The Queen’s School of Nursing has experienced a major recruitment of new faculty due to retirement. This has provided an excellent opportunity to reframe the research clusters that the majority of faculty are involved in developing and seeking funding to support. The clusters are Populations with Complex Conditions, Practice Environments, and Health Care Quality. Each faculty member has their own research program and in the report, there are short synopsis of the scholarly work undertaken in 2016-2017.

The Queen’s Nursing and Health Research Group report (2016-2017) showcases the excellent innovative and unique research and scholarship that faculty members are engaged in as part of scholarly activity. However, there is significant research and scholarship that is encompassed within the research group demonstrating the national and international partnerships that faculty have developed over time. Internationally, nursing faculty are working with colleagues in Australia, Italy, Chile, Brazil, United Kingdom, Rwanda, South Africa, United States, and Singapore. Some of the work is knowledge translation through teaching and support; some of the work is primary research. Altogether the scholarship has evolved through robust partnerships that respect unique priorities for different countries and cultures.

We hope you enjoy reading the report and please do not hesitate to contact us if you have any questions or wish to receive additional information.
MESSAGE FROM THE QUEEN’S NURSING AND HEALTH RESEARCH SCIENTIFIC DIRECTOR

I am very pleased to acknowledge the success and continued growth of the research and scholarship activities of faculty involved with Queen’s Nursing and Health Research. While the complexities and challenges of the research landscape continue to exist, we have achieved success. In the past 2 years, we have optimally used the structures and processes previously established within the QNHR program and have increased the research and scholarship capacity of all faculty.

As you will see in this report, our new faculty – Drs Rotter and Duhn - have successfully launched their research programs. Dr Duhn is moving her doctoral research further as she explores the study of patient and family engagement in relation to safety and quality. Dr Rotter is further developing his multidisciplinary research program of knowledge translation research in quality improvement. These programs of research will substantially contribute to research conducted within our Health Care Quality cluster.

We continue to build our expertise in the use of health administrative data to address nursing relevant practice and policy questions. Dr Katie Goldie is a new Institute for Clinical Evaluative Sciences (ICES) Fellow and is currently leading 2 projects utilizing health administrative data housed at ICES. Currently there are 8 faculty leading ICES projects. As well, a number of students are using ICES data for their dissertation research. We have been able to achieve this level of productivity, in part, due to the ongoing School of Nursing support for an ICES analyst. I also assumed the Site Director, ICES Queen’s role in January 2016. All these accomplishments contribute to our recognition as experts in this methodological approach within the provincial nursing community.

Drs Godfrey, Sears, and Wilson continue to provide a leadership role within the Queen’s Collaboration for Health Care Quality: A JBI Centre of Excellence. This program continues to be a strong platform for the knowledge translation activities within the School of Nursing, and internationally. A number of faculty are involved in the recently awarded CIHR SPOR Guidelines and Systematic Review Team, led by Dr A. Tricco. We look forward to building further strength and expertise in this area.

This report highlights the accomplishments of our faculty during the years of 2016 and 2017. We continue to receive external funding, and publish our findings widely. Our graduate students are actively engaged. While each individual faculty member has achieved their own success, QNHR helps to facilitate these achievements. One of the strengths of the QNHR program is to provide support for faculty through activities such as peer review, mentorship, grant preparation, and knowledge translation - in a collaborative environment. We continue to provide opportunities for knowledge sharing through academic series and webinars.

On behalf of all faculty, I would like to acknowledge and thank Geneviève Paré for her outstanding leadership and facilitation of QNHR activities. We also need to thank Dr Medves for her continued support of QNHR. This core infrastructure support is a key foundational platform for our activities and continued growth. It is with enthusiasm and excitement that I look forward to the next years and the research scholarship and development of the QHNR members. We have said good-bye to some of our senior researchers, Drs Edge and VanDenKerkhof, but will welcome new faculty in 2018. It continues to be a pleasure to work with this dedicated and engaged group.

Dr Joan Tranmer
RESEARCH OVERVIEW

The Queen’s Nursing and Health Research is home to 17 faculty members of the Queen’s University School of Nursing. It is composed of a team of nurse investigators who collectively, and in collaboration with practice and academic partners, lead and facilitate comprehensive research programs embedded within a cycle of practice – knowledge creation and/or synthesis – translation – evaluation. The research programs of its members fall into the research themes of 1) Populations with Complex Conditions, 2) Practice Environments, and 3) Health Care Quality.

Projects in the **Populations with Complex Conditions** theme have their focus on the patient and aim to develop knowledge and interventions for the optimization of function and well-being for persons with complex health conditions, with a particular focus on i) older populations, ii) persons with mental health conditions and/or addiction, and iii) persons with complex conditions and/or multiple co-morbidities.

Projects in the **Practice Environments** theme have a provider focus and pursue development of knowledge and interventions designed to optimize the practice environments for health care professionals with a particular focus on 1) effective models of inter-professional care, 2) leadership, 3) workplace structure, culture and health, and 4) communication strategies and systems.

The **Health Care Quality** theme provides a system focus and pursues the development of knowledge, as well as system and educational interventions, designed to improve the quality of health care, with particular focus on 1) advancing safety, 2) risk assessment and reduction, 3) educational and health technological innovations, 4) health system service and delivery, and 5) health equity.
**Research Accomplishments**

**Funding**

Funding awarded to projects with School of Nursing faculty co-investigators/collaborators

>$6.0M

**Publications**

**Awards**

Deborah Tregunno recipient of CASN Excellence in Nursing Education Award

https://www.casn.ca/2018/01/2017-casn-award-winners/

Joan Almost honored through the Featured Graduate Coordinators initiative

https://www.queensu.ca/gazette/stories/grad-coordinators-share-their-tips

Chris Godfrey – Mentorship Award presented at the 2017 Joanna Briggs Institute Conference in South Africa

Kevin Woo received the 2017 Journal of Wound Care Professional Education Award

Drs Rosemary A. Wilson, Judith Watt-Watson, Ellen Hodnett and Joan Tranmer received the 2017 Teresa Pellino Research Writers Award for best paper at the National Association for Orthopedic Nurses 37th Annual Congress in Puerto Rico for the study entitled “A Randomized Controlled Trial of Individualized Preoperative Education Intervention for Symptom Management After Total Knee Arthroplasty”
The Third Edition of RNAO’s Assessment and Management of Pressure Injuries for the Interprofessional Team aims to present evidence-based recommendations that apply to the decisions and best practices of interprofessional teams working to assess and manage existing pressure injuries in people 18 years of age and older.

The Guideline provides best practice recommendations in three main areas:
Practice recommendations are directed primarily to the front-line interprofessional teams who provide care for people with existing pressure injuries across all practice settings.
Education recommendations are directed to those responsible for interprofessional team and staff education, such as educators, quality improvement teams, managers, administrators, and academic institutions.
System, organization, and policy recommendations apply to a variety of audiences, depending on the recommendation. Audiences include managers, administrators, policy-makers, health-care professional regulatory bodies, and government bodies.


In this highly accessible and comprehensive publication, Staples, Ray, and Hannon provide a concrete overview of the advanced practice nursing role as it has developed and currently exists in Canada’s health care system. While exploring the origins of advanced practice nursing and the development of the clinical nurse specialist and nurse practitioner roles, contributors draw on multiple case studies to understand the various specialties, operational definitions, and critical issues relevant to this practice.

Queen’s School of Nursing’s Drs Dana Edge and Rosemary Wilson contributed their expertise to the development of Chapters 4 and 14.

This collection is rich in pedagogy, featuring chapter summaries, learning objectives, critical thinking questions, and diagrams, and is an indispensable resource for the nursing classroom.

The Joanna Briggs Institute Reviewer’s Manual provides guidance to authors for the conduct and preparation of JBI systematic reviews and evidence syntheses. The JBI Reviewer’s Manual has separate chapters devoted to the synthesis of different types of evidence and to address different types of review questions.

In this 4th Edition of the JBI Reviewer’s Manual (and first to be produced and published online in html), Drs Peter, Godfrey et al. author Chapter 11 “Scoping Reviews”. The chapter discusses the reasons to conduct a scoping review, its importance for evidence based practice, the frameworks underpinning the process of scoping reviews, and describes in details the process of conducting the review.


The 2017 publication by the Centre for Effective Practice Clinical Advisory Group is designed to help family physicians and nurse practitioners develop and implement a management plan for adult patients with Chronic Non Cancer Pain in the primary care setting. The tool was developed to help primary care providers apply a multidisciplinary and multidimensional approach to the management of patients who experience chronic non-cancer pain.

In the 2017 Guidelines on Management of Pain in Cancer and/or Palliative Care, leading researchers Dr Sawhney et al. summarize the guidelines that have recommendations on treatment or assessment of pain in patients with cancer or other diseases often requiring palliative care.

The evidence summary answers the questions of “What are the most appropriate treatments for alleviation of pain in patients with cancer or in patients receiving palliative care?” and “What are the most appropriate methods to assess or evaluate pain in patients with cancer or in patients receiving palliative care?”. It is intended for staff of the Patient Reported Outcomes and Symptom Management Program of CCO and staff of the Ontario Palliative Care Network, and may be of interest to physicians, nurses, caregivers, and patients dealing with cancer or palliative care symptom management.

It is available on the Cancer Care Ontario website at https://www.cancercareontario.ca/guidelines-advice/types-of-cancer/32371

Citation: Sawhney M, Fletcher GG, Rice J, Watt-Watson J, Rawn T (2017). Guidelines on Management of Pain in Cancer and/or Palliative Care: Evidence Summary 18-4. A Quality Initiative of the Program in Evidence-Based Care (PEBC), Cancer Care Ontario (CCO). (Corresponding Author)
Map of ongoing research collaborations, conference attendance, oral and poster presentations for the QNHR faculty members (2016-2017)
THOMAS ROTTER

Dr Rotter commenced his new position as Associate Professor with Health Quality Programs at Queen’s University.

Thomas has developed a multidisciplinary research program of knowledge translation research in quality improvement, including clinical pathways in acute care and primary care settings. Thomas brings expertise in knowledge synthesis, knowledge translation, quantitative research and mixed methods.

RESEARCH PROGRAM:

KNOWLEDGE SYNTHESIS

The Cochrane Collaboration describes traditional systematic reviews as ‘reviews of a clearly formulated question that use explicit methods to identify, select, and critically appraise relevant research and to collect and analyze data from the studies that are included in the review.’ Thomas works on a number of systematic reviews and scoping reviews to identify and catalogue the available evidence for knowledge users and patients.

CLINICAL PATHWAYS

Clinical pathways (CPWs) have shown great promise as a means to actively translate clinical practice guidelines (CPGs) into practice. CPWs are complex interventions used by health professionals to guide evidence-based practice and improve the interaction between health services, including acute care and primary care CPWs have been promoted in Canada and pathway implementation is likely to become even more prevalent. To date, Thomas works on several pathway implementation projects in Ontario, Saskatchewan, Alberta, the Netherlands, and Australia including a clinical pathway for chronic obstructive pulmonary disease (COPD) and clinical pathways for cancer patients.

LEAN

Lean is a complex, multicomponent set of philosophies, diagnostic processes, and improvement activities aimed at maximizing value by reducing waste. Lean processes work as diagnostic tools to capture the source of waste and identify areas of possible improvement. Lean management activities aim to eliminate or reduce redundant processes or waste. Thomas and his team are generating an evidence base of Lean management to answer questions on transferability, usability, and effectiveness of this prevalent but not well researched complex intervention in healthcare.

SIMULATING PATIENT DETERIORATION

The response by nurses to patient deterioration in acute hospital wards is a priority issue in patient safety. Simulation education programs improve nurses’ knowledge and confidence, but there is a lack of published research measuring the impact of web-based or face-to-face simulation education programs on response to patient deterioration in clinical settings. Together with his colleagues in Australia, Thomas is comparing cost and effects of the impact of web-based and face-to-face simulation education programs on nurses’ ability to detect and manage patient deterioration in an acute medical ward setting.
In the next phase, Lenora is now exploring how the concepts from the framework can be translated and applied to clinical practice to best enable patients in ways that are right for them. Key to this process also includes further study of patient/client and family engagement related to safety and generally as it relates to health. This work falls within the Safeguarding pillar of her research program that targets advancing our knowledge in keeping patients safe when interacting with the healthcare system. Related, she is continuing to build on previous work related to student perspectives about patient safety, as well as provider perspectives.

The autumn of 2017 was particularly special for Lenora as she was part of a team who welcomed international visiting scholar Mrs. Margaret Murphy, External Lead, WHO Patients for Patient Safety to Queen’s, and which included her keynote address at the inaugural Health Quality Research Forum. Mrs. Murphy’s advocacy and dedication to advancing the patient voice within patient safety was inspirational to all who heard her and served to reaffirm the importance of this effort.

Lenora’s research program includes two other pillars, Retention and Facilitating Work that include investigation of, as example, staffing models and innovative technologies to support quality nursing practice. The goal of her work within all three pillars is not only focused on preventing harm, but actively seeking to promote good. As such, Nursing Beneficence is the conceptual underpinning of the program of research.
Assessing and utilizing leading indicators within Occupational Health and Safety systems.

Identifying the issue

Healthcare ranks second highest for lost-time injury rates among Ontario sectors, costing $2.5B annually. Despite an increased focus on compliance and fines in Ontario’s Occupational Health and Safety System, the injury statistics are not improving significantly. One of the keys to changing this trend is the effective utilization of leading indicators within current occupational health and safety systems. Leading indicators are workplace characteristics that precede occupational health and safety outcomes and, if changed, are expected to change these outcomes.

Research in a snapshot

The aim of this longitudinal study is to implement identified leading indicators and evaluate the effectiveness of this intervention on improving selected health and safety workplace indicators. Phase I focused on assessing current Occupational Health and Safety Management Systems (OHSMSs) at participating sites using leading indicators, determining facilitators and barriers to changing current systems, and identifying possible leading indicators to be changed in existing OHSMSs. Phase I concluded with the development of interventions designed to optimize current OHSMSs based on identified gaps. Phase II pilot tested and evaluated the tailored intervention. Data was collected pre- and post-intervention through interviews, surveys, and administrative data.

Implications

In partnership with the Public Services Health and Safety Association, this study examined a new approach to strengthening current OHSMSs by utilizing leading indicators and subsequently promoting a health and safety culture in healthcare workplaces. The high costs of occupational injuries along with the growing public demand for quality healthcare are strong motivators for organizations to create a culture of safety. Study results will inform organizations on the feasibility of implementing leading indicators into current systems.
The evidence overwhelmingly shows that health inequities are real and that they are affected by social, economic, political and environmental conditions. As such, it is necessary to move the research emphasis away from solely documenting the damaging effects of health inequities and begin focusing on health equity as the highest level of health possible.

Under the umbrella of interpretive inquiry, Pilar’s program of research strives to describe and understand how societies organize and distribute resources and address attention toward economic, political, environmental and social factors and their effects on health outcomes, promotion and disease prevention. Then, the social determinants of health and their contributions to population health are used in Pilar’s research program to understand the complex role that overlapping social structures and economic systems play in the health and well-being of vulnerable groups and nursing practices at local, provincial and global levels. As such, under the overarching concept of health equity and following the social determinants of health perspective, Pilar’s research program entails three interrelated components. These include population component, practice component and global component. Population component explores the gaps that affect the health status of vulnerable populations with a high burden of disease in Canada and developing nations, and is one of the primary focuses of this research program. Practice component aims to examine nursing practices when caring for vulnerable populations. Global component seeks to build and strengthen scholarship and capacity in the field of global health research.

This research program has the potential to generate first hand highly relevant knowledge to improve the delivery of sensitive and culturally competent care for vulnerable populations. Knowledge generated will assist in the development of strategies to improve healthcare services for vulnerable groups, and close gaps in social determinants of health-related care. In addition, the development of research initiatives that examine how the social determinants of health influence health and social inequities for vulnerable groups will help develop stronger nursing practices and assist these populations at the local and global level.

Vulnerable refers to a group of individuals susceptible to being harmed, wronged, mistreated, discriminated against or taken advantage of in the context of healthcare research. Vulnerable groups include but are not limited to people with chronic illness, seniors, women, immigrants and refugees, Indigenous people, low-income individuals and families.
Who are the patients cared for by Ontario nurse practitioners?

Nurse practitioners (NPs) have been an integral component of health care delivery in Ontario for over twenty years. Despite the widespread introduction of NPs, little is known about the characteristics of clients whom they provide services for. Baseline information about clients is crucial for understanding health services rendered by NPs in the province.

To address the baseline knowledge gap, Dr Edge and her colleagues, Drs Tranmer and VanDenKerkhof, used Ontario administrative databases housed in ICES to identify and categorize the demographic characteristics of patients 65 years and older cared for by NPs between 2000 and 2015. The study built upon previous research done by the team on trends in NP prescribing behaviour to older adults between 2000-2010 (Tranmer, Colley, Edge, Sears, VanDenKerkhof, & Levesque, 2015). The Ontario Drug Benefits (ODB) database, with prescription numbers for both NP and family physicians (FP), was linked to the Corporate Provider Database (CRDB) to identify the first patient encounters by provider per year. Identification of patients through prescription use allowed the characterization of patients by age, sex, geographical location, rurality, neighbourhood income, and the proportion of patient prescription encounters per year by provider. Data analysis is ongoing; however, comparisons revealed that in 2015, 37% of patients cared for by NPs lived in rural Ontario, compared to 14% of patients cared for by FPs. In addition, FP cared for a greater proportion of clients aged 85 and older in 2015 compared to NPs, which was reversed in 2005.

The descriptive trend analysis of the 15 years of data will not only provide baseline data for future initiatives, but also will generate additional research hypotheses regarding the distribution and utilization of NPs across the province and the services provided to residents 65 years and older.
Evidence synthesis is a powerful way to generate guidelines and recommendations rooted in scientific evidence. It is much faster than primary data collection, and builds on the global knowledge of the topic. By providing training to groups of librarians, this project will build individual and institutional capability, and support healthcare teams in the innovative use of evidence for healthcare decision-making and knowledge implementation.

Dr Godfrey and the team of the Queen’s Collaboration for Health Care Quality: A JBI Centre of Excellence (QcHcQ), namely Drs Sears and Wilson and Mrs. Ross-White, completed the second stage in an international outreach project. Using the funds from the Queen’s University Research Opportunity Fund - International Fund, the team brought six library scientists from six universities in Africa to be trained in the science of evidence synthesis. Attendees were the head of their healthcare library centres in universities from Malawi, Tanzania, Uganda, Nigeria, Kenya and South Africa. Three additional librarians from the Queen’s University Faculty of Engineering and Applied Sciences joined the training workshop and a full and exciting week was had by all. Canada put on a show for the Africans as it snowed, displaying enchanting white out conditions and everyone went outside to witness and play in their very first snow fall. The third stage in this project involves the mentorship of these attendees as we progress through the conduct of a joint systematic review. We are currently working on the search strategy and with ten librarians working on it – we know it is going to be good. Our goal is to complete systematic reviews on topics relevant to librarians in the context of African universities. Our plan is to publish a general paper on the process of connection and planning the interaction and then to complete several reviews so that they are all confident in their ability to conduct systematic reviews or to assist their staff in the conduct of these projects.
In 2017, Dr Katie Goldie enjoyed establishing new collaborations at Queen’s as both a mentor and mentee. She continued to enjoy participating in the Institute for Clinical Evaluative Sciences (ICES) Fellowship program, under the supervision of Dr Tranmer. During this time, she completed a study within her primary program of research examining sex-based differences of depression before acute myocardial infarction. This novel work identified age and sex effects on the development of acute myocardial infarction among a sample of Ontarians accessing health services.

Simultaneously, Dr Goldie and Dr Timothy Hanna (Department of Oncology) launched a separate line of inquiry investigating end of life outcomes for patients with non-small cell lung cancer receiving palliative care. This work received operating funding from the Canadian Institute of Health Research and promises to advance our understanding of outcomes associated with early palliative care and will inform how services and funding are delivered at a population level.

Lastly, Dr Goldie took great pride in mentoring her first MNSc student, Mary Coughlin, (alongside co-supervisor Dr Deborah Tregunno) to graduation. Her thesis work focused on metabolic monitoring for children and adolescents using second-generation antipsychotic (SGA) medications. Mary’s findings highlighted a need for a renewed focus on metabolic monitoring and deprescribing among children and adolescents taking SGAs and greater knowledge translation of best practice guidelines. These contributions were recognized by the Council of Ontario University Programs through the Master’s Student Award of Excellence.

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Patient, Treatment, and Health Care Utilization Variables Associated with Adherence to Metabolic Monitoring Practices in Children and Adolescents Taking Second-Generation Antipsychotics

Mary Coughlin, RN, MNSc, Catherine Lindsay Goldie, RN, PhD, Joan Tranmer, RN, PhD, Sarosh Khalid-Khan, MD, DABPN, and Deborah Tregunno, RN, PhD

International Journal of Mental Health Nursing (2018) 27, 1185–1196
doi: 10.1111/mn.12417

Discursive Paper

Enhancing metabolic monitoring for children and adolescents using second-generation antipsychotics

Mary Coughlin, Catherine L. Goldie, Deborah Tregunno, Joan Tranmer, Marina Kanellou-Sutton and Sarosh Khalid-Khan

1Faculty of Health Sciences, School of Nursing, Queen’s University, 2Hotel Dieu Hospital, and Department of Psychiatry, Queen’s University, Kingston, Ontario, Canada
Dr Luctkar-Flude’s research program falls into two themes: clinical innovations to enhance the lives of cancer survivors following cancer treatment, and educational innovations to enhance learning in nursing education.

**Identifying the issue**
1. More Canadians are developing cancer, with 1 in 2 expected to be diagnosed in their lifetime; however, with improvements in cancer treatments, more are surviving their cancer diagnosis, but many are not thriving. Late and long-term physical and psychosocial effects of cancer and cancer treatment such as pain, fatigue, depression and cognitive impairment can be debilitating and impact quality of life for years. Cancer survivors and their healthcare providers may not be aware of current evidence-based guidelines for survivorship care, or potential therapies or strategies to manage persistent symptoms.
2. Nurse educators often find learners are inadequately prepared to participate fully during classroom, laboratory and simulation learning activities. As a result, non-traditional teaching strategies are being developed to engage the new generation of nursing students and support their learning.

**Research in a snapshot**
Dr Luctkar-Flude’s recent clinical research projects have focused on developing a mobile app to disseminate survivorship care guidelines to breast cancer survivors and primary care providers in collaboration with Dr Roland Grad from McGill University and community members from Breast Cancer Action Kingston (BCAK), and initiating a pilot trial of neurofeedback for breast cancer survivors experiencing post-cancer cognitive impairment and fatigue in collaboration with the Kingston Institute for Psychotherapy and Neurofeedback. Her educational research has focuses on simulation preparation and facilitation methods including the use of classroom response systems and virtual simulation games.

**Implications**
Highlights of an interview study conducted with neurofeedback providers, published in the European Journal of Integrative Medicine, indicate that some cancer survivors are successfully using neurofeedback therapies to manage their long-term symptoms. Results of a study of simulation facilitation methods published in Clinical Simulation in Nursing suggest that novice nursing students prefer instructor-led simulation to student-led simulation; however, a progression from instructor-led to student-led simulation may enhance learning by providing increased autonomy as knowledge and confidence grow.
Health care organizations rely on people who will practice safely across complex adaptive systems. Preparing nurses, and other care providers, for practice and then supporting them is important if we are to retain health care providers in the workforce in the long term. Many strategies are required to ensure the profession of nursing and health care remains congruent with the needs of Canadians today and in the future.

Understanding complex adaptive systems and evaluating the barriers to innovation is very important to ensure we are able to continue to adapt to future requirements. One barrier is regulation that perpetuates 1) silo education processes and funding, 2) protectionism of the professionals, and 3) inhibits the ability of health professionals to practice where Canadians want care.

If we are able to design education programs using an approach that is appropriate, we will be able to ensure all health care providers start their practice with the skills and knowledge they require for long term practice, including skills in life-long learning and increasing scopes of practice, and we will help stabilize the nursing and health care professionals workforce for the future. Reducing the burden of regulation will help transform the health care professionals working life to be based on future need not past needs.
Enhancing Registered Nurses’ Education Regarding Epidural Analgesia Using Simulation

Dr Sawhney’s research is focused on improving patient outcomes related to acute and chronic pain management. This includes the use of advanced analgesics techniques such as peripheral nerve blocks, or intrathecal and epidural analgesia. Epidural analgesia is an effective and well-established method to manage pain following surgery. To ensure patient safety with this analgesic technique, patients require careful assessment and ongoing monitoring to identify the adequacy of pain management and identify any adverse effects or serious complications. Traditionally Registered Nurses receive didactic education and a self-learning package to obtain knowledge and competency for this skill. However, RNs are not tested on their ability to critically think through how to identify and manage adverse effects.

The aim of this study was to assess the feasibility and effectiveness of simulation-based education for RN’s regarding the assessment and management of epidural analgesia. The study included a pre-workshop evaluation of skills in the form of a written questionnaire and Objective Structured Clinical Examination (OSCE). Following the OSCE, participants attended a workshop that included didactic and hands on education that focused on assessment and management of patients receiving epidural analgesia for post-operative pain management. Following the workshop, the participants completed a post-workshop evaluation of skills by completing another OSCE and the written questionnaire again. Results of this study included a significant improvement in answers related to epidural pharmacology and assessment of blockade questions in the post-workshop questionnaire. There was a significant increase in the number of correct procedures performed in all categories with the exception of assessment of equipment in the post workshop OSCE. There was also a significant change in the proportion of RN’s who stated they felt confident in their assessment of a patient receiving epidural analgesia following the workshop.

The appropriate and careful assessment of patients receiving epidural analgesia can improve pain management and patient safety. The results of this study demonstrated that the use of an instructional module using Standardized Patients (SPs) is a feasible approach for RNs to learn the safe care of individuals receiving epidural analgesia. It also demonstrated that utilizing a workshop with SPs improves RNs application of the assessment components for individuals receiving epidural analgesia.
Dr Sears believes that the advancement of safe medication delivery in the hospital and community will be a great advancement for the quality of healthcare delivered. To this end, Dr Sears works with systematic review methodology as well as large databases to understand patterns of delivery and areas for improvement.

Kim is also an active member of the Queen’s Collaborative for Health Care Quality: A JBI Centre of Excellence (QcHcQ), providing comprehensive systematic review training to students, faculty members, librarians and clinicians with her colleagues. She further contributes to the science of evidence synthesis through the development of the methodology of evidence synthesis, specifically that of systematic reviews of association. As well she actively teaches the Patient Safety Education Program for the Canadian Patient Safety Institute and the Improving and Driving Excellence Across Sectors (IDEAS) program for the Province of Ontario.
Chronic cardiovascular disease prevention and management: Through an organizational lens

Prevention and management of chronic diseases is a healthcare priority. As a health services researcher, I examine these issues from an organizational or system level. Currently, we are examining non-traditional, potentially modifiable, work environment factors such as shift work that may contribute to cardiovascular disease. Secondly, we are examining roles and models within primary healthcare that contribute to effective chronic disease management. As a whole, this body of research informs the development of organizational strategies for the prevention and management of chronic diseases.

Determining the risks associated with shift work: In 2016, we received funding from the Garfield Kelly Fund to explore at a population level the risks associated with shift work and the development of hypertension and diabetes in Ontario adults. This population-based study will explore, across all occupations, the effect of irregular working hours on the development of cardiovascular disease, and extends our previous and ongoing biomarker research. In the past 2 years, we have continued to analyze the biomarker data from our previously funded CIHR cohort study of female hospital employees. As a whole, our findings show that night shift work acutely disrupts sleep patterns and cortisol and melatonin production patterns, and is associated with increased cardiometabolic risk. 11, 18

Optimizing primary healthcare management of chronic diseases: Our team continues to explore organizational level strategies within primary healthcare to support chronic disease management. With a recent CIHR Pan Canadian SPOR Network in Primary and Integrated Health Care Innovations, Knowledge Synthesis Grant we are evaluating the impact of primary healthcare integration strategies for adults with chronic health conditions using systematic meta-synthesis approach. We are particularly interested in the primary care nursing role in models of care as we have shown in one study that the proportion of nurse staffing within primary health care teams is associated with better diabetic outcomes. 20

Consistent with a health services approach, we are working with key stakeholders as the findings from this program of research emerge. At the Kingston Health Sciences Centre, we are implementing and evaluating a “nap-at-night” protocol. This quality improvement initiative was a direct result of sharing our findings with the staff involved with our previous study. Within the Southeast Local Health Integration Network, we are planning to explore, at a population level, using ICES data, the “patient care community” for older adults with multiple chronic conditions. I look forward to continuing to work with our research and knowledge user team on these important healthcare priorities.
Three key innovations and contributions of this project include: (1) the design and implementation of a novel virtual pre-simulation preparation; (2) the expanded use of learning outcomes and clinical knowledge assessments for student and faculty evaluation; and, (3) the integration of these outcome metrics to develop cost utility models. We anticipate standardized pre-simulation preparation will reduce faculty preparation time, student assessment time, and instructional time in the simulation laboratory. The development of new clinical simulation scenarios is very resource intensive for nursing faculty, and by sharing newly developed virtual pre-simulation materials via our existing virtual simulation repository, this project responds to calls to improve productivity in nursing education.
ELIZABETH VANDENKERKHOF
Where Has All the Data Gone? Research Data Management

Identifying the issue

Have you ever wondered what happens to your information when the hospital visit is over, or the study is completed? Your data may be contributing to a better understanding of the needs and outcomes of healthcare.

Research in a snapshot

Dr VanDenKerkhof uses large clinical and population-level databases to explore short and long-term outcomes of care. She has conducted primary data collection to study outcomes such as chronic wound care, chronic postsurgical pain and the epidemiology of chronic pain in Canada. In all cases this data has been collected and stored following Queen’s University and Affiliated Teaching Hospitals Research Ethics Board procedures. Once the study is complete, she turns to the Queen’s University Library. The Library’s Data Services (http://library.queensu.ca/help-services/research-data-management) provides help in accessing data for research or teaching, assistance in archiving data, and advice about research data management (RDM) (http://guides.library.queensu.ca/rdm) to ensure best data management practices before, during and after a study. They encourage the discovery and use of existing data to explore new research questions, better guarantee the data are accurate, complete, authentic, and reliable, ensure long-term preservation of data for future researchers, and ensure compliance with ethics and privacy policies (https://library.queensu.ca/help-services/research-data-management). Below are 2 examples of databases that have been archived by Dr VanDenKerkhof and colleagues. The Practice and Research in Nursing Wounds Studies Database consists of a compilation of 6 clinical studies examining the treatment and delivery of care for leg ulcers in over 900 patients. The link to this dataset is- http://hdl.handle.net/10864/11426 The Epidemiology of Neuropathic Pain study is a population level survey examining potential risk factors and outcomes of neuropathic pain and general chronic pain in over 1500 Canadians. The link to this dataset is- http://hdl.handle.net/10864/11426. Questions about Research Data Management at Queen’s can be directed to Courtney Earl Matthews, Head Open Scholarship Services, or Alexandra Cooper, Data Services Coordinator, at open.scholarship.services@queensu.ca.

Implications

Responsible research data management is critical, not only for meeting grant funding requirements and ethics and privacy requirements, but to maintain the trust of study participants and society. For without their contribution, there would be no research. Now more than ever, it’s critical that patients and study participants believe their contributions are recognized and their data is being utilized in a responsible, secure and comprehensive way. Archiving research data is a responsible way to ensure study participants’ privacy is maintained when the study ends and their contributions are maximized, while giving researchers access to data and improving the cost effectiveness of conducting research.
The project team of Drs Gaston Nyirigira, Rosemary Wilson, Joel Parlow, Ana Johnson, Rylan Egan, Elizabeth VanDenKerkhof and Theogene Twagirumugabe is now in year four of this successful interdisciplinary project. In addition to the significant changes made in the clinical environment at the Centre Hospitalier Universitaire de Butare, mentoring relationships have resulted in important learning for all team members in the cultural implications of integrated knowledge translation and QI using pain care as the clinical exemplar.

Ongoing collaboration between the multi-university pain clinician team and local health care professionals in Butare, Rwanda has resulted in the implementation of a structured and contextualized pain program at one of the country’s three referral hospitals. This program was based on our previous work (Nyirigira, Wilson et al., 2018 [https://www.tandfonline.com/doi/abs/10.1080/24740527.2018.1451251]).

Phase two of this project involved on-site work by two of the six Queen’s University collaborators along with a research assistant over a two week period. Additionally, Rosemary provided two month extended support period following the initial phase work. Team members Drs Rylan Egan and Rosemary Wilson along with research assistant Jessica Baumhour examined the current status of the pain program implementation including documentation, personnel and resource management, hospital accreditation and related processes and stakeholder involvement. An interdisciplinary quality improvement (QI) team for pain care was formed and intensive education provided. This team worked with the on-site collaborators to further modify documentation tools, clinical decision support tools and processes as well as to create and implement clinical audit tools. The Queen’s team continues to mentor and support the pain care QI team with analyses and interpretation of data and further on-site work is planned for fall 2018 and winter 2019.

**Research in a snapshot**

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**Implications**

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KEVIN WOO

Analysis of the burden of pressure ulcers in Ontario using administrative data

Identifying the issue

Foot complications are common in people with diabetes, and often result in chronic non-healing ulcers, severe infection, and leg amputation, placing a huge burden on the healthcare system. The management of diabetic foot ulcers requires comprehensive and lifelong behavioral modifications that entail regular foot care, exercise, dietary changes, smoking cessation, and frequent blood glucose testing. There is a need to examine sustainable strategies for the self-management of diabetic foot care by using social media platforms to provide social support and foster adherence.

Research in a snapshot

Dr Woo is a recipient of the Early Researcher Award from the Ministry of Research and Innovation (2014-19) to examine the use of social media as a support for persons with diabetes to prevent foot complications. The portal contained several features designed to engage users, including chat rooms for members to share their challenges, offer emotional support, and problem-solve in real time and a moderated forum called ‘Ask an Expert’ where participants can message and communicate with facilitators or the research team (including the graduate trainees) individually and privately. He is currently working with informatic researchers to develop a mobile ‘app’ that can be customized for his PhD students who will examine the use of mobile technology to enhance care of people with diabetic foot ulcers and disability in Nigeria and Ethiopia.

Implications

Considering the importance of accessibility, time flexibility, and sustainability, the use of social media, including web-based applications and mobile technologies, appeared opportune. Proposed web-based efforts were aimed to achieve greater social and economic prosperity by reducing the disease burden of diabetic foot ulcers and reducing the escalating home care expenditure. Social media encompasses a variety of platforms that provide opportunities for multiple users to exchange experiences/information and provide support through multisensory communication.
Nursing students promote safe, child-friendly spaces

Three nursing students worked hard to make the Queen’s University campus a more inclusive space for parents and caregivers. Alina Leffler, Laura Kuikman, and Andrew Ma (NSc’17), working under the supervision of Dr Katie Goldie and Alicia Papanicolaou, developed the Queen’s University Child Friendly Campus (QUCFC) Initiative as part of their community health training. The project was built on the success of nursing students Kyrinne Lockhart (NSc’16) and Rachel Hannigan (NSc’16), who created a network of three breastfeeding spaces on campus last year. “I heard a lot about the project from other students and wanted to get involved,” said Kuikman. “It was important for me to be a part of this. There is a concern that if no safe space is available, parents could stop breastfeeding early. Pumping is also a challenge.” The QUCFC features a number of new resources for parents on campus and the three students worked to conceptualize, build, and deliver the initiative. They walked the entire campus and surveyed every washroom for access to change tables, created a new website with a list of online resources for parents and caregivers, and created a Facebook page to establish an online support system. They also created a survey that will help them, and the next group of students, to gather information to assess the needs of the campus community more efficiently.

Empowering cancer survivors

A lecturer and instructor in the Queen’s School of Nursing since 2001, Luctkar-Flude’s doctoral research looked specifically at breast cancer survivors and the after-care they received from their primary care practitioners. “When I started my PhD, there wasn’t a single comprehensive guideline that addressed all of these issues. My work synthesized recommendations from 30 published guidelines into one document.” Since the publication of Luctkar-Flude’s recommendations, the American Society of Clinical Oncology published a comprehensive guideline for breast cancer survivorship care that addresses the four domains of survivorship care and the many issues relevant to primary care. As well as mapping specific survivorship issues and existing guideline recommendations, Luctkar-Flude’s research also looked at the self-reported knowledge and practices of primary care physicians and nurse practitioners in the greater Kingston region. “Not surprisingly, they were most familiar with the surveillance aspects of breast cancer survivorship care and less likely to be screening for, or managing, issues like fatigue or sexual problems.”

Excerpt from Dean’s Report: Faculty Of Health Sciences 2016-2017
A novel way to create safer and healthier workplaces

Dr Joan Almost was awarded a Ministry of Labour Research for the Workplace grant in May 2016. Her project, entitled “A Study of Leading Indicators for Occupational Health and Safety Management Systems in Healthcare” brought together researchers Peter Strahlendorf and Elizabeth VanDenKerkhof, a provincial health and safety association, the Public Services Health Safety Association (PSHSA), occupational health and safety (OHS) specialists Joanna Noonan and Louise Caicco Tett, and health care administrators Mike MacDonald and Tracy Kent-Hillis.

Excerpt from Dean’s Report : Faculty Of Health Sciences 2016-2017

Nursing faculty joins forces to build expertise in data analysis

Through financial support by the SON, and nine individual faculty members, the School of Nursing — Institute for Clinical Evaluative Sciences (SON — ICES) was created. As its first order of business, the group secured a dedicated analyst, with an in-depth knowledge of available databases, from the ICES — Queen’s University satellite site. The analyst provides input on grant applications, and assists in the development of research questions and analysis plans, leading to more successful grant applications and faster project completion times. In 2016, the SON accounted for 10% of ICES research activities at Queen’s. Because its faculty works closely with knowledge users, several projects have received funding by the Ministry of Health and Long-Term Care’s Applied Health Research Question (AHRQ) Program. Dr Monakshi Sawhney received $23K and Dr Kevin Woo was awarded $34K for projects on health care use. Dr Elizabeth VanDenKerkhof was the lead ICES scientist for the projects. Drs Monakshi Sawhney, Katie Goldie, and Joan Tranmer also secured an additional $25K in peer-reviewed funding. Goldie will study the influence of depression on incident myocardial infarction, while Sawhney will examine health care use following ambulatory surgery and Tranmer will investigate the relationship between shift work and incident diabetes or hypertension.

Excerpt from Dean’s Report : Faculty Of Health Sciences 2016-2017
Engaging undergraduate nursing students in research

The SWEP (Summer Work Experience Program) Research Internship was created in the fall of 2016 by a group of eight faculty members from the SON. All those involved agree the initiative was a resounding success. Faculty were able to share a passion for research and were exposed to new ideas — such as how to better use social media and how to design infographics — by the students. Students provided the support needed to advance research objectives, while at the same time, learning about research-related activities such as data analysis, literature reviews, framework development and report writing.

Excerpt from Dean’s Report: Faculty Of Health Sciences 2016-2017

Study examines patient recovery at home after joint replacement surgery

Limited information is available on a patient’s function, pain and use of health care facilities in the first few weeks following discharge. Dr Monakshi Sawhney proposed to address this gap in knowledge and was awarded a Women’s Giving Circle grant through the 2017 Health Sciences Internal Grant Competition. The grants were awarded to projects with a focus on musculoskeletal disease, osteoporosis and arthritis. Sawhney is an assistant professor at the School of Nursing and a nurse practitioner with a clinical practice in the management and treatment of acute and chronic pain. She and her team, comprised of Drs Elizabeth VanDenKerkhof, Melanie Jaeger, and Mark Harrison and nurse practitioner Susan Vasilly, will examine the impact of hospital stay duration, pain, function and fatigue, on health care utilization following early discharge after lower extremity joint replacement.

Excerpt from Dean’s Report: Faculty Of Health Sciences 2016-2017

Study shows shift workers at risk of hypertension

Tranmer said some shift workers can cope with working unusual hours while other can’t. “We know that there’s good evidence about those known risk factors for chronic diseases such as hypertension and diabetes, but we pay very little attention to the work environment, and for adults who spend most of their time in the work environment, it’s probably something we need to better understand,” she said. Tranmer said it’s only one study in a larger program of research that explores the influence of the work environment on cardiovascular risk. “It’s one piece of the puzzle and it certainly confirms evidence that’s been reported in other studies that shift work is one factor that contributes to an increase in chronic diseases, and we have to explore what are the options to mitigate that risk.”

Excerpt from Kingston Whig-Standard article by Ian MacAlpine, October 24, 2017
QNHR RESEARCH FUNDING IN 2016-2017

AMS Phoenix
AMS Phoenix Fellowship
Courage to Nurse: The development of self-identity and compassionate care - Tregunno D

Canadian Anesthesiologists’ Society International Education Foundation
Louise & Allan Edwards Foundation


CASN
Development and Mobilization of Appropriate Prescriber Practice Competencies for Controlled Drugs and Substances into NP and RN Education Programs

Nurse practitioner prescribing of controlled drugs and substances for individuals with complex and chronic disease: Development of an e-learning resource – Wilson RA, Sawhney M, VanDenKerkhof EG, Edge DS, Goldie CL, Pare GC

CIHR
Project Program
PAin Improvement with Novel Combination Analgesic REgimens: The PAIN-CARE Trial – Gilron I, Holden RR, Tu D, Milev RV, Jackson AC, VanDenKerkhof EG

A knowledge synthesis and integrated knowledge translation project on interventions to improve emergency department use for mental health reasons - Vandyk A, Kaluzienski M, Gilmour MTJ, Goldie CL, Graham ID, Kronick J, Stokes Y

SPOR Chronic Pain Network
CADENCE – Combination Analgesic Development for Enhanced Clinical Efficacy – Gilron I, Tu D, Holden RR, Milev R, Jackson AC, Towheed T, Diatchenko L, Ghasemlou N, VanDenKerkhof EG, Duggan S

Travel Awards - ICS (Summer 2016)
Using standardized patients to educate Registered Nurses on how to safety assess the administration of epidural analgesia – Sawhney M

SPOR Knowledge Synthesis


Planning and Dissemination
**SPOR - Guidelines and Systematic Reviews**  
The REACH network - Tricco A et al. (Godfrey CM, Rotter T, Luctkar-Flude MF, Woo KY, Wilson R, Sears K)

**Secondary data analysis for cancer prevention and control**  

**eCampus Ontario**  

**Health Sciences Internal Grants**  
**Garfield Kelly**  

Sex-based differences of depression before Acute Myocardial Infarction – Goldie CL, Tranmer JE

**Women’s Giving Circle**  
Does Pain Predict Recovery and Healthcare Use Following Short stay Total Joint Arthroplasty for the Treatment of Osteoarthritis - Sawhney M, VanDenKerkhof EG, Jaeger M, Harrison M

**Ministry of Health and Long-Term Care**  
**Applied Health Research Question program**  
Mortality and Revision Rates of Morbidly Obese Total Knee Replacement Patients - VanDenKerkhof EG, Brogyl SB, Lajkosz K

**Queen’s University**  
**Principal Development Fund – International Visiting Scholars**  
Dr. Craig Lockwood, Joanna Briggs Institute – Medves JM

Ms. Margaret Murphy, External Lead Advisor at the WHO - VanDenKerkhof EG

**Fund for Scholarly Research and Creative Work and Professional Development (Adjuncts)**  
Evaluating the use of a multi-platform mobile classroom response system in undergraduate nursing classrooms and the clinical simulation lab – Pulling C, Luctkar-Flude MF, Goldie CL

**Summer Work Study Program**  
Queen’s Nursing and Health Research (QNHR) Intern - Tranmer JE, Duhn L, Goldie CL, Luctkar-Flude MF, Sawhney M, Almost JM, VanDenKerkhof EG

Queen’s Nursing and Health Research (QNHR) Intern - Tranmer JE, Camargo Plazas MdP, Goldie CL, Luctkar-Flude MF, Rotter T, Sears K, Woo KY.
**Queen’s School of Nursing**

*Research Development Fund*
Understanding how the social determinants of health affect the experience of access to healthcare services in immigrant and refugee individuals with chronic illness - Camargo Plazas MdP

Examining sex-based differences of depression before myocardial infarction – Goldie CL, Tranmer JE

*A 5-Factor Framework to Describe Patient Engagement in Safety - Phase 2: Partnering with Patients for Action on Implementation* - Duhn L

**Research Initiation grant**
Understanding how the social determinants of health affect the experience of access to healthcare services in immigrant and refugee individuals with chronic illness - Camargo Plazas MdP

**Saskatchewan Health Research Foundation**

*Collaborative Innovation Development grant*

**Women’s Xchange**

*15K Challenge*
Publications by the Queen’s School of Nursing faculty members in 2016-2017

(School of Nursing faculty members; student trainees)


QUEEN’S NURSING AND HEALTH RESEARCH AT A GLANCE