kirychuk S, Hashimoto M, Dwernychuk L, Ishizaki T, Hucl P.** A Pilot Study of the Association Between Drug Metabolizing Enzyme Genetic Polymorphisms and Lung Function Decline in Grainhandlers. **Presented:** Canadian Society for Epidemiology and Biostatistics, Halifax, June 2003 and Fifth International Symposium Future of Rural Peoples: Rural Economy, Healthy People, Environment, Rural Communities, Saskatoon, SK, October 19-23, 2003.
- Pahwa P, McDuffie HH, Dosman JA, Spinelli JJ, Fincham S, McLaughlin JR, Robson D.** Multiple Myeloma: Cigarette Smoking, Pesticide Exposure and Family History of Cancer. **Presented:** Canadian Society for Epidemiology and Biostatistics, Halifax, June 2003 and Fifth International Symposium Future of Rural Peoples: Rural Economy, Healthy People, Environment, Rural Communities, Saskatoon, SK, October 19-23, 2003.
- Pahwa P, McDuffie HH, Dosman JA.** Longitudinal Declines in Lung Function Measurements Before and After Dust Control. **Presented:** Canadian Society for Epidemiology and Biostatistics, 2003. Halifax, NS, June 2003 and Fifth International Symposium Future of Rural Peoples: Rural Economy, Healthy People, Environment, Rural Communities, Saskatoon, SK, October 19-23, 2003.
- Semchuk KM, McDuffie HH, Senthilselvan A, Cessna AJ, Irvine DG.** Body Mass Index and Detection of Bromoxynil in a Sample of Rural Residents During Spring Herbicide Application. **Presented:** Canadian Society for Epidemiology and Biostatistics, 2003. Halifax, NS, June 2003.
- Lawson JA, Rennie DC, Senthilselvan A, Cockcroft DW, McDuffie HH.** A Comparison of Risk Factors for Asthma in Two Saskatchewan Communities. **Presented:** American Thoracic Society, May 16-21, Seattle, WA. American Journal of Respiratory and Critical Care Medicine, 167(7):A852, 2003
- Kvinlaug KE, McDuffie HH, Pahwa P.** Comparison of Male Breast Cancers in Farmers and Non-farmers: A Review of Cases at the Saskatchewan Cancer Agency. Accepted: 94th Annual Meeting AACR, April 5-9, 2003, Toronto, ON. Proceedings of the Am Assc. Cancer Research, 2003; 44:1467. AACR meeting postponed due to SARS. **Presented:** Washington, DC, July 2003 and Fifth International Symposium Future of Rural Peoples: Rural Economy, Healthy People, Environment, Healthy Communities, Saskatoon, SK, October 19-23, 2003.
- Spinelli JJ, Skinnider LF, Abanto UZ, JD, Hamm, Fincham S, McLaughlin JR, McDuffie HH, Pahwa P, Robson D, Dosman JA.** Pesticide Exposure and the Risk of non-Hodgkin's Lymphoma by Sub-type. Accepted: 94th Annual Meeting AACR, April 5-9, 2003, Toronto, ON. Proceedings of the Am Assc. Cancer Research, 2003; 44:1467.

AACR meeting postponed due to SARS. **Presented:** Washington, DC, July 2003.

Olfert S, Pahwa P, Dosman JA. Longitudinal Analysis of Pulmonary Dysfunction in the Initial Years of Employment in the Grain Industry. **Presented:** Canadian Society for Epidemiology and Biostatistics, Halifax, June 2003.

Invited Presentations:

Morgan D. Psychotropic Drug Use Among Rural Nursing Home Residents with Dementia: Special Care Units vs. Integrated Facilities. Department of Medicine Grand Rounds, University of Saskatchewan, August 6, 2003.

Biem J.H. "Transitions in Patient Care." Medical Record Keeping Course: Saskatoon, SK, April 30, 2004.

Biem J.H. "VTE and Travel: Traveler's Thrombosis." International Travel Clinic, Saskatoon Health Region: Saskatoon, SK, April 27, 2004.

Biem J.H. "Outpatient Management of Venous Thromboembolism." CME: Drug Therapy Decision-making Conference Saskatoon SK, March 27, 2004.

Biem J.H. "VQ Versus Spiral CT for Pulmonary Embolism," Rocky Mountain General Internal Medicine Conference Banff AB, November 14, 2003.

Research Grants Received:

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, \$1,290,886.

Dosman J.A. Fifth International Symposium Future of Rural Peoples: Rural Economy, Healthy People, Environment, Rural Communities. Centre for Disease Control and Prevention (CDC), \$50,000 USD.

Koehncke N., Dosman J.A. Fifth International Symposium Future of Rural Peoples: Rural Economy, Healthy People, Environment, Rural Communities. Canadian Institutes of Health Research, \$10,000.00.

Dosman J.A. Fifth International Symposium Future of Rural Peoples: Rural Economy, Healthy People, Environment, Rural Communities. Rural Community Capacity Building Program Networking Initiative, Agriculture and Agri-Food Canada, \$5,000.00.

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, \$78,549.00.

Dosman J.A., Voaklander D., Senthilselvan A., McDuffie H.H., Day L.M., Pahwa P., Redekop T.D., Harrell W.A., Wasserman J. A Case-control Study of Farm Machinery Injuries: Prairie Region of Canada. Medical Research Council, In funding extension.

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". Canadian Institutes for Health Research, \$300,000.00.

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, \$402,238.00. Funded by: Canadian Institutes for Health Research.

Dosman J.A., MacLeod M. Canadian Rural Health and Remote Health Study – Progress Towards Project Building and Area Identification, \$81,087.00. Funded by: Canadian Institutes of Health Research.

Bharadwaj L.A., Dosman J.A., Adnan A. A Toxigenomic Assessment of Two Agricultural Chemicals in Rural Drinking Water, \$20,000. April 2003 to March 2004. Funded by: Canadian Network Toxicology Centers.

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), \$166,494.93.

Bharadwaj, L.A., Parenteau, L., Nilson, S., Judd-Henrey, I. Chief Daryl Watson: Mistiwasis FN, Chief Darcy Bear Whitecap Dakota FN, Chief Gilbert Ledoux; Muskeg Lake FN and Beryl Bear, Muskoday FN. Landfill Practices and Environmental Health in First Nations Communities. Funded by: Indigenous Peoples Health Research Center, \$10,000.00.

Bharadwaj, L.A., Parenteau, L., Nilson, S., Judd-Henrey, I. Chief Daryl Watson: Mistiwasis FN, Chief Darcy Bear Whitecap Dakota FN, Chief Gilbert Ledoux; Muskeg Lake FN and Beryl Bear, Muskoday FN. Investigation of Landfill Practices on Environmental Health in First Nations Communities in Saskatchewan. Indian and Northern Affairs Canada Environmental Capacity Development Grant, \$8,700.00.

Bharadwaj, L.A., Nilson S. Analysis of Selected Water Quality Parameters at Big Island Lake First Nation. Funded by: Indigenous Peoples Health Research Centre (IPHRC), \$10,000.00.

Dosman, J. A., Babiuk L., Cormier Y., Brison R., Pickett W., Barber E., Feddes J., Cagnon G., Kennedy S. (2003-2009). Public Health: Canadian Centre for Health and Safety in Agriculture (CCHSA). Funded by: Canadian Institutes of Health Research. \$2,400,000.

Sears, M., Rennie D., Senthilselvan A., Lawson J. (2003-2004). Canadian Breathing Survey (ISAAC III), McMaster University, \$17,000 (SK). Funded by: Health Canada.

Rennie D.C., Senthilselvan A., McDuffie H.H., Cockcroft D.W., Wilson P., Kirychuk S. (2002-2004). Assessment of Indoor Environmental Agents Associated with Damp Housing and Asthma in School Children, \$60,000. Funded by: Saskatchewan Lung Association.

McDuffie H.H., Dosman J.A., Bidwell J., Siever S. "Bovine Spongiform Encephalopathy: What Producers Need to know". Nov 2003 – March 2004. \$14,000. Funded by: Canadian Agricultural Safety Association.

Pahwa P., Kirychuk S., McDuffie H.H., Dosman J.A., Senthilselvan A. Decline in Health-related Quality of Life in Grain Handlers with Chronic Obstructive Pulmonary Disease Over Time. \$79,843.28. Awarded June, 2003. Funded by: Saskatchewan Health Research Foundation (SHRF).

Pahwa P., McDuffie H.H. Longitudinal Analysis of Grainhandlers Pulmonary Function. Dean of Medicine Funded Summer Student Project. \$4,000. Awarded 2003.

McDuffie H.H., Dosman J.A., Bidwell J., Lockinger L. Canadian Agricultural Safety and Health Training Program. \$50,000, May 2003 – December 2003. Funded by: Canadian Agricultural Safety Association.

McDuffie H.H., Dosman J.A., Bidwell J., Lockinger L. Farm Safety Management Tool. Saskatchewan Agricultural Safety Program. May 2003-December 2003. \$25,000. Funded by: Canadian Agricultural Safety Association.

Koehncke N. Effects of Cost-cutting and Productivity-enhancing Organizational Practices on Workers Health. \$78,750. April 2003 – March 2004. Funded by: Canadian Institutes of Health Research regional Partnerships Program.



Awards:

Faculty:

James A. Dosman was the Spring 2003 recipient of the *Public Service and Extension Award*. This award recognizes a member of faculty who has made an outstanding effort to further the University's public service and extension mission and has extended the University's expertise to the wider community.



James A. Dosman



Donna Rennie

Donna Rennie received the *Saskatchewan Registered Nurses Association Millennium Award* for her exceptionally productive and successful research career within the Colleges of Nursing and Medicine. Her research has contributed to understanding the role of rural environmental factors in the etiology of asthma and wheeze in children and adults.

Visiting Scholar:



Anna Rask-Andersen

Anna Rask-Andersen, from Uppsala, Sweden spent three months at the Institute. Anna graduated from the Medical School of the University of Uppsala in 1977 and works as a senior lecturer at the Department of Medical Sciences, Occupational and Environmental Medicine, Uppsala University. She has been studying occupational lung diseases in farmers since 1980 and presented her thesis on farmer's lung and the organic dust toxic syndrome in 1988. After that, she has

been working on asthma epidemiology among farmers and other groups. At I.ARE.H, she worked on the endotoxin and lung project.

Rural and Remote Memory Clinic Team:



Left to Right: Debra Morgan, Leslie Holfeld, Margaret Crossley. Behind Margaret Crossley – Carol Henry, on-screen – Denise Dubrule, in front of TV – Sheri Harder, Lesley McBain, Kiera Stockdale, Shaunda Lanting, Allison Cammer, Carl D'Arcy.

In front of Car D'Arcy seated – Jenny Basran.

Sitting on table – Dorothy Forbes, seated in lab coat – Andrew Kirk.

Missing from Photo: Norma Stewart, Jay Biem, Patrick Corney, Mary Ellen Andrewns, Lisa Lejbak, Moira Remmen.

Photo courtesy of SHRF

Bye Bye:

We would like to recognize and thank all individuals who spent, from a few days to a few months, working at I.ARE.H this past year. They are: Nathalie Delmaire, Mark Ingram, Laura Eliason, Yvonne Wilkinson, Merle Rugg, Melanie Funk, Abe Chaukla.

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