Institute of Agricultural Rural and Environmental Health

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I·ARE·H Institute of Agricultural Rural and Environmental Health

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Annual Report and Summary of Activities

Welcome:

Dr. J. Biem:

Originally from Rosetown and Swift Current. Dr. J. Biem did his Medical School at the University of Saskatchewan and General Internal Medicine training at the University of Toronto. He is a General Internist and Clinical Epidemiologist and also holds a MSc in Epidemiolgy from the University of Ottawa.

He has been back at the University of Saskatchewan for almost 5 years and he is Director of Day Medicine (a unit designed for urgent outpatient care) and co-chair of the SDH Medicine Services Quality of care committee. He is a CIHR/ regional partnership scholar and has recently joined the Institute of Agricultural Rural and Environmental Health.

His areas of research are in clinical health services delivery for chronic medical conditions such as diabetes, stroke and cardiovascular disease. Dr. Biem is principal investigator for several research projects including "A Randomized Controlled Trial Assessing Glycemic Control for Hospitalized Patients with Diabetes (funded by CDA)", "A Diagnostic Study Assessing Bedside Tests for Aspiration in Acute Stroke (funded by CIHR)", and "A Quality of Care Study Assessing the Effect of Care Pathways on Continuity of Care for Patients with Atrial Fibrillation and Congestive Heart Failure (funded by CHSRF and the Government of Saskatchewan)".

Dr. Biem is keenly interested in Health Care Delivery for patients from rural and remote areas.

Dr. Bharadwaj:

Dr. Bharadwaj joined the Institute of Agricultural and Rural and Environmental Health in January of 2002 as an Assistant Professor. She is currently establishing her research area in toxicogenomics. Her research interests are regulation of gene changes by environmental contaminants, human health risk assessment, ischemia/reperfusion injury, cardiovascular disease and inhalational toxicology and respiratory disease.

Leslie Holfeld:

Leslie Holfeld started at I.ARE.H in October 2001. She is a research nurse who assisted in coordinating the Poultry Workers' Health Study and is now currently working on the Public Health and the Agricultural Rural Ecosystem (PHARE) graduate training program.

Visiting Scientist:

Yumi Fukushima left the Institute in December, 2001 after spending 6 months working with Drs. Dosman and McDuffie on a research project entitled "Genetic Polymorphisms". Yumi went back to Japan and left us her Haiku Poetry:

"Saskatchewan,
See all over,
Horizon."

Yumi Fukushima

L. Hagel, K. Kvinlaug, and H. Block

Bye Bye:

Dr. Debbie Mpofu has accepted a new position from the Saskatchewan Institute for Prevention of Handicaps and Sask Health. Her new title is "Provincial Perinatal and Infant Health Specialist" Congratulations and all the best in your new position!

Let us all say goodbye and thank you to the Institute's summer students **Haley Block, Lori Hagel, Kylie Kvinlaug,** and Ashley Meister. Best of luck to all of you and please come back to visit us.

I.ARE.H News 2001-2002

Message from the Chair

"Celebrating Our Past, Building Our Future"

As chair of the Board of Directors, I would like to indicate how excited I am as the Centre for Agricultural Medicine, University of Saskatchewan, undoubtedly Canada's pioneer in this area, takes on new dimensions in both breadth and depth.

This world-class Saskatoon research centre that supports the study and promotion of rural health has recast itself as an even more dynamic Institute of Agricultural Rural and Environmental Health (I.ARE.H) designed to tackle a wider range of health and safety issues facing people who live and work in rural, agricultural and remote areas.

Our vision statement, "World leadership in the health of rural people" clearly embodies our expectations of excellence in research, comprehensiveness in our outreach, and thoroughness in our teaching. Our mission statement, "To conduct and stimulate research, education, and health promotion programs aimed at enhancing the health and well-being of agricultural, rural and remote populations" indicates our focus on the 30% of the population of Saskatchewan, and 20% of the population of Canada that lives and works in rural Canada.

In the creation of the Institute of Agricultural Rural and Environmental Health, we at the University of Saskatchewan are clearly signalling that we are an Institute of world-leading research, prevention, teaching and service in the four competencies of agricultural medicine, occupational health, environmental health, and healthy rural communities. This definition clearly signals our intention to continue to use these four separate but interrelated competencies to conduct wide-ranging programs of research, education, and delivery of services in agricultural, rural, environmental and occupational health.

J.Lawson and D. Morgan
Unveiling I.ARE.H, December ,2001.

Our proud traditions continue: world-leading outreach programs that involve some 121 participating municipalities with 23,000 farm families in Saskatchewan in the Agricultural Health and Safety Network; our national newsletter, CANFARMSAFE®, penetrating some 200,000 rural households across Canada; and our newly fashioned national graduate training program in "Public Health and the Agricultural Rural Ecosystem" (PHARE). We are excited that the Canadian Institutes for Health Research (CIHR) has recently awarded the I.ARE.H $1.4 M to lead six co-operating universities, Dalhousie, Laval, Queen's University, the University of Alberta, the University of British Columbia and the University of Saskatchewan in a co-ordinated comprehensive approach to educating students at the Master's, PhD, and Post-doctoral levels in this area.

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Our Founding Chairs National Partners Program, under the leadership of LuAn Mitchell, Chair of the Board, Mitchell's Gourmet Foods, and Dennis Banda, President and Chair, Federated Co-operatives Limited, is reaching out across Canada to engage our industry partners in the growth and development of the I.ARE.H.

At the same time, the University fully recognizes and appreciates the support of the three Departments of Health, Agriculture, and Labour, Government of Saskatchewan, with which we have co-operative arrangements to support our research, teaching, service, and outreach programs.

Finally, as Chair of the Board, and on behalf of the Colleges of Medicine, Nursing, Agriculture and the Western College of Veterinary Medicine, I would like to thank most sincerely the faculty, staff, and students of the Institute who make all of this happen.

Sincerely,
Charles Baker, A/Dean
College of Medicine and Chair, Board of Directors
Institute of Agricultural Rural and Environmental Health

Research:

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

In Canada, the major cause of fatal and hospitalized farm work-related injuries is farm machinery. The study was awarded funding from the Canadian Institutes for Health Research. The CCFMI is being conducted throughout three provinces over a four year period ending in March, 2004. An interdisciplinary team of investigators located at the University of Saskatchewan, University of Alberta and University of Manitoba are conducting the study under the leadership of Dr. James Dosman. 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. Preliminary results should be available in Spring, 2004.

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. This report, Fatal and Hospitalized Farm Injuries in Saskatchewan, 1990 – 1997 was widely circulated in the farming community, to health care planners, policy makers and to farm safety specialists. The report served to inform stake holders about the nature of the injury problem, and to identify issues for further investigation and specific prevention initiatives. Funding for the surveillance program in Saskatchewan is provided by the I.ARE.H, CAISP through a grant provided by the Canadian Agricultural Safety Program of Agricultural and Agri-Food Canada and the Canadian Coalition for Agricultural Safety and Rural Health and the Occupational Health and Safety Division, Saskatchewan Labor. The second round of surveillance for the period 1997 to 2000 was completed in 2001. The second report on Fatal and Hospitalized Farm Injuries in Saskatchewan, 1990 to 2000 is currently being prepared. It is anticipated that this report will be available in the fall, 2002.

Rural Dementia Care: Special Care Units vs. Integrated Facilities

Approximately 60,000 new cases of dementia arise each year in Canada. The cognitive, functional, and behavioural changes associated with dementia often lead to nursing home placement when family caregivers can no longer manage care at home. The purpose of this study was to evaluate the role of separate dementia special care units (SCUs) within rural nursing homes. Among rural nursing homes of 100 beds or less in Saskatchewan, 8 have developed SCUs. This study compared these 8 facilities to 8 same-sized rural facilities that did not have SCUs, where residents with dementia were integrated with the general nursing home population. SCUs were rated as more supportive for residents with dementia on 6 out of 9 dimensions of the physical environment and 3 out 6 dimensions of the social environment that have been recognized as important for this population. SCU residents were more likely to exhibit wandering and pacing behaviours, but were half as likely to be physically restrained. Use of medication to control behaviour was similar in the two groups, except for slightly higher use of antipsychotics given on a "as needed" basis on the SCUs. In comparison to staff in integrated facilities, SCU staff reported feeling more adequately prepared to care for persons with dementia and less distress in relation to aggression and other difficult resident behaviours. Data analysis for the study is ongoing. The research team includes Debra Morgan, I.ARE.H; Norma Stewart, College of Nursing; and Carl D'Arcy, Applied Research, University of Saskatchewan.

Investigation of the Prevalence of Asthma and Wheeze in Two Southern Saskatchewan Communities

In January 2000, we conducted a population-based cross-sectional study of children's respiratory health in the communities of Estevan and Swift Current, Saskatchewan to identify differences in asthma prevalence and potential risk factors between communities. While both communities are primarily agriculturally-based and located in the southern region of the province, Estevan is also the site of major sources of outdoor air pollution from coal-fired power plants, oil well flaring and strip-mining of coal. Questionnaires were sent to the homes of 2231 children in Grades 1 to 6. The overall response rate to the survey was 91.4% (n=2038). Acceptable pulmonary function values were available for 1238 children in Grades 1 to 4. Results of the survey identified a 21.4% cumulative prevalence of questionnaire-reported, physician-diagnosed asthma in Estevan compared to 16.8% in Swift Current ($p<0.01$). Communities did not differ on a history of parental asthma, history of respiratory allergy or the prevalence of wheeze with no asthma. This survey establishes a higher rate of childhood asthma in Estevan.

Public Health and the Agricultural Rural Ecosystem (PHARE) Graduate Training Program

The Canadian Institutes for Health Research has funded a graduate training program in Public Health and the Agricultural Rural Ecosystem (PHARE). This training program, based out of I.ARE.H., will draw skills from across the country to respond to changing demographics and technology and address the challenges facing persons living in rural Canada as they seek a healthy, safe and sustainable lifestyle. The program will build capacity in agricultural and health related fields as they pertain to rural Canada utilizing the best of available resources nationally and internationally. PHARE will develop a critical mass of trainees who have a focus on agricultural and rural related issues and who will provide an agricultural/rural perspective to their individual field of study and/or who will train future trainees. Trainees will be well positioned to assist in addressing the increasing concerns related to agricultural and rural industries in Canada through avenues such as basic scientific research and development of health prevention programs, engineering and occupational hygiene controls, risk assessment, policy development, etc., to encourage safe and sustainable growth of agricultural and rural industries in Canada. The co-investigators for this training program include members from the Universities of Saskatchewan, Alberta, British Columbia, Laval, Dalhousie and Queen's and will also include other faculty and expertise from across the country and internationally to aid in the development, delivery and support of this program. We hope to train approximately forty students through the PHARE program. Applications will be received by I.ARE.H. throughout the year.

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

Investigators: Dr. J.A. Dosman, Dr. P.J. Willson, Dr. H. Classen, and Dr. T. Hurst from the University of Saskatchewan, Dr. J. Feddes and Dr. A. Senthilselvan from the University of Alberta, Dr. W. Guenter from the University of Manitoba, Dr. Y. Cormier and Dr. C. Duchaine from the University of Laval.

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 the two types of poultry production, caged-raised birds and floor-raised birds and how these 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 the worker is exposed to across a one day work shift. The study will look at how these data may be related to the type of production practice (i.e. caged-raised birds and floor-raised birds facilities). Management practices, working hours, working activity and other factors will be studied in an attempt to further understand the differences related to the types of production practices and the impacts on worker health.

Data collection began this winter and will be carried out over the course of two years during the winter months. The health data collection process 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 involves collecting environmental measurements across the work shift including dust, gas and endotoxin levels. On the basis of these findings we propose to work with the industry in Canada to assist in developing occupational hygiene and occupational health programs for workers in this industry.

Grainworkers' Health Surveillance Program

This employer driven program allows Saskatchewan grain companies to enrol their workers in a respiratory health surveillance program. This program, which has been active since the inception of The Centre for Agricultural Medicine, provides assessment of grain workers respiratory health and provides them with current health information and education. It also allows for assessment of worker's health over time as workers are assessed every three years. The program includes a detailed respiratory questionnaire, measurements of blood pressure, height, weight, and lung function. Audiometric testing and quantitative fit testing of respirators is also available to workers by employer request. This surveillance, education and prevention program assists in identifying health changes early, allowing for intervention and education to reduce the risk of developing long term health problems.

Swine Workers' Health Surveillance Program

In response to the increased development of intensive livestock production units in Saskatchewan a health surveillance program was developed to address the occupational needs of these workers. Health effects experienced by swine confinement workers include cough, phlegm, wheeze, decreases in lung function and noise induced hearing loss. This employer driven program allows Saskatchewan swine production units to enrol their workers in a respiratory health surveillance program. The program includes a detailed respiratory questionnaire, measurements of blood pressure, height, weight, and lung function. Audiometric testing and quantitative fit testing of

respirators is also available to workers by employer request. Health teaching is provided to each worker, and if a referral is required it is made to a family doctor or specialist. This surveillance, education and prevention program assists in identifying health changes early, allowing for intervention and education to reduce the risk of developing long term health problems and allows for the opportunity to promote employee wellness.

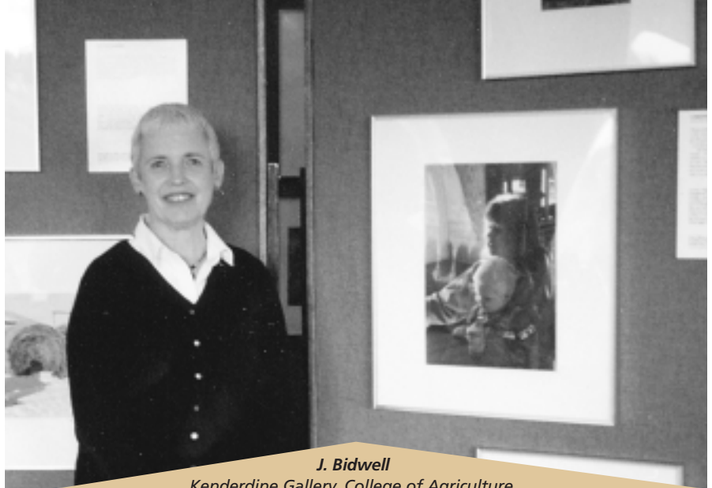
Genetic Variability and Susceptibility to Prostatic Diseases among Adult Males

Pesticide is a generic term that is applied to chemicals designed to kill or repel specific pests and includes herbicides, insecticides, fungicides and fumigants. Pesticides are diverse in their chemical formulations, their mode of action and their effect on non-target organisms. Depending on the nature of exposure and the type of pesticide, dose of exposure, period of lifespan in which exposure occurs and the genetic makeup of the individual, pesticides may be genotoxic, mutagenic or carcinogenic in humans. Health research in Saskatchewan has shown that exposure to pesticides significantly increased the risk of non-Hodgkin's lymphoma, Hodgkin's disease, multiple myeloma and soft tissue sarcoma. Some of our recent research has shown that farmers are also at an increased risk of prostate cancer. We have also observed that prostate tumor characteristics are different among farmers compared to non-farmers.

We suspect that the incidence of prostate cancer may be higher among farmers because of increased exposure to pesticides and other chemicals that are used in crop and animal farming. Xenobiotic pesticides are metabolized and detoxified by xenobiotics metabolizing enzymes in human systems. These xenobiotics metabolizing enzymes include N-acetyl transferase (NAT), glutathion-S-transferase (GST), cytochrome P450 (CYP) and paraoxanase (PON). We hypothesize that genetic polymorphisms in xenobiotic metabolizing enzymes may alter the ability of an individual to metabolize and eliminate xenobiotic pesticides from the body. This study will, therefore, examine the relationship between genetic polymorphisms in xenobiotics metabolizing enzymes and the risk of prostate cancer in these individuals. The data to examine the modification of risk to prostate cancer in genetically polymorphic individuals from exposure to xenobiotic pesticides is currently being collected. Adult males from Saskatchewan visiting the urology clinics in Saskatoon for medical help are recruited in this study.

Estrogenic Pesticides and Prostatic Cancer: Is There a Relationship?

Previous studies have suggested that men with occupational exposure to pesticides have an increased risk of prostate cancer. Certain pesticides, specifically organochlorines and phenoxy acid herbicides that may have been contaminated by dioxin, have estrogenic properties that may interfere with normal hormone metabolism. We hypothesized that among men with prostatic cancer, those with exposure to estrogenic pesticides will have differences in presentation compared to those without exposure, specifically different tumour stage and grade, and age and prostatic specific antigen (PSA) levels at diagnosis. We used a cross-sectional design in which all participants (n = 367) were men living in Saskatchewan diagnosed with prostatic cancer in 1999. Men were assigned to one of two groups: "occupationally exposed to pesticides" or "not occupationally exposed". Data on lifetime occupational chemical exposure were collected by a mailed, specifically designed, structured questionnaire which was pilot tested. The Saskatchewan Cancer Agency (SCA) provided information on tumour characteristics and presentation.



J. Bidwell
Kenderdine Gallery, College of Agriculture, University of Saskatchewan, July ,2001.

Services:

Rural Health Extension Program (RHEP)

The extension program at I.ARE.H collaborates on a provincial and national basis with individuals and agencies to:

1) develop and distribute agricultural health and safety resource materials,

2) develop and implement agricultural health and safety programs.

Agricultural Health and Safety Network:

RHEP includes the Agricultural Health and Safety Network (the Network), 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 Saskatchewan farm families. Rural municipal councils enrol their farm families in the Network. Seventeen rural municipalities (R.M.S) joined the Network in the last year bringing the total membership number to 120. The Network continues to benefit from the input of our steering committee, six rural municipal leaders each representing one of the six divisions of S.A.R.M.

Some of RHEP's Initiatives for the 2001-2002 Year:

OffGuard Photographic Exhibit:

The exhibition featuring twenty individuals injured in farm machinery incidents and accompanying catalogue were displayed at three national conferences after opening at the Kenderdine Gallery, College of Agriculture, last July.

Farm Injury Control Summit III - Nov. 28, 2001:

Approximately 200 people attended the Summit co-hosted by Saskatchewan Agriculture and Food, S.A.R.M., and the Institute. Martin Lesperance, firefighter/paramedic, gave the keynote presentation that used humour to relay the message that injury incidents are preventable and predictable. The morning session featured presentations by Doug Line who gave a Provincial 9-1-1 update; Tim Hillier on the First Responder's Program; and Trish Lundy on the Farm Response course. Delegates viewed the OffGuard Photographic Exhibition before attending the luncheon to celebrate the 15th anniversary of the Centre for Agricultural Medicine and launch its successor, I.ARE.H. Afternoon break-out sessions featured farm safety inventions and community programs.

New Resources:

A new slide talk presentation, Preventing Farm Machinery Entanglements, has been developed and consists of a coloured visual presentation, speaker's notes, additional information for the presenter, quizzes and printed resources. It is available for sale or loan from the RHEP office or it can be downloaded from the internet. A fact sheet, Low Stress Cattle Handling, was developed and mailed during Canadian Agriculture Safety Week to the 21,000 farm families that are members of the Network.

Program Delivery:

Staff delivered the Respiratory Health Program for Farmers to the R.M. of Garry, #245 and the Hearing Conservation Program for Farmers to the R.M.s of Cutknife, #439 and Wilton, #472. These programs are now being offered as drop-in clinics, no appointments necessary. Ten Farm Response courses were provided in five communities.

Newsletters:

Our Saskatchewan newsletter, Network News, is mailed to Network-member farm families twice a year. CANFARMSAFE, the national publication also continues to be published twice yearly. English and French copies reach more than 200,000 farm families across Canada via insertion in the following newspapers; Farm Focus, La Terre de Chez Nous, Ontario Farmer, Manitoba Cooperator, Western Producer, Quebec Farmers Advocate and Agri Digest.

First Interactive Online Learning Program:

The Tractor Rollovers and Runovers — Can you prevent one on your farm? Online learning program is complete and can be viewed at RHEP's webpages. It is based on a slide talk presentation developed last year and features ten case studies based on incidents that occurred on Canadian farms in the 1990's.

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 them pursue their first year of post-secondary education. This year's winner was Melissa Schachtel from the R.M. of Eye Hill, #382. Melissa will apply either to St. Thomas More College or pre-dentistry at the University of Saskatchewan.

Melissa Schachtel
Recipiant of 2001 Scholarship.

Visit us at: http://IAREH.usask.ca

Papers:

Morgan D, Semchuk K, Stewart N, D'Arcy C. Job Strain Among Staff of Rural Nursing Homes: A Comparison of Nurses, Aides, and Activity Workers. Journal of Nursing Administration, 2002; 32(3):152-161.

Morgan D. Commentary on R. Doody et al. Practice Parameter: Management of Dementia (an Evidence-based Review): Report of the Quality Standards Subcommittee of the American Academy of Neurology, 2002; 5(1):20.

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Gomes J, Lloyd O, Norman N. Dust Exposure and Impairment of Lung Function at a Small Iron Foundry in a Rapidly Developing Country. J Occup Environ Med, 2001; 58:656-662.

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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 Qualset, and AB Damania [Editors]. 2002. Managing For Healthy Ecosystems. Lewis Publishers, Boca Raton, Florida, USA, 1184 pp.

McDuffie HH, Pahwa P, McLaughlin JR, Spinelli JJ, Fincham S, Dosman JA, Robson D, Skinnider L, Choi NW. Non-Hodgkin's Lymphoma (NHL) and Specific Pesticide Exposures in Men: Cross Canada Study of Pesticides and Health. Cancer Epidemiology, Biomarkers and Prevention, 2001; 10:1155-1163.

Contributed Papers in Published Conference Proceedings and Abstracts:

Hagel L, Dosman JA, Pickett W, Brison R, Rennie DC. Hospitalized Injuries Due to Contact with Toxic Substances on Canadian Farms, April 1990 to March 1995. Presented at: Health Research in Rural and Remote Canada: Taking the Next Steps, Saskatoon Canada, October, 2001

Kirychuk S. Protecting Farm Worker Health and Safety: Risks and Hazards Associated with Hog Production. Advances in Pork Production: Proceedings of the 2002 Banff Pork Seminar. University of Alberta, Department of Agriculture, Food and Nutrition Science, Vol 13.

Kaminski RM, Semchuk KM. Farm Life Following a Disabling Farm Injury: The Spouse's Experience. Presented: The Eighth Annual Qualitative Health Research Conference. April 4-6, 2002, Banff, AB; The College of Nursing Research Day, November 19, 2001, Saskatoon, SK; and the Rural Health Research Consortium 2nd Annual Scientific Conference and Annual Meeting. Saskatoon, SK, October 2001.

Rennie D, Lawson J, Senthilselvan A, McDuffie H, Cockcroft D. Risk Factors for Childhood Asthma: A Comparison Between Two Southern Saskatchewan Communities. Presented: Canadian Children's Environmental Health Research Workshop, Ottawa, ON, March 17th - 19th, 2002.

Forbes D, Stewart N, Anderson M, Morgan D, Parent K. A Comparison of Predictors of use of Home Support Services and Home Health Care. Presented: International Home Care Conference. Toronto, ON, April 2002.

Morgan D, Stewart N, D'Arcy C. The Physical Environment of Rural Nursing Homes: Are Special Care Units More Supportive than Integrated Facilities? Presented: 54th Annual Meeting of the Gerontological Society of America. Chicago, IL, November 2001.

Morgan D, Stewart N, Block H. Psychotropic Drug use in Rural Nursing Home Residents with Dementia: Special Care Units vs. Integrated Facilities. Presented: Rural Health Research Consortium 2nd Annual Scientific Conference and Annual Meeting. Saskatoon, SK, October 2001.

Forbes D, Stewart N, Anderson M, Morgan D, Parent K. Similarities & Differences Between Users of Home Health Services and Home Support Services and Non-users of Home Care Over Time. Presented: 17th Congress of the International Association of Gerontology. Vancouver, BC, July 2001.

Ingram M, Crowe T, Dosman J, Voaklander D, Senthilselvan A, McDuffie H, Hagel L, Wasserman J, Day L, Pahwa P, Redekop T, Harrel W, Dwernychuk L. A Protocol for Data Collection in a Case-control Study of Farm Machinery Injuries. Presented: CSAE/SCGR-NABEC Meeting, Guelph, ON, July 8-11, 2001.

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Gomes J, Smith P, McDuffie HH. Prostate Cancer Incidence and Mortality Among Rural and Urban Men. Presented: Canadian Society for Epidemiology Research, Toronto, ON, June 13-16, 2001.

Semchuk KM, McDuffie HH, Senthilselvan A, Dosman JA, Cessna AJ, Irvine DG. Characterization of Exposure to Bromoxynil and Other Targeted Herbicides in Prairie Residents in Saskatchewan, Canada. Presented: Canadian Society for Epidemiology Research, Toronto, ON, June 13-16, 2001.

Kirychuk, SP, Senthilselvan A, Feddes JJR, Dosman JA, Barber EM, Willson P, Guenter W, Classen H, Hurst TS, Ouellette CA. Respiratory Changes in Poultry Workers Across a Work-shift. Presented: 2001 International Conference. American Thoracic Society, San Francisco, CA. Supp. Am J of Respiratory and Critical Care Medicine; 163(5):A158, April 2001.

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Gomes J, Revit DM. Estimation of Dietary Intake of Multiple Pesticide Residues: A New Approach. Presented: Congress of Epidemiology 2001, Canadian Society for Epidemiology and Biostatistics (CSEB). June 13-16, 2001, Toronto, ON.

Gomes J, Revit DM, Lloyd OL. Analyses of Multiple Pesticide Residues in Local Agricultural Produce. Presented: Health Research in Rural and Remote Canada: Taking the Next Steps, The Rural Health Research Consortium Scientific Conference and Annual Meeting, October 18-21, 2001, Saskatoon, SK.

Gomes J. Adverse Health Effects from Hormonally Active and Endocrine Disrupting Chemicals. Presented: 26th Annual Conference of the Healthy Horizons, November 3-4, 2001, Regina, SK.

McDuffie HH, Pahwa P, Dosman JA, McLaughlin JR, Spinelli JJ, Fincham S, Robson D. Deet, Phenoxyherbicide Exposure and Non-Hodgkin's Lymphoma(NHL). Suppl: Am J E[ode,. Kime 13-16, 2001, S266, Toronto, ON.

McDuffie HH, Phwa PP, Fincham S, Spinelli JJ, McLaughlin JR, Dosman JA, Robson D. Comparison of Family Histories of Cancer Among Cases of Hodgkin's Disease, Multiple Myeloma, Non-Hodgkin's Lymphoma, Soft Tissue Sarcoma and Control Subjects. Proceedings: 92nd Annual Meeting of the Am Association for Cancer Research, March 2001, 42:500, New Orleans, LA.

Gomes J. Reproductive Toxicity from Occupational and Environmental Exposure to Pesticides. Presented: 26th Annual Conference of the Healthy Horizons, Nov 3-4, 2001, Regina, SK.

Kirychuk S. Protecting Farm Worker Health and Safety: Health Effects Related to Swine Confinement Work. Presented: Banff Pork Symposium, January 22-26, 2002, Banff, AB.

Quail J, McDuffie HH. Xenoestrogens and Prostate Cancer: Is There a Relationship. Presented: 2nd Scientific Conference of the Rural Health Research Consortium: Health Research in Rural and Remote Canada: Taking the Next Steps, Saskatoon, SK, October 18-21, 2001

Bidwell J, Lockinger L, Hagel L, McDuffie HH, Dosman JA. "OFFGUARD" A multidisciplinary Project to Increase Awareness of the Human Costs of and Risk Markers for Farm Machinery Injuries. Presented: 2nd Scientific Conference of the Rural Health Research Consortium: Health Research in Rural and Remote Canada: Taking the Next Steps, Saskatoon, SK, October 18-21, 2001; and at the Injury Prevention and Control 2001: Partnerships & Practice, Seventh Annual Canadian Farm Safety & Rural Health Conference, Edmonton, AB, November 4-6, 2001.

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Mpofu DJS, McDuffie HH, Rennie D, Stefiuk W, Turnell R. Discharge of Mothers and Babies from Hospital after Birth of a Healthy Full-term Infant: what Are the Health Consequences for Rural and Urban Women in Saskatoon Health District? A report on Some Preliminary Findings. Presented: 2nd Scientific Conference of the Rural Health Research Consortium: Health Research in Rural and Remote Canada: Taking the Next Steps, Saskatoon, SK, October 18-21, 2001.

Stefiuk W, Mpofu DJS, McDuffie HH, Rennie D, Turnell R, Topp D, Gibbins A. Discharge of Mothers and Babies from Hospital after Birth of a Healthy Full Term Infant: A Review of an Early Maternity Discharge Program (Healthy and Home) for Rural and Urban Residents, 1995 to 2000. Presented: 2nd Scientific Conference of the Rural Health Research Consortium: Health Research in Rural and Remote Canada: Taking the Next Steps, Saskatoon, SK, October 18-21, 2001.

Awards:

Jacqueline Quail was awarded a College of Medicine Graduate Scholarship for the 2001-2002 academic year. September 30, 2001.

Roxanna Kaminski was awarded a $1,000 bursary from the Royal University Hospital Ladies Auxiliary and a $1,000 bursary from Saskatoon District Health Board for Continuing Education.

Congratulations:

Joshua Lawson successfully defended his Masters' thesis entitled *"Factors Associated with Asthma in School Children Living in Estevan, Saskatchewan"*.

Shelley Kirychuk graduated with a Master's in Business Administration from the University of Saskatchewan.

Punam Pahwa received her PhD title from the College of Graduate Studies, University of Saskatchewan, with her thesis entitled *"Statistical Modelling of Longitudinal Pulmonary Function Data"*.

Victor Juorio successfully defended his Masters' thesis entitled *"A Descriptive Study of Poultry Workers' Resspiratory Health in the Provinces of Alberta, Saskatchewan and Manitoba"*.

Canada-Ukraine Partnership:

A Memorandum of Understanding between the Institute of Agricultural Rural and Environmental Health and the Canada Ukraine Centre was signed on April 2002. This agreement lays the foundation for future undertakings with Ukrainian academic and research institutions in areas related to occupational health issues in agriculture, and their effect on environment, human health, and food.

Dr. W Podiluk, Dr. D. Cipywnyk, Mr. B.W. Kischuk, and Dr. J.A. Dosman