MISSION STATEMENT

The Mission of the Population Health Research Unit is to collaborate with others to conduct population and health services research and to inform and evaluate health policy.
Population Health Research Unit (PHRU)

Established to meet the growing need for data and research support in population health, health services utilization and their interrelationships in a time of health care reform, spending constraints and expanding technologies.
Department Head
Commentary

It gives much pleasure to introduce PHRU’s Annual Report for 2004-05 on the 10th anniversary of the Unit. In that time, PHRU has grown exponentially with a productivity that belies its modest funding base. This is an exciting time for population health with an increasing appreciation of the value of population-based databases for indicator development, pharmacosurveillance, health outcomes, and disease surveillance. I would like to take the opportunity to acknowledge the valuable role that George Kephart has played as the Director of PHRU in the first ten years, and to welcome the new Director, Mark Smith. The next 10 years should prove to be as interesting as the last decade!

Stephen Kisely,
MD, MSc, GradDipEd, FRANZCP, FAFPHM, FRCPC
Professor, Head & District Chief
Acting Director’s Report

Stemming from inaugural agreements with the Department of Health in 1994, 2004 marks the end of the first decade for PHRU and the start of my 10th year with the organization. Originally hired to establish the data warehouse for PHRU, I have served in almost every capacity in this organization. Being called upon to fill in for Dr. George Kephart during his sabbatical year was a great honor and one that I eagerly looked forward to despite the many challenges we faced.

As a result of a tremendous effort on George’s part, as well as the contributions of many others, PHRU was facing another bountiful year of contract work. Unfortunately we had also just gone through some difficult months which necessitated many layoffs. With George on sabbatical we were down to a skeleton crew of just five individuals to manage and complete almost 30 projects. My most pressing task was to rebuild the organization. During the course of the coming year we would lose two more staff; Sarah Maaten to our competitors in central Canada (The Institute for Clinical and Evaluative Sciences in Toronto) and Megan Rogers to the World Health Organization in Geneva. If nothing else, our staff members enjoy excellent employment opportunities when they move on!

The first step was hiring a new full-time database manager which we acquired in spades in the form of Kevin Druhan. The second was beefing up our analytic capacity which meant hiring the productive and extremely competent duo of Martha Cox and Dingwei Dai. Finally we regained day to day control of our expenses by hiring the able administrator Sandra Pauls to a full-time position. With our existing crew of Jill Casey and Adrian MacKenzie that brought our full-time complement to seven. While strong in many areas, we clearly lacked capacity in the area of project management. With almost 30 projects to manage it was clear we would need more than one coordinator. As a result of some fortuitous and strategic alliances with several of our partners, notably Dr. Gail Tomblin Murphy in Nursing, Dawn Frail in the Department of Health and Peggy Dunbar at the Diabetes Care Program of Nova Scotia, we were able to recruit four research coordinators for the cost of 2 ½ FTE’s. Our gratitude to the three of you for helping out during a difficult time is wide and deep.

Sarah Curry was hired first to coordinate the large and ambitious Tui’kn project with First Nations communities in Cape Breton. As part of a larger primary health care reform project spearheaded by Mary Jane Hampton and Dr. Richard McLaughlin in Family Medicine, Sarah’s task was to design a health informatics program for coordinators in each of the five Cape Breton aboriginal communities, deliver it, and assist PHRU in developing a locally owned and operated health information system. Along the way Sarah acquired the title of Rural and Aboriginal Health Project Coordinator. As part of that expanded role Sarah has also been assisting Dr. Judy Guernsey’s Rural Center Project looking at ways to better identify rural populations using GIS technology.

Next up was Charmaine Cooke, a graduate of CH&E who has recently worked with Dr. Ingrid Sketris at the College of Pharmacy and who is a practicing pharmacist herself. Charmaine has come on board half-time as PHRU’s Pharmacoepidemiological Project Coordinator. In that capacity she has been working closely with Dr. Mike Allen in Continuing Medical Education and Dawn Frail at the Drug Evaluation Alliance of Nova Scotia (DEANS). Charmaine is also working with Steve Graham and Kelly Bower at Health Canada to develop a provincial drug evaluation and review
program for aboriginal communities in Nova Scotia. This project will be submitted to the Atlantic Aboriginal Health Research Program (AAHRP) for funding.

Pam Jones took a leave of absence for one year from her position at the Department of Health, where she has been the resident expert on Health Human Resource projects for many years, to assist Drs. Gail Tomblin Murphy and George Kephart and PHRU on a number of large and important HHR projects. Pam’s knowledge and expertise has been invaluable and we look forward to continuing to work with her on developing new and innovative HHR projects.

Last, but by no means least, Sarah Fleming, a recent migrant who swam upstream (from Ontario) but who is originally from Newfoundland and so feels right at home, joined us from the Queens’ University Cancer Research Institute to head up our Chronic Disease and Youth Health Research projects. Sarah will also be serving half time as the resident epidemiologist in the Diabetes Care Program of Nova Scotia.

Thanks to this impressive crew, PHRU was able to complete 37 grant and contract paid projects during the past year, many of which are highlighted in this report. Before I end, I would be remiss in not mentioning the considerable effort we invested in reconstituting the PHRU Data Access Committee, chaired by Jill Casey and supported by the voluntary contributions of a number of hard-working committee members including Dr. Alec Allen, Reproductive Care Program of Nova Scotia; Beth Bruce, Interdisciplinary Research, IWK Health Centre; Ron Dewar, Cancer Care Nova Scotia; Karen Buth, Maritime Heart Centre; Leslie Anne Campbell, Health Outcomes Research Unit, CDHA; Chris Skedgel, Department of Medicine; Pratima Devichand and George Doyle-Bedwell, Nova Scotia Department of Health; Mark Asbridge and Yukiko Asada, Department of Community Health and Epidemiology; Charmaine Cooke, Pam Jones, Sarah Fleming, PHRU. It is because of their contributions that PHRU is able to say without reservation that all projects we undertake are thoroughly scrutinized for issues related to privacy and confidentiality. That, along with our joint implementation with the Department of Health of a new and more robust security and encryption algorithm (with many thanks to Kevin Druhan, Barb Harvie, Bryan Levangie and Mingxiu Li), lets us sleep more soundly at night knowing that the identities of the individuals contained in our databases have been thoroughly protected. You can read more about our data access policies and privacy initiatives online at www.phru.dal.ca.

A special thanks also to some of our more continuous supporters, namely the Nova Scotia Department of Health and the National Diabetes Surveillance System (NDSS) initiative, Ms. Dawn Frail and the Drug Evaluation Alliance of Nova Scotia (DEANS), and of course the Department of Community Health and Epidemiology, Dalhousie University, with whom we have collaborated on numerous projects. Of particular mention is Dr. George Kephart who, more than any other single individual, has invested his time, energy and resources to maintain the viability and growth of this unit. Your continued support and contributions make our job that much easier.

There are many additional individuals and projects I could highlight in this report, but my available space is drawing to a close. The many individuals who work at PHRU, and the networks of associates that we partner with, too numerous to mention, are the most critical elements to the success of this organization. Without you, and them, none of this would be possible. Please enjoy this report and we look forward to collaborating with you again next year on another bountiful roster full of exciting new prospects and possibilities.

Sincerely,

Mark Smith
Acting Director
Unit Personnel

MANAGEMENT

KEPHART, George
Director (sabbatical)

SMITH, Mark
Acting Director

PAULS, Sandra
Finance and Administration Officer

CASEY, Jill
Senior Research Analyst

COOKE, Charmaine
Pharmacoepidemiology Project Coordinator

COX, Martha
Programmer/Analyst

CURRY, Sarah
Rural & Aboriginal Project Coordinator

RESEARCH (alphabetical)

DAI, Dingwei
Analyst/Biostatistician

DRUHAN, Kevin
Database Manager

JONES, Pam
Health Human Resources Project Coordinator

LI, Mingxui
Intern

MAATEN, Sarah
Project Coordinator/Analyst

MACKENZIE, Adrian
Research Analyst

ROGERS, Megan
Associate Database Manager
Projects

A Multi-Centre Approach to Investigating the Health Impacts of Extreme Heat and Cold Events Due to Climate Change and Climate Variation

Administrative health databases maintained by five centres across Canada will be used to assess the health implications of extreme heat and cold periods, to identify vulnerable population groups and to develop surveillance systems and protective measures. In Nova Scotia, this project is led by Dr. Judy Guernsey of the Department of Community Health and Epidemiology, Dalhousie University. Physician billings and hospital discharge records from PHRU were summarized for selected diseases on a daily basis and will be compared to climate data from Environment Canada collected at local weather stations.

Access to Care in Surgically-Treated Malignancies—Measurement Strategies

The ability to measure access to care for surgically-treated malignancies is important in ensuring appropriate care for those with cancer in Nova Scotia. The objective of this study is to determine if preexisting secondary data sources housed at the PHRU can be used to measure access to care for specific surgically treated malignancies. This project will determine if these administrative databases can potentially be used to examine temporal or regional variations in access in care, as well as policy or process changes, to potentially benefit Nova Scotians. PHRU is involved in the measurement and correlation of various steps in the process to determine if this is a viable option for evaluation of policy and patient outcomes.

An Examination of End-of-Life Health Care Costs in Nova Scotia

The primary purpose of this study, led by Dr. Deborah Kiceniuk of Dalhousie University and funded by CIHR, was to test the feasibility of utilizing linked administrative databases to examine end-of-life health care costs in Nova Scotia. PHRU’s role in the project was to extract and perform analysis on the relevant data from the PHRU administrative databases.

Association between Fine Particulate Matter and Physician Visits for Cardiovascular Diseases in Halifax, Nova Scotia

This thesis project, by Community Health and Epidemiology graduate student Anita Li, aims to extend the epidemiologic research about the acute health effects of exposure to airborne particulate matter, and to provide health information for a provincial initiative -- developing a health-risk based Air Quality Index (AQI).

Atlantic Health Human Resources Planning Study (Med-Emerg)

Med-Emerg Inc. was retained by the Atlantic Health Human Resources Association (AHHRA) to conduct a regional health human resources (HHR) planning study for the four Atlantic provinces. Med-Emerg, in turn, retained PHRU as part of
a team of national HHR experts (which also included Dr. George Kephart and Dr. Gail Tomblin Murphy of Dalhousie University, Dr. Stephen Birch of McMaster University, and Dr. Linda O'Brien-Pallas of the University of Toronto) to carry out the project. The goal of the study was to carry out a comprehensive investigation of the regional requirements for health professionals in Atlantic Canada, and the regional requirements for available educational/training programmes in and outside Atlantic Canada. PHRU's role in the project consisted mainly of the design and implementation of an HHR simulation model (a key deliverable the study), and the acquiring and rolling up of the data needed to populate the model. The findings of this study were presented in a series of reports to the Atlantic Health Human Resources Association.

Determination of Patterns of Use of Proton Pump Inhibitors and H2-Receptor Antagonists in Nova Scotia Pharmacare Beneficiaries from 1998 to 2002

This retrospective analysis conducted by Jordan Zacny, a graduate student in the Department of Community Health and Epidemiology, will determine trends in the dosage and usage of acid suppressive medications in the Nova Scotia Pharmacare population.

Environmental Fate of Selected Pharmaceuticals in Surface Water

This is a preliminary study by Wendy Krkosek, a graduate student in the Department of Civil Engineering, into pharmaceutically active compounds in the environment. Pharmacare and physician billings data from PHRU will be used in the calculation of drug usage with in the study area. Probable environmental concentrations of selected drugs will be modeled and compared with actual concentrations.

Evaluation of Nurse Practitioner Prescribing in Nova Scotia-Opportunities for Community Pharmacists to Improve Collaborative Practice and Patient Care

This study describes patterns of medication prescribing by nurse practitioners in Nova Scotia. PHRU data was utilized to determine classes of medications prescribed over a 5-year period to determine if trends, especially in antibiotic and anti-inflammatory drugs, might be useful for future educational initiatives and for feedback to these prescribers.

First Nations and Inuit Regional Longitudinal Health Survey

Regional Health Survey 2002-2003 is designed as a longitudinal survey and is considered the most comprehensive study of First Nations health and living conditions in Canada. The people who make the First Nations Regional Longitudinal Health Survey (RHS) a reality call themselves “data warriors.” They are in the front lines of efforts to improve the health of First Nations peoples across Canada. At the behest of the Union of Nova Scotia Indians (UNSI), analysts at PHRU have been analyzing the survey data. We have provided preliminary analysis of all variables, as well as detailed ad hoc analysis, presentation graphics, and consultancy to the report authors, Dr. Fred Wien and Dr. Charlotte Loppie. We continue to work closely with the authors and representatives of UNSI to discuss how to raise community awareness of the survey results, and how this information can be used to effect positive change in the lives of Nova Scotia First Nations communities.

Health Care Utilization Before and After Consultation in a Specialized Assessment and Treatment Centre for Environmentally Sensitive Patients: the Nova Scotia Environmental Health Centre

The Nova Scotia Environmental Health Centre, funded by the Department of Health, is dedicated to the research and treatment of environmental sensitivities. This study, led by Dr. Michel Joffres, aims to test the hypothesis that patients
referred to and managed by the Centre have decreased follow-up health care utilization compared with previous utilization patterns.

Health Human Resource Modeling: Challenging the Past, Creating the Future

This program of research, led by Dr. Gail Tomblin Murphy and Dr. Linda O’Brien-Pallas and funded by CHSRF/CIHR, consists of three separate but related studies which aim to enhance existing demographic-focused approaches to Health Human Resources Planning (HHRP) by moving beyond considerations of supply and utilization to consider the factors and shocks that influence the health system (with a focus on nurses). Project 1, which will assess changes in the levels and distribution of health over time, will provide decision-makers with an evidence base that will allow the matching of nurse resources to changing population health needs. Project 2 will focus on understanding the way other inputs constrain or enhance the rate of production of nurse human resources in the hospital sector. Project 3 will assist in developing evidence-based strategies for retaining different target groups of nurses. The program involves partnerships between decision-makers, policy makers, and researchers from Ontario, Nova Scotia, Newfoundland & Labrador, Prince Edward Island, New Brunswick, and Saskatchewan. PHRU’s role in this program consists mainly of providing the bulk of the analytical capacity and some project coordination.

Maritime Heart Centre Cardiac Surgery Registry (MHCCSR)

Since 1999, the Division of Cardiac Surgery at the QEII Health Sciences Centre has utilized the Maritime Heart Centre (MHC) Database to engage in Continuing Quality Improvement (CQI) initiatives. While these initiatives have been demonstrated to improve hospital outcomes, they are limited by the fact that outcomes data is only available until the day of hospital discharge. This project, led by Dr. Gregory Hirsch and Dr. Ansar Hassan of the QEII HSC and supported financially by the MHC Research Fund, reduces these limitations through linkage of the MHC Database with some of PHRU’s administrative data from the NS Department of Health. Specifically, the MHCCSR allows for feedback to clinicians about longitudinal results including freedom from death (via linkage to Vital Statistics data) and freedom from rehospitalization for cardiac causes (via linkage to hospital discharge abstract data). Additionally, feedback on the utilization of prescription drugs by seniors (via linkage to seniors Pharmacare data) and physician visits (via linkage to MSI billing data) will enhance the ability of clinicians to assess treatment effectiveness. This feedback represents a major advance in CQI initiatives and puts the MHC in a leadership position both in Canada and internationally in this rapidly evolving area. PHRU’s role in the project includes the extraction of relevant administrative data for patients in the MHC Database.

Mental Health Indicators, Phase II

The Mental Health Indicator project is an ongoing collaborative project between PHRU and the Nova Scotia Department of Health which aims to create a mental health ‘profile’ of each of the nine District Health Authorities (DHAs) in Nova Scotia by monitoring various predictors and indicators of mental health. These profiles are intended to provide a reference on, promote discussion of, and inform policy regarding mental health services in Nova Scotia. The profiles are created under the direction of the Mental Health Monitoring Working Group of the Department of Health, working within the population health monitoring framework established by the Canadian Institute for Health Information (CIHI), and using Census and Administrative data to monitor various predictors and indicators of mental health. It is hoped that it will be possible to include data from other sources, such as the Canadian Community Health Survey (CCHS), in future editions of the profiles. PHRU’s role in the project was to create these profiles, under the direction of the Working Group. The most recent versions of the profiles were distributed to the Mental Health Services managers in each DHA.
National Diabetes Surveillance System

PHRU has participated in the National Diabetes Surveillance System (NDSS) on behalf of the Nova Scotia Department of Health and the Diabetes Care Program of Nova Scotia since 2000. The NDSS is committed to building capacity at the national, provincial/territorial, and community levels to monitor the human and economic burden of diabetes in the Canadian population, including among Aboriginal peoples. Standardized administrative databases in each of the provinces and territories allow for the ongoing surveillance of diabetes and its complications. The resulting information is comparable at the national level and may be utilized by provinces and communities in the development of diabetes prevention and treatment strategies. The NDSS also has the potential to provide a platform for enhanced surveillance of other chronic diseases.

Quality Indicators for End-of-Life Breast Cancer Care: Testing the Use of Administrative Databases in Two Provinces

This is a pilot study, led by Dr. Eva Grunfeld of Cancer Care Nova Scotia, designed to assess the feasibility of using routinely collected administrative data to measure indicators of quality end-of-life care for patients with breast cancer. Physician billings and hospital discharge data from PHRU were extracted for a cohort of women who died from breast cancer in the years 1998 to 2002. Administrative data for the six months prior to death will be analyzed and compared to findings in Ontario.

Serious Complications of Colonoscopy among Four Canadian Provinces

The 2003 estimated age-standardized incidence of colorectal cancer (CRC) in Canada is 59.7 per 100,000 men and 39.5 per 100,000 women. CRC is the most common fatal cancer among non-smoking Canadians. The purpose of this study was to look at serious complications of colonoscopy used as part of a screening program. The approach is a cohort study of patients in British Columbia, Alberta, Ontario, and Nova Scotia who underwent their first colonoscopy between 01APR2002 and 31MAR2003. Patients with a previous colonoscopy, endoscopy, IBD, treatment for a bleeding colonic lesion, or a colonoscopy performed in hospital were excluded. Bleeding, perforation, and death within 30 days of the index colonoscopy are used

Serious Complications of Colonoscopy among Four Canadian Provinces

The 2003 estimated age-standardized incidence of colorectal cancer (CRC) in Canada is 59.7 per 100,000 men and 39.5 per 100,000 women. CRC is the most common fatal cancer among non-smoking Canadians. The purpose of this study was to look at serious complications of colonoscopy used as part of a screening program. The approach is a cohort study of patients in British Columbia, Alberta, Ontario, and Nova Scotia who underwent their first colonoscopy between 01APR2002 and 31MAR2003. Patients with a previous colonoscopy, endoscopy, IBD, treatment for a bleeding colonic lesion, or a colonoscopy performed in hospital were excluded. Bleeding, perforation, and death within 30 days of the index colonoscopy are used

Serious Complications of Colonoscopy among Four Canadian Provinces

The 2003 estimated age-standardized incidence of colorectal cancer (CRC) in Canada is 59.7 per 100,000 men and 39.5 per 100,000 women. CRC is the most common fatal cancer among non-smoking Canadians. The purpose of this study was to look at serious complications of colonoscopy used as part of a screening program. The approach is a cohort study of patients in British Columbia, Alberta, Ontario, and Nova Scotia who underwent their first colonoscopy between 01APR2002 and 31MAR2003. Patients with a previous colonoscopy, endoscopy, IBD, treatment for a bleeding colonic lesion, or a colonoscopy performed in hospital were excluded. Bleeding, perforation, and death within 30 days of the index colonoscopy are used
as endpoints. PHRU analysts provided data extraction and analysis for the Nova Scotia cohort, as well as contributing to study team discussions regarding study methodology, resolution of data problems, and report content.

**The Epidemiology of Inflammatory Bowel Disease in Canada: A Population-Based Study**

To develop a greater understanding of the epidemiology of Crohn’s disease (CD) and ulcerative colitis (UC) in Canada, this study, led by Dr. Charles Bernstein of the University of Manitoba and funded by the Crohn’s and Colitis Foundation of Canada, aimed to develop a larger database of both CD and UC across participating Canadian provinces by using an administrative definition developed and validated in Manitoba. The study reports the incidence and prevalence of CD and UC by age, sex and region in the 5 Canadian provinces of British Columbia (BC), Alberta (AB), Saskatchewan (SK), Manitoba (MB), and Nova Scotia (NS) and thereby estimates the burden of IBD in Canada. PHRU’s role in the study was to use administrative data to estimate the incidence and prevalence of UC and CD by age, sex, and region in Nova Scotia.

**The Health Care of Nova Scotians with Mental Illness**

One in five Nova Scotians has a psychiatric illness. This status has an impact on their physical health, and the care they receive. Using a model introduced in Australia by Dr. David Lawrence, Dr. Stephen Kisely has begun a series of studies to examine factors affecting the health of Nova Scotians with mental illness. The series began in 2003 with an overall look at mortality. This year PHRU has provided data extraction and analysis for two additional studies. The first, in conjunction with Dr. Joseph Sadek, was “An Epidemiological Study of Cancer Incidence in Psychiatric Patients.” This study examined mortality due to a variety of cancers, rates of first hospital admission for cancer, and patient registration with Cancer Care Nova Scotia (CCNS). The second was entitled “Preventable Circulatory Disease in People with Mental Illness.” This examined mortality and rates of first hospital admission due to ischemic heart disease, stroke, and other circulatory diseases. To determine whether psychiatric patients are receiving the same standard of care as the general population, the study also examined rates of receipt of selected procedures once the patient was admitted to hospital.

**The Influence of Pharmaceutical Marketing Strategy on Physician Prescribing Behaviour**

In an attempt to gain greater insight into pharmaceutical marketing strategies and the relationship between the factors that influence prescribing behaviour, Ph.D. candidate Kent Groves is analyzing physician billings and Seniors Pharmacare data from PHRU in conjunction with detailing audits and journal audits from IMS Health Canada. As prescription drugs make up an increasing portion of health care expenses, understanding the variables that influence prescribing behaviour takes on greater importance to government, insurers and industry.

**The RURAL Centre**

The Rural Centre is a mutually-supportive collaborative research network and resource centre based out of Dalhousie University, with collaborators from all four Atlantic provinces.
Their objective is to enhance the understanding of physical and socioeconomic environmental influences on health and the capacity of rural Atlantic Canadians to respond to these challenges. These rural health researchers have identified a need for access to high-quality data to understand the relationship between health outcomes and the specific environmental, economic, and socio-cultural factors characterizing rural populations. PHRU is helping to meet that need in two ways. First, we have geocoded our health databases and will provide information about the quality of that geospatial data to interested researchers. This will facilitate urban/rural comparisons and will also greatly aid researchers interested in environmental health. Second, we are developing a Metadata Repository for research data to increase awareness of available data resources. As part of the evaluation for this project, we will study the data access barriers faced by rural health researchers. The repository will utilize the DDI (Data Documentation Initiative) international metadata standard to encode provincial administrative health data and employ a web-based browsing tool to enable researchers to easily browse and search population health data documentation online.

Tui’kn Initiative

Through the Tui’kn initiative, five First Nations bands in Cape Breton (Membertou, Potlotek [Chapel Island], Eskasoni, Wagmatcook, and We’koqma’q) are working with provincial, federal and university partners to build capacity and shape local health planning and delivery. The project has four areas of emphasis:

1. Remove barriers to an integrated, holistic, culturally appropriate multi-disciplinary primary health care model.
2. Create mechanisms for collaborative planning and partnerships within each community, among the five communities, and between the local, District, provincial, and federal levels of government.
3. Develop capacity for the collection, management, and interpretation of health care information at the local level.
4. Translate the renewed model of primary health care into action.

PHRU supports Tui’kn in three major ways. First, as partners and members of the Steering Committee, we participate fully in the ongoing evolution of the Initiative. Second, we are building capacity for health information collection and management in the five communities. We are helping to develop a shared health information system that will respect privacy and confidentiality as well as the principles of local ownership, control, access and possession. We are also working on the development of local health information systems linking with District systems. As well, we are delivering a comprehensive training program to members of the five communities. Finally, we are involved with the evaluation of Tui’kn and participate in the overall design and implementation of the project’s evaluation.

Type 2 Diabetes Among a Cohort of Gestational Diabetics

Cory Russell, a graduate student in the Department of Community Health and Epidemiology, is examining 13 years of data from the Maternal-Child Health Database (a virtual database consisting of physician billings and hospital discharge data from PHRU in conjunction with the Atlee Perinatal database). In addition to determining the rate of type 2 diabetes among women with a history of gestational diabetes, this study also aims to identify the risk factors for developing type 2 diabetes.

Understanding the Costs and Outcomes of Nurses’ Turnover in Canadian Hospitals

This study, led by Dr. Linda O’Brien-Pallas of the University of Toronto, Dr. Gail Tomblin Murphy of Dalhousie University, Dr. Judith Shamian of the Victorian Order of Nurses aims to determine how the rate and intensity of nursing turnover impact patient satisfaction and safety, nurse satisfaction, health and safety, and system outcomes. An understanding of the costs and impact of turnover will assist policy makers to design mechanisms and policies to effectively recruit and retain nurses as market competition increases due to shortage. This project is part a larger, international research project on the costs of nursing turnover, with coincident research being carried out in Australia, England, New
Zealand, Scotland, and the United States. The Canadian arm involves partnerships among decision-makers, policy-makers, and researchers from all ten provinces. The project has received significant financial support and commitment from 17 healthcare organizations (representing 51 hospitals) in ten Canadian Provinces, seven third-party co-sponsors including Health Canada, two provincial governments, and three provincial funding agencies. PHRU’s role in this project includes significant contributions to the design of the study, as well as some analytical support.

Publications


Zacny JT, Sketris I, Skedgel C, Kephart G, Veldhuyzen van Zanten SJ. Utilization of antisecretory medication in

Abstracts


Presentations


Kisely, S. Counting the cost - the burden of depressive disorders, 14th Nova Scotia Hospital Academic Day, April 2004.


Reports


## Population Health Research Unit

### Four Year Statement of Income Review*

<table>
<thead>
<tr>
<th></th>
<th>Year ending 31-Mar-05</th>
<th>Year ending 31-Mar-04</th>
<th>Year ending 31-Mar-03</th>
<th>Year ending 31-Mar-02</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenue:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External revenue</td>
<td>$395,765</td>
<td>$210,989</td>
<td>$134,398</td>
<td>$254,893</td>
</tr>
<tr>
<td>Research overhead</td>
<td>1,232</td>
<td>12,205</td>
<td>33,937</td>
<td>5,745</td>
</tr>
<tr>
<td>Internal recoveries</td>
<td>127,391</td>
<td>173,804</td>
<td>283,597</td>
<td>198,255</td>
</tr>
<tr>
<td><strong>Total Revenue</strong></td>
<td>524,388</td>
<td>396,998</td>
<td>451,932</td>
<td>458,893</td>
</tr>
<tr>
<td><strong>Expenses:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salaries</td>
<td>323,098</td>
<td>315,704</td>
<td>358,327</td>
<td>341,851</td>
</tr>
<tr>
<td>Fringe benefits</td>
<td>49,620</td>
<td>46,080</td>
<td>41,974</td>
<td>43,784</td>
</tr>
<tr>
<td><strong>Total Salaries and Fringe</strong></td>
<td>372,718</td>
<td>361,784</td>
<td>400,301</td>
<td>385,635</td>
</tr>
<tr>
<td>Library books</td>
<td>952</td>
<td>0</td>
<td>890</td>
<td>323</td>
</tr>
<tr>
<td>General operations expense</td>
<td>1,616</td>
<td>1,508</td>
<td>1,575</td>
<td>4,252</td>
</tr>
<tr>
<td>Computer hardware purchases</td>
<td>8,361</td>
<td>1,837</td>
<td>4,306</td>
<td>8,776</td>
</tr>
<tr>
<td>General equipment purchases</td>
<td>348</td>
<td>4,763</td>
<td>2,184</td>
<td>0</td>
</tr>
<tr>
<td>Computer software purchases</td>
<td>10,317</td>
<td>9,612</td>
<td>9,404</td>
<td>6,303</td>
</tr>
<tr>
<td>Service contracts &amp; maintenance</td>
<td>2,544</td>
<td>0</td>
<td>542</td>
<td>542</td>
</tr>
<tr>
<td>Contracted services - general</td>
<td>11,906</td>
<td>14,232</td>
<td>15,982</td>
<td>11,182</td>
</tr>
<tr>
<td>Travel</td>
<td>5,744</td>
<td>5,073</td>
<td>4,769</td>
<td>6,200</td>
</tr>
<tr>
<td>Printing and photocopying</td>
<td>4,025</td>
<td>700</td>
<td>3,988</td>
<td>4,698</td>
</tr>
<tr>
<td>Phone and long distance</td>
<td>3,338</td>
<td>4,192</td>
<td>4,304</td>
<td>4,388</td>
</tr>
<tr>
<td>Postage and courier charges</td>
<td>479</td>
<td>497</td>
<td>431</td>
<td>662</td>
</tr>
<tr>
<td>Stationery and office supplies</td>
<td>5,553</td>
<td>2,569</td>
<td>3,312</td>
<td>3,679</td>
</tr>
<tr>
<td>Reception and meeting expenses</td>
<td>154</td>
<td>267</td>
<td>902</td>
<td>283</td>
</tr>
<tr>
<td>Advertising and publicity</td>
<td>746</td>
<td>568</td>
<td>576</td>
<td>452</td>
</tr>
<tr>
<td>Staff training</td>
<td>1,640</td>
<td>0</td>
<td>370</td>
<td>2,580</td>
</tr>
<tr>
<td>Association membership fees</td>
<td>732</td>
<td>0</td>
<td>124</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total Operating Expenses</strong></td>
<td>58,455</td>
<td>45,818</td>
<td>53,659</td>
<td>54,320</td>
</tr>
<tr>
<td>Fund transfers - (in)/out</td>
<td>-2,443</td>
<td>-10,604</td>
<td>-259</td>
<td>17,314</td>
</tr>
<tr>
<td><strong>Net Income</strong></td>
<td>$95,658</td>
<td>$</td>
<td>-$1,769</td>
<td>$1,624</td>
</tr>
</tbody>
</table>

*Prepared by Mary Sue Radford, CA – Director of Finance, Faculty of Medicine*
PHRU maintains over 200 million records from provincial administrative health databases.

The repository contains nearly comprehensive information about insured health services delivered to residents of Nova Scotia from 1989 to the present, as well as information around determinants of health and health outcomes, postal code-based geographical mapping, and national and provincial census and survey data. PHRU has also enriched its administrative data by establishing linkages to a number of unique population-based clinical and registry databases.

For more information about PHRU services, visit www.phru.ca.

Prepared by Mary Sue Radford, CA – Director of Finance, Faculty of Medicine.