

FACULTY OF  
NURSING



University of Windsor

the  
**2nd Biennial  
Nursing Conference**  
*Celebrating Nursing Excellence*



IN PARTNERSHIP WITH TAU UPSILON



Research Conference Proceedings  
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## ACKNOWLEDGEMENT

I wish to take this opportunity to thank you for attending the Second Biennial Research Conference at the University of Windsor, Faculty of Nursing. The conference theme, **Celebrating Nursing Excellence**, was carefully chosen to celebrate and recognize the many diverse achievements and contributions of nurse clinicians, educators, researchers, and students. As I introduce you to these conference proceedings, I would like to offer special thanks to all those who made this conference a success. Our thanks and appreciation are especially extended to all members of the Research Working Group at the Faculty of Nursing, our community and college partners, and all of our sponsors for their invaluable support of this event.

Respectfully,

A handwritten signature in black ink that reads "Maher" followed by a stylized flourish.

Maher M. El-Masri, PhD, RN  
Associate Professor and Research Coordinator  
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# Featured Speaker

**Alba DiCenso, RN; PhD**

CHSRF/CIHR Chair in Advanced Practice Nursing  
McMaster University, School of Nursing

Toward an Evidence-Based  
Nursing Profession:  
Implications for Education  
and Practice

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# **Nursing Education**

## **Preceptor Education Program (PEP): An on-line program for students and preceptors**

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**Purpose:** This project examined the need for an online program to enhance the clinical preparation of health professional students and support preceptors. The project included representatives from Nursing, Audiology, Physiotherapy, Occupational Therapy and Speech Language Pathology.

**Rationale and Significance:** In the practice disciplines of health care, preparation of students includes clinical placements facilitated by a preceptor. Students, preceptors and clients benefit when the learning environment is well designed and supported.

**Methods:** A survey to determine if there was interest in an on-line, module based resource that would prepare and sustain the preceptor/student dyad before and during a placement, what topics were of most interest and what length of module would they use was undertaken. Seven online self-directed learning modules were developed based on responses (n= 596) to a survey of health care professionals in urban and rural clinical practice sites in south-western Ontario. Both students and preceptors completed pilot testing of the modules (n=703) which has been used to guide development and ongoing revisions. Questionnaires in the pilot study were completed for each module rating content, video clips, usefulness of learning activities, usefulness of downloads, and relevance to practice. Overall web site design was also evaluated.

**Results:** 596 responses were received to the initial survey, fairly evenly distributed across disciplines except audiology. 20% were students and 20% identified themselves as from rural environments. Over 90% indicated they would use an on-line resource for preceptor education. Leading topics of interest were identified. Two-thirds of respondents wanted the modules to be 30 minutes duration. Feedback from the pilot study has been positive.

**Conclusions:** Preceptors and students find an on-line education tool beneficial to the clinical placement experience. Topic needs are similar for preceptors and students, across disciplines, and in both urban and rural environments.

## **NOT ENOUGH TIME IN THE DAY: THE EXPERIENCE OF NURSE FACULTY ENROLLED AS DOCTORAL STUDENTS**

Carolyn J. Lee, Ph.D., RN  
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University of Toledo

**Purpose:** The purpose of this study was, in part, to describe the student experience of nurse faculty doctoral students, to identify influential factors in the student experience, and to elicit student recommendations for supportive practices.

**Rationale and significance:** An international need exists for qualified nurses to meet the needs of a complex health-care arena. As such, a collective interest is held to promote the timely completion of the doctoral degree by nurse academics. The literature documents that doctoral study involves socialization into new norms and transformation of professional identity (Golde, 1998; Weidman, Twale & Stein, 2001; Golde, 2006). Doctoral students face personal challenges including financial concerns, time demands, and relationship issues and student issues of role adaptation, content mastery, and establishing student-faculty relationships (Appel & Dahlgren, 2003; Kerlin, 1995; Weidman & Stein, 2003). Nurse faculty doctoral students have described their student role as both transforming and difficult (Heinrich, 2000; Colombraro, 1999; Jarnagin, 2005).

**Methodology:** Web-based survey

**Sample and setting:** Nurse faculty employed at AACN-member schools in the United States concurrently enrolled as doctoral students. 277 responses were garnered through online completion of the survey.

**Results:** Some respondents described doctoral study as enriching while others expressed difficulty in negotiating the demands of doctoral study. The struggle to achieve balance in multiple life domains presented a particular challenge. Career goals and multiple life responsibilities emerged as key enhancing and detracting factors, respectively. Faculty workload and role adjustments were suggested as key recommendations for workplace support. The priority recommendation for doctoral programs was for thoughtful program planning. Participants expressed pleas for guidance, mentorship and emotional care from others.

**Conclusions:** This study contributes to our understanding of the complexities of the student experience. The development of a culture that encourages and mentors junior faculty can serve to ease the pressing need for nursing faculty.

**EXAMINATION OF THE LEININGER PROPOSITION OF CORE OF  
PROFESSIONAL VALUES AS REVEALED IN PATTERNS OF VALUE  
SELECTION BY UNDERGRADUATE NURSING STUDENTS AND A MIXED  
NON-NURSING COHORT UTILIZING THE SCHWARTZ VALUES  
QUESTIONNAIRE.**

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**PURPOSE:** To explore the value choices of undergraduate nursing and non-nursing students using the Schwartz Values Questionnaire (SVQ) considering age, gender, and major, comparing the findings to the core professional values of nursing as proposed by M. Leininger (2000) and the personal meta values described by Schwartz.

**RATIONALE AND SIGNIFICANCE:** Flynn and Aiken (2002) supported Leininger (2000) noting a core of professional values transcending cultural and national values. Diversity of nursing students is increasing and all are being socialized into the culture of nursing. It is proposed that nursing students select values that have a greater similarity to the core values proposed by Leininger than non-nursing students and no significant differences exist between the profiles of values chosen by male and female nursing students of various ages as they will be sharing the social context of nursing. If professional values can be identified and compared to personal value priorities, students may gain insight into their personal (emic) beliefs and decision-making principles and professional (etic) practice.

**METHODOLOGY:** After ethics approval, nursing and non-nursing students were recruited in a mid-sized university campus to complete the SVQ, the Defining Issues Test (DIT2) and an Anemia Questionnaire. Completed packages were exchanged anonymously in a designated place for \$5.00. Coded data were analyzed by a statistician using SPSS for nonparametric and parametric statistics such as one and two tailed t- tests, correlations, regressions, means, Standard Deviations, frequencies, p-plots, skewness, Olap grids, histograms and ANOVA's. This presentation reports on the significant findings of the SVQ as per Schwartz's theory and compares the profiles to Leininger's core values of nursing.

**SAMPLE AND SETTING:** N=127 undergraduate students responded [117 nursing students (n=107 females)] Ages 17-19 yrs( n= 37), 20-22 yrs (n=50), 23-25 yrs(n=17), > 25 yrs(n=20) at a mid-sized Ontario University in Canada.

**RESULTS:** Patterns of values were revealed showing highs and lows for the nursing and non-nursing students. Significant differences by gender were evident

for values pleasure, equality, social power, and inner harmony. Least differences for genders were in values -forgiving, choosing own goals, preserving my image, helpful, intelligent and health. Age showed significance with the older respondents making more differentiation in their choices (-1 to 7), ranking more as of greater importance (6,7). Patterns showed more of the "higher" meta value types in the older cohort. Considerable meshing of common values such as health, family security, and a spiritual life reflected core nursing values.

**CONCLUSIONS:** The limitations of small cell sizes in this voluntary convenient sample makes it difficult to project causal effects and interactions of the selected variables across all 56 of Schwartz' collection of standardized values and the 10 meta values. Trends were noted for gender and age. It was possible to visualize patterns of value priorities and to plot the position of students on Schwartz' model and to make transpositions to the common values proposed by Leininger.

## **A PROVINCE-WIDE CRITICAL CARE NURSING 'HUB': EVALUATION OF PROGRAM OUTCOMES**

### **Principal Investigator:**

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### **Research Associate:**

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**Purpose:** A comprehensive evaluation of program outcomes accompanied the implementation of a ministry-funded, innovative continuing education program. This program included faculty-facilitated online coursework, testing at clinical simulation sites and a preceptored practicum for RNs across Ontario.

**Rationale:** The key drivers for the program were the shortage of critical care nurses (CCNs) in Ontario, affecting hospital ICU admissions, long wait times in ERs and for operative procedures, the importance of improving accessibility and portability of skills for CCNs in Ontario and the ongoing imperative in recruitment and retention of skilled CCNs. The **Critical Care 'Hub'** program garnered MOHLTC support to implement and evaluate the province-wide program.

**Methodology:** This is a longitudinal study evaluating multiple program outcomes: student success; satisfaction (student, faculty, preceptors, hospitals); 6-months follow up; overall interest via inquiries and website hits. Embedded is a 5-point time series of student self efficacy and the use/usefulness of PDAs for clinical decision support. Qualitative data collected includes opinions about current issues and factors affecting errors and risk in critical care.

**Sample/Setting:** Recruitment includes all consenting students, faculty and preceptors and represents all regions in Ontario. Skill testing occurs at ten simulation sites. The 150 hour practicum occurs at self-selected host hospitals. The anticipated sample size is 100 RN students.

**Results:** Beginning in September, 2007, 65 RNs have enrolled. This session will focus on study design, sample derivation, the response rate to date, and selected highlights from the available data.

**Conclusions:** The program is in its data collection phase. The investigators will share aspects of program development, educational evaluation, monitoring quality/consistency, and outcome measurement tools. Special emphasis will be given to the collateral benefits from provincial collaboration (via simulation partners, host hospitals and the preparation of preceptors), industry involvement, governmental support, and lessons learned to date.

## **Exploring Collaborative Faculty Perceptions of Nursing Scholarship Using Q-Sort Methodology**

Mary Allan, RN, BScN, MBA  
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The Canadian Association of Schools of Nursing challenges the traditional boundaries of scholarship to reflect the nursing discipline and the activities expected of nursing faculty members. Our collaborative BScN program is seeking to foster a more concerted effort to engage all faculty in the broader dimensions of scholarship to reflect the diversity of faculty from the college and university sites.

### **Purpose:**

The purpose of this study was to explore faculty perceptions of nursing scholarship within the McMaster Mohawk Conestoga BScN Program in order to gain an understanding of activities and expectations of nursing scholarship.

### **Methodology:**

The most appropriate research design to adequately capture both similar and unique faculty viewpoints was Q-Sort Methodology. This approach combines the strengths of qualitative and quantitative methodologies to identify the subjective viewpoints of faculty (Chinnis, Summers, Doerr, Paulson & David, 2001). A 36 item Concourse was developed from statements obtained from faculty at all three sites. These statements represented the faculty's perception of nursing scholarship.

### **Sample:**

Faculty from all three sites were invited to complete the Q-sort. Fifty faculty completed the Q-sort.

### **Results:**

Factor analysis and interpretation of the data resulted in three factors that were identified as common faculty viewpoints of nursing scholarship for the McMaster Mohawk Conestoga BScN Nursing Program; A Culture of Scholarship, An Environment for Scholarship, and Barriers to Scholarship.

### **Conclusion:**

This study will provide the groundwork for the BScN faculty to promote strategies and plans for the advancement of scholarship in the McMaster Mohawk Conestoga BScN Program. It will provide new boundaries for scholarship that reflect the unique values and beliefs of our faculty at all three sites. Specifically, faculty development activities will be planned and implemented, appropriate resources obtained and a spirit of scholarship will be captured in a Model of Scholarship for the BScN Program.

## **BACCALAUREATE NURSING STUDENTS' PERCEPTIONS OF REFLECTIVE THINKING OVER TIME**

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### **Purpose**

The purpose of this quantitative, longitudinal study was to test Kanter's (1977, 1993) theory of Structural Power in Organizations with baccalaureate nursing students. Relationships among structural empowerment, psychological empowerment, and reflective thinking will be examined. Further, changes in student perceptions of empowerment and reflective thinking will be examined as they transition from year 2 to year 3 in their program.

### **Rationale and Significance**

University education is important in preparing nurses for the opportunities and challenges of a rapidly evolving health care system. As class sizes increase and the use of technology expands, nurse educators must strive to promote a learning environment where students perceive themselves as empowered learners. In many collaborative programs, students who complete the first two years at the college site transition to the university site to complete the third and fourth years. Examining students' perceptions of empowerment and reflective thinking over this transitional time in their program, will contribute information nurse educators can use to enhance students' learning experiences. This study is the first to examine the role of learning environments on students' perceptions of empowerment and the impact of those perceptions on their ability to engage in reflective thinking over time.

### **Methodology**

Ethics approval was secured, and permission was sought from deans/ directors/ chairs at 10 sites to recruit students. Data were collected from the same student participants at two time points: September 2006, and March 2007. Questionnaire booklets were distributed to potential student participants, and class time was provided to complete questionnaires. Instruments used included: the Conditions for Work Effectiveness Questionnaire - Education (CWEQ ED), the

Psychological Empowerment Scale - Education (PES ED), Reflection Questionnaire, and a researcher developed demographic.

### **Sample and Setting**

A convenience sample of 500 volunteer students from four Ontario collaborative BScN programs was used. Students transitioned from the college site to the university in the third year of 3 programs; in the fourth program students remained at either the college or university for 4 years.

### **Results**

BScN students' perceptions of empowerment in their learning environments will be linked with the learning outcome of reflective thinking. It is proposed that students who perceive structural empowerment in their learning environment will also experience psychological empowerment, leading to increased participation in reflective thinking. The analysis presented in this paper will address the reflective thinking variable.

### **Conclusions**

Examining students' perceptions of reflective thinking within collaborative educational environments over the transition from year 2 to 3, contributes information nurse educators can use to develop and sustain learning activities that engage students in reflective thinking. Students who become reflective professionals will be better prepared to work through multi-faceted problems often encountered in nursing practice.

## **Team Communication Tools and Strategies: Preparing Students for Teamwork**

Michelle Freeman RN MSN  
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Over the past twenty five years, nursing faculties have been pioneers in teaching team work to nursing students. The questions we need to ask include: "Has this education been successful?" and "Have we given nurses the tools and strategies they need to lead and participate in healthy teams?" Poor team work and poor team communication have been cited as the cause of most preventable errors in health care.

There is an urgent need to develop competencies in patient safety in nursing students. One of these competencies is team communication.

This paper will focus on new communication tools and strategies such as SBAR, briefings, huddles, and debriefings. These strategies hold promise to not only reduce communication failures but to improve efficiency and effectiveness of patient care.

## **COLLABORATIVE MANAGEMENT OF THE NURSING AND SIMULATION LAB**

Susan Dennison RN, BScN  
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The Nursing Lab at the University of Windsor strives to move forward to meet the needs of students and faculty. A collaborative approach has been implemented with the management of the lab and integration of simulation.

Nursing lab management is faced with many challenges including increased numbers of students, limited space, increasing technology of simulation equipment and increased demand for new technology by students. One solution for these challenges includes the collaboration between the Nursing Lab Manager (NLM) and the Experiential Learning Specialist (ELS).

The primary role of the NLM is to oversee the busy everyday functioning of the nursing lab. The number of visits to the lab by nursing students each semester exceeds 5000. Scheduled lab time accounts for less than half of these visits. Students also come to the lab to practice or review skills, use the computers for research, check out materials for health teaching or use one of the many reference texts.

The ELS position was created to facilitate the integration of High Fidelity Simulation and Standardized Patient experiences into the curriculum. The collaboration of these two roles creates a model for lab organization and effective utilization that could be useful for other organizations.

# Cardiovascular

## EXAMINING THE IMPACT OF SMOKING CESSATION ON PATIENTS WITH ACUTE MYOCARDIAL INFARCTION

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**Purpose:** The purposes of this study are to: (1) compare the psychological indicators of stress between smoking and non-smoking hospitalized acute myocardial infarction (AMI) patients (2) compare the outcomes of hospitalized smokers and non-smokers with respect to length of stay, cardiac arrhythmia, re-infarction and arrhythmia and (3) examine the relationship between the psychological indicators of stress and patient outcomes following AMI.

**Rationale and Significance:** Individuals with higher states of anxiety and stress after AMI have higher incidences of in-hospital complications than those with lower levels of stress. Abrupt smoking cessation is imposed in coronary care units (CCU's). When individuals quit smoking, they experience withdrawal symptoms, which are associated with stress. This may result in physiological and psychological effects that could be detrimental. To date, no studies have examined the psychological and physiological impact of abrupt smoking cessation in hospitalized AMI patients.

**Methods:** A cross-sectional survey was conducted on 60 AMI patients (30 smokers and 30 non-smokers) on day two following their admission to the coronary care unit. The psychological indicators of stress were measured using the Profile of Mood States and the Insomnia Severity Index. Retrospective chart abstraction was conducted to collect data related to length of stay, ischemia, arrhythmia and re-infarction.

**Results:** Data analysis is currently underway.

**Implications:** Once analysis is complete, the results will be used to offer implications for nursing practice and research. Intervention studies utilizing validated smoking cessation strategies may demonstrate improved coping and successful reductions in both stress and cardiac outcomes in hospitalized AMI patients. Successful coping with smoking cessation during hospitalization may translate into long-term smoking cessation, which may lead to reductions in morbidity and mortality rates.

## **Alternative Coping Strategies and Decision Delay in Seeking Care for Acute Myocardial Infarction**

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**Background and Objective:** In attempting to manage AMI symptoms, individuals often engage in coping strategies that cause them to delay seeking timely medical care. The purpose of this study was to examine the extent of use of 15 coping strategies, and their associations with the time taken to decide to seek medical care (decision delay) and selected demographic characteristics.

**Subjects and Methods:** Secondary data analyses were performed on a sample of 135 AMI patients from Canada and the United States. Descriptive analyses were used to identify the extent of use of alternative coping strategies. Spearman's rho was used to test the associations of alternative coping strategies with decision delay, age, income, educational level, and country of residence. Mann-Whitney U-test was used to compare each of the 15 coping strategies across demographic data such as gender, country of residence, and level of education.

**Results and Conclusions:** The three most frequently used coping strategies were trying to relax, wishing/praying for symptoms to disappear, and discussing symptoms with someone. Nine coping strategies were significantly associated with decision delay. Each demographic factor was found to be related to the use of a few coping strategies. The findings of this study are useful in teaching patients about avoiding the use of coping strategies when faced with AMI symptoms. This can potentially help reduce delays in seeking care for AMI, which will result in better health outcomes for AMI patients.

**Keywords:** Acute myocardial infarction, coping, treatment-seeking delay

## Emotion-Focused Coping in the Initial Phase of Acute Myocardial Infarction

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Susan M. Fox-Wasylyshyn, RN, PhD

**Background:** While several research studies focused on the impact of emotion-focused coping on delay in seeking care for myocardial infarction, little attention has been paid to the independent predictors of emotion-focused coping in this patient population.

**Purpose:** The purpose of this study was to examine the predictors of emotion-focused coping among patients with acute myocardial infarction (AMI).

**Methods:** Secondary data analyses were performed using data from a sample of 135 patients who experienced AMI. Stepwise regression analysis was performed to examine the independent predictors of emotion-focused coping as measured by a 5-item scale that was developed for the purpose of this study.

**Results:** The data suggest that age ( $\beta = -208$ ;  $p < .001$ ), history of coronary bypass ( $\beta = -.184$ ;  $p < .028$ ), and country of residence ( $\beta = .173$ ;  $p < .039$ ) were the only the independent predictors. Interestingly, chest pain, history of previous myocardial infarction, and conclusion that the symptoms were related to the heart were not associated with emotion-focused coping.

**Conclusion:** The use of negative emotion-focused coping can lead to delay in seeking care for acute myocardial infarction. Thus, understanding the factors that contribute to increased use of emotion-focused coping is important. The results highlight that patients with a previous history of coronary bypass and younger people are likely to engage in negative emotion-focused coping and thus need to be specifically targeted.

## COMPARISON OF COPING RESPONSES TO SYMPTOMS BETWEEN FIRST TIME SUFFERERS AND THOSE WITH A PREVIOUS HISTORY OF ACUTE MYOCARDIAL INFARCTION

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**Purpose and Rationale:** Little is known about how experience with a previous acute myocardial infarction (AMI) impacts individuals' reactions to symptoms of a recurrent episode. Thus, the purpose of this study was to compare patients experiencing a first AMI with those experiencing a recurrent AMI in terms of their use of coping strategies during the acute event.

**Methods:** Secondary data analyses were performed to examine differences in the use of coping strategies between individuals with and without a history of AMI. Mann-Whitney U was performed to compare those with ( $n = 26$ ) and without ( $n = 109$ ) a previous AMI with respect to 15 coping strategies, each of which was measured on a 5-point Likert scale.

**Results:** Patients with a history of AMI were more likely to use prescribed medications to deal with their symptoms than patients who did not have a previous AMI ( $M = 1.5$  and  $.20$ ;  $mdn = 2.0$  and  $0.0$  respectively;  $p < .001$ ). However, patients who had no previous AMI were more likely to respond by taking non-prescription medications ( $M = .90$  and  $.60$ ;  $mdn = 1.0$  and  $0.0$  respectively;  $p = .04$ ).

**Conclusions:** In general, the results suggest that patients with and without a history of AMI tend to respond to their symptoms with similar coping strategies. When differences occurred, patients with and without a history of AMI differed only with respect to the type of self-medication choices they made. Implications pertaining to these findings are discussed.

## **The Effects of Deep Breathing Exercise Among Hypertensive Patients Consulting at Philippine Heart Center People's Day**

NEMEL V. AGUETE, BSN, RN, MAN  
Graduate Thesis Presented to the Faculty of Graduate School  
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Little is known about the relationship of deep breathing and vital signs (BP, HR, and oxygen saturation). The investigator aimed to document those parameters in hypertensive population. A single blinded randomized control trial was employed. There were 74 participants who successfully completed the study, 36 participants from the control group and 38 from the experimental group.

Baseline profile showed, (1) majority of the participants were female (64.86%), (2) within 41-65 age range or middle adulthood (62.16%), (3) diagnosed as hypertensive within 1-5 years range (48.65%) (4) And with a BMI of 25-29.9 or overweight (55.40%).

After treatment, changes in the control group were as follows; SBP at 4.72 mmHg, DBP at 4.72 mmHg, MAP at 3.69 mmHg, HR at 2.11 beats per minute and O2 sat at -0.11%. On the other hand, changes in the experimental group showed the following: SBP at 20.00 mmHg, DBP at 10.53 mmHg, MAP at 13.97 mmHg, HR at -3.53 beats per minute and O2 sat at 0.02%.

Testing the significance using independent sample t-test revealed a significant difference in the SBP, DBP and MAP. On the other hand, testing the significance using dependent t-test revealed for the control group, a significant difference found in SBP, DBP and MAP while in the experimental group, a significant difference found in SBP, DBP, MAP, and HR.

In conclusion, with the use of the deep breathing exercise, a decrease in blood pressure can be seen at a higher degree than just sitting and relaxing. Thus the investigator recommends using this regimen as an alternative way of managing increase in blood pressure before resorting to medical management.

Keywords: Deep breathing exercise, hypertension, vital signs

## **AN INDIVIDUALIZED TELEPHONE EDUCATIONAL INTERVENTION FOR PATIENTS FOLLOWING CORONARY ARTERY BYPASS GRAFT SURGERY DURING THE FIRST THREE WEEKS AFTER DISCHARGE**

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The purpose of this randomized clinical trial was to evaluate the effectiveness of a weekly individualized, telephone, educational intervention for coronary artery bypass graft (CABG) surgical patients during the first three weeks following discharge from hospital. Within the context of Orem's (2001) Theory of Self-Care, an experimental design with repeated measures was used to determine the effectiveness of the intervention on improving knowledge of symptom management and performance of therapeutic self-care behaviours, and in reducing symptom severity. Patients ( $N = 88$ ), undergoing their first CABG surgery, were randomly assigned to one of two groups either receiving the usual pre-discharge education or the usual pre-discharge education and the individualized, telephone intervention.

The three educational intervention sessions focused on patients' concerns related to six post-operative symptoms (ie. pain, anxiety, depression, fatigue, sleep disturbances, and activity limitations) and related symptom management strategies were discussed. Data related to symptom severity were collected at pre-test (during hospitalization) and during each of the three weeks of the intervention implementation. Data related to knowledge of symptom management and therapeutic self-care were collected at pre-test and at post-test (week 4).

Major findings from the analyses indicated that the intervention was effective in improving knowledge of symptom management and performance of therapeutic self-care behaviours, and in reducing symptom severity. Anxiety, fatigue, sleep disturbances, and activity limitations were significantly decreased in the intervention group during each of the first three weeks following discharge as compared to the control group. Pain intensity and interference, as well as depression were lower in the intervention group at weeks 2 and 3 after discharge. Moderate positive correlations were found between knowledge of symptom management and therapeutic self-care, knowledge of symptom management and the symptoms severity of pain interference, fatigue, and activity limitations, as well as with therapeutic self-care and the severity of all symptoms except for pain intensity. Age was negatively moderately correlated with knowledge of symptom management. Some of the implications from the study findings are related to examining the long-term effectiveness of the intervention and evaluating the feasibility of implementing the intervention in a hospital-based setting.

# **Community Public Health**

## PERIPHERAL VENOUS ACCESS DEVICE (PVAD) DWELL TIMES IN THE HOME CARE SECTOR

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**Purpose of study:** To identify the optimal dwell time for a peripheral vascular access device in the community setting.

**Rationale and Significance:** Current practice guidelines relating to intravenous therapy state that PVAD's should be routinely changed every 72 hours. These guidelines are based on research completed in a hospital setting and community nurses question their applicability in their practice setting. Evidence informed practice is a requirement in promoting excellent nursing care and optimal patient outcomes. In June 2006, a Registered Nurse from a home health care organization participated in a Registered Nurses of Ontario (RNAO) Research Fellowship to enhance her skills in the creation of evidence, specifically in the form of a systematic review. The fellow attended the Joanna Briggs Institute Comprehensive Systematic Review Training Workshop, followed by an intensive mentorship experience with experts in the area of IV therapy, research and members of the Queen's University Joanna Briggs Collaboration. This presentation will outline the fellow's experience of developing a systematic review to determine appropriate dwell times for PVADs in the community.

**Methodology:** Systematic review using Joanna Briggs Institute methodology

**Sample and Setting:** Adult clients in the community

**Results:** A total of 22 articles were selected for critical appraisal. Of those, ten articles were included in the review. The methodological quality of the research data supporting dwell times of 96 hours or greater is lacking; however, extending dwell times to 96 hours has been implemented by some study authors without apparent harm to clients.

**Conclusions:** Currently, there is no evidence to support extending dwell times to 96 hours in the community. Investigators recommend the need for pilot studies within organizations that include proper risk management, education to staff and in settings outside of the acute care hospital sector.

## CREATING A CLIMATE OF CRITICAL INQUIRY: NURSE PERCEPTION OF MANAGER ENGAGEMENT WITH AN EVIDENCE-BASED CULTURE

Kim Dalla Bona RN BScN CCHN(C) (*Corresponding author*)

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Nancy Lefebvre CHE,

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**Purpose of Study:** A home healthcare agency has identified the desire to create a climate of critical inquiry within the organization. This agency is concerned that Managers, through a lack of visible engagement, may influence the continued implementation, expansion and sustainability of an evidence-based culture.

**Rationale and Significance:** The World Health Organization (1999) has stated the requirement that nursing should be evidence-based. Davies, Edwards, Ploeg, Skelly and Dobbins (2007) examined factors which influence the sustainability of best practice guidelines and determined that leadership was the main predictor of how strongly the guidelines have permeated the organization. Despite expanding bodies of knowledge the use of research evidence in homecare is lacking.

**Methodology:** Individual interviews were used to examine nurse perceptions of Manager engagement. The interview included completion of *Is research working for you? A self-assessment tool and discussion guide for health services management and policy organizations* (Canadian Health Services Research Foundation, 2002). This tool was used to stimulate discussion and gain an understanding of nurse perception of organization initiatives. The interview also included open-ended questions which elicited specific management activities which would influence perception of engagement.

**Sample and Setting:** Semi-structured interviews (n=7) were carried out with front line and resource nurses. These nurses were employed at a home healthcare agency and worked from multiple sites across Ontario.

**Results:** Dobbins, Ciliska and DiCenso's (2002) framework for adopting an evidence-based innovation was used as a platform, in which to understand the research question as well as to interpret research findings. Participants described management activities, which influence perception of engagement in the following themes: communication, education, clinical influences and operational influences.

**Conclusions:** By examining nurses' perceptions of organizational initiatives and management activities which influence the perception of engagement, recommendations were created of realistic, applicable, strategies which would foster the opinion and perception of manager engagement, to move towards an evidence-based culture.

## **AN EMERGING PARTNERSHIP MODEL – TAKING ACTION TO ADDRESS SYSTEMS ISSUES FOR COMMUNITY HEALTH NURSES**

### **Primary Author and presenter:**

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An innovative sector specific Outreach Program was launched by the regulatory body in an effort to link with the continuously evolving practice setting realities of nurses. The unique program is based on a partnership model with nurses across the province; sector specific advisory groups are a key component of the program. This advisory group has provided a forum for Public Health and Home Health nurses to work collaboratively to identify common issues that are impacting their practice.

The Outreach Consultant and members of the Community and Public Health Advisory group will present an overview of this partnership from the perspectives of the regulatory body, Public Health and Home Health Nursing.

### **Learning Objectives:**

1. To identify key issues and trends of community based practice setting realities and demonstrate how this information has been utilized in the revision of the documentation standard.
2. To understand unique issues when Public Health and Home Health Care Nurses work collaboratively to enhance community nursing.
3. To increase knowledge related to how the regulatory body is working in partnership with community nurses to address their learning needs and build capacity in self regulation.

# **International Health**

## THE EXPERIENCE OF CONTEMPORARY PEACEKEEPERS HEALING FROM TRAUMA

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School of Nursing, Faculty of Health Sciences  
University of Western Ontario

**Purpose:** This research study was a philosophical interpretive inquiry into the experience of contemporary peacekeepers suffering and healing from trauma.

**Rationale and Significance:** In light of the present deployments of Canadian troops to Afghanistan, there is an urgency to understand suffering and healing from trauma in order to provide the best treatment approaches upon their return home.

**Methodology:** An interpretative phenomenological approach was appropriated from various texts to uncover the experience of contemporary peacekeepers who have sought treatment for trauma resulting from recent deployments to Somalia, Rwanda, and the former Yugoslavia.

**Sample and setting:** Data was collected via one tape-recorded interview, lasting between 1 ½ to 3 hours, with ten contemporary peacekeepers who had been deployed to Somalia, Rwanda, or the former Yugoslavia. Data analysis was undertaken throughout the research study by utilizing a thematic analysis of text in which themes emerged to document and understand the ways in which contemporary peacekeepers suffer and heal from trauma.

**Results:** The peacekeepers' descriptions of the situatedness of their bodies in time, space and relation provided a fresh way into understanding the embodied nature of suffering and healing from trauma. Three overarching analytical interpretations emerged from the inquiry. The interpretations are: The centrality of time and body in suffering and healing from trauma; the centrality of brotherhood and grieving loss in the military family; and the military response as betrayal and creating trauma from within.

**Conclusion:** Three overarching analytical interpretations emerged from the inquiry which will contribute to more effective practice guidelines for the care of contemporary peacekeepers suffering and healing from trauma.

## THE COMMUNITY PLANNING CYCLE IN THE DEVELOPING WORLD

Major Steven D. Pirie, CD, BScN, RN  
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The nursing process is a usable construct for planning interventions in the developing world. Despite the additional health turmoil caused in the developing world by natural or man made disasters, the nursing process continues to be a useable tool for nurses working in these difficult situations. The author will discuss community assessment, planning, intervention, and evaluation in the context of his humanitarian deployment to Sri Lanka in 2005 after the tsunami. While abroad the Nursing Officers with the Canadian Forces Disaster Assistance Response Team regularly used the nursing process. Particular attention will be given to the importance of multi-source and multi-disciplinary community assessment techniques and a model for planning community-focused interventions will be presented. The techniques and models discussed are flexible for use in other humanitarian health emergencies due to the flexible nature of the nursing process.

## **Educating the Neglected Children of Nepal**

Laurie Carty, RN; PhD  
Professor  
Faculty of Nursing, University of Windsor

Today we live in a global village and are connected to people of the world. I traveled to Nepal with a group of professors who work for a foundation that helps children in Nepal. Nepal is a small country lying between India and China. Nepal has the highest illiteracy and most tragic health problems in the world. There are few health professionals outside the capital city Katmandu. Most children in Nepal have no education and no health care. Children are often kidnapped and sold into sex slavery. It is estimated that 7,000 girls are sold each year to brothels in India, some as young as 8 years old. It is only education that can save them. The Ghimire Foundation was founded by Jeffrey Kottler the Chair of the Counseling Department at California State University and Kiran Regmii, a woman physician who works with the children of Nepal. The Foundation gives \$50 scholarships to children in Nepal. Each \$50 scholarship pays for the education of one child for a year. I traveled with a group of professors to distribute scholarships and make a contribution that would make a difference. In this presentation I would like to share my experiences on my two visits to Nepal.

# **Women's Health**

## **BREAST HEALTH PRACTICES AMONG ETHNO-CULTURAL WOMEN IN WINDSOR-ESSEX COUNTY**

**Lucia Yiu, BSc, BA, MScN,**  
Faculty of Nursing  
University of Windsor

**Uzo Anucha, MSW, PhD,**  
School of Social Work  
York University

### Purpose

The study explored the perception, knowledge, and current breast health practices among ethnocultural women in Windsor-Essex County.

### Rationale & Significance

Because of their cultural and language barriers, recent immigrants tend not to seek preventive health services. Breast cancer is the leading cause of death among Canadian women regardless of ethnicity. As breasts often are seen as a taboo subject in their culture, understanding the ethnocultural women's perception, knowledge, and current practice of breast health will be the precursor to developing breast cancer prevention strategies for this population.

### Methodology

In this exploratory study, a trained researcher assistant conducted a one-hour audiotaped interview with each of the ethnocultural women in their own home to explore their perception, knowledge and current practices of breast health, and what they perceived as barriers and facilitating factors to the need services. The interviews were conducted either in the women's dialect or English. The taped interviews were then transcribed for thematic data analysis.

### Sample

A purposeful sample of 20 ethnocultural women, aged 35 and over, from each of the Middle East, Africa, and East and South Asian communities (N=80)

### Setting

Windsor-Essex County, Ontario

### Results

Most women had a good understanding of what breast cancer is and the role of healthy lifestyle and self care in cancer prevention. However, only less than half the group practiced breast health. Some viewed that breast cancer is God's will or punishment from God. They voiced the need to develop rapport with their family physicians and to strengthen breast health education programs for ethnocultural women.

### Conclusions

Health care providers must understand the cultural beliefs and current breast health practices of ethnocultural women. Outreach programs will increase dialogue of the importance of women's health such as early detection and screening of breast cancer.

## **Women with Breast Cancer: System Recommendations**

Dale Rajacich, RN, PhD  
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In addition to anticipating a cancer diagnosis, women with breast cancer have to wait for a definitive diagnosis of an abnormal screen, wait for an appointment with the family doctor, wait for referral to a specialist, wait for adjuvant treatment, wait for follow-up treatment and wait to hear the results of treatment. As women travel through the breast cancer experience and as they wait for the next step in a long journey they are faced with a myriad of questions, fears, and doubts. In this research, hermeneutic phenomenology was used to gain an understanding of the meaning of waiting for women with breast cancer. Interviews, three to five weeks apart, were conducted with 10 women who had completed treatment for Stage I or Stage II breast cancer. During the interviews, women were provided with an opportunity to recommend ways to improve the health care system. The following concerns were addressed by these women: 1) the need for information; 2) the need for improved communication; 3) the lack of co-ordinations, and 4) the need for an advocate to assist them as they travelled through the health care system. This presentation will address these concerns and discuss how nurses can support women with breast cancer to better meet their needs.

# **Infection Control**

## **CASUALTY DECONTAMINATION: A MILITARY PERSPECTIVE**

Major Steven D. Pirie, CD, BScN, RN  
Canadian Forces Medical Service  
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Canadian Forces soldiers face the possibility of biological, chemical, or radiological contamination and injury from a number of sources and scenarios. The Canadian Forces Medical Service has the responsibility to provide timely decontamination of casualties affected by contamination in order to protect field medical facilities from contamination and allow for the comprehensive management and treatment of casualties. The author will discuss the problems of providing care to contaminated casualties, and the decontamination doctrine which he authored, trialed, and evaluated. Particular attention will be paid to the type of patients who present for decontamination, the decontamination process, staffing the organization, leadership problems, and lessons learnt from the 188 casualties seen over the 10-day real-time trial at Wainwright Army Training Centre in Alberta.

## The Nursing Effect: An Examination of Nurse - Patient Ratios and Nursing Expertise with Sepsis Bundle and Mortality

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Gail Boleski RN MSN APRN-BC  
Roberta Mooney RN MA  
Christine Halash RN BSN CCRN  
Henry Ford Hospital, Detroit, MI

**Purpose** This study is to determine if RN to patient ratios and RN experience level impact the achievement of sepsis bundle compliance and associated mortality outcomes. **Background/ Significance** The incidence of severe sepsis accounts for 11% - 27% of all ICU admissions and mortality rates are 20% - 50%. Sepsis bundles may improve outcomes for septic patients. Low staffing levels have negative impact on mortality and prolonged hospital stays. There is an associated reduction in adverse complications such as pneumonia, cardiac arrest, and failure to rescue (including death from sepsis) when RN's have provided care. **Methods** All patients in a MICU and SICU at this inner city tertiary care hospital who met clinical indicators for severe sepsis were included in this retrospective single center cohort study. All elements of the first 6 hour "sepsis bundle" treatment goals and mortality rates were correlated with patient care ratios, experience level as an ICU RN, and years of experience as a RN. **Results** Overall mortality for severe sepsis and septic shock was reduced by 17%. We noted no significance with RN to patient ratios in bundle completion, mortality rates, or even with RN employment status (regular staff, vs. contingent, vs. agency). The Nurse's ICU experience level (>8.3 years) did show significant impact on bundle completion it did not significantly impact mortality outcomes. The Odds Ratio is 1.05 showing an increase of 5% in resuscitation bundle completion for every year of RN ICU experience (p-value=0.17). **Conclusions** Compliance with a sepsis resuscitation bundle is crucial to improved mortality; the element of nurse patient ratio is not a direct contributor to completion of the bundle. Mortality outcomes with severe sepsis are likely due to a host of complex and inter-dependent contributions.

## **A stringent oral care protocol and its effect on VAP in a medical intensive care unit**

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Mary Kravutske, PhD, RN,  
Christine Halash, BSN, RN,  
Shereen Patten, BSN, RN,  
Nicole Colpaert BSN, RN,  
Leigh Ann Phillips, MSA, RN,  
Nancy Price, BSN, RN,  
Bruno DiGovine, MD  
Henry Ford Hospital, Detroit, MI

**Purpose:** To examine the relationship of a stringent oral hygiene protocol and ventilator associated pneumonia rates with orally intubated mechanically ventilated adult patients in a medical critical care unit (MCC).

**Background:** Among intubated and mechanically ventilated patients the development of ventilator associated pneumonia (VAP) it is the second most common nosocomial infection affecting the critically ill. A diagnosis of VAP is the leading cause of morbidity in the ICU population.

Oropharyngeal colonization, either present on admission or acquired during hospital, has been identified as an independent risk factor for the development of VAP. Dental plaque may also play a role as a reservoir for nosocomial colonization. One of the most well known interventions to remove plaque is brushing teeth.

**Methods:** This was an interventional study; with a prospective and retrospective comparison of VAP rates. All orally intubated mechanically ventilated adult patients admitted to the 44 bed MCC were included. A stringent oral care regime was instituted which included oral cavity cleansing of every 2 hours and teeth brushing every 12 hours. The Nursing staff received oral care education. VAP rates were monitored and bi-weekly audits for protocol adherence were conducted.

**Results:** An overall protocol adherence of 70%, with the every 2 hour oral swab and 47 % adherence with brushing of the teeth. Our VAP rate prior to the initiation of this protocol was 2.6, we experienced a slight increase of VAP in the first half of this study (3.3) and a notable improvement in the second half of the study (1.8) which equates to a 54 % reduction of VAP.

**Conclusion:** This research substantiates that as the compliance increases with a stringent oral hygiene regime in the orally incubated mechanically ventilated medical ICU patient there is a proportional reduction the incidence of VAP.

## **DEVELOPING A CONSENSUS GUIDELINE ON ASEPSIS AND HYGIENE FOR LONG TERM CARE AND COMMUNITY HEALTH CARE PROVIDERS INCLUDING HEALTH CARE OFFICES**

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**Background:** The National Action Plan on Antibiotic Resistance (2004) calls for updated guidelines on hygiene and asepsis for long term care and community care including health care offices. The aim is to strengthen the infection prevention aspect in long term care and community care through clear, easy to use consensus guidelines and reduce the spread of antibiotic resistant organisms in those settings. There are some recent well researched guidelines but they are not easy to read and apply in clinical settings. The goal is to produce a 7-10 page consensus guideline including references plus an audit tool to use for self assessment.

**Methods:** 10 expert Infection Control Professionals plus a facilitator were chosen for their background in the community or long term care using core competencies and producing guidelines from different regions across Canada. Using part of CHICA's core competencies as an outline, an expert opinion best practice in infection prevention and control was developed. In addition, an audit tool to evaluate application of the guideline was developed and a number of fact sheets to provide simple direction to the clinical areas on particular subjects. An Agree tool was used to collate stakeholder feedback and integrate feedback to the best practice document.

**Results:** A useful best practice document to provide guidance for clinicians working in long term care, community and home care and health care offices including ambulatory care. It is currently being translated into French.

**Conclusions:** In the absence of good research on infection prevention and control in non acute care settings, the use of core competencies in infection prevention and control developed by CHICA-Canada, the national association of infection prevention and control professionals and a group of experts from across the continuum of care and pan Canadian representation created a useful best practices to guide non acute care settings. The document was validated by use of the Agree tool to stakeholders across the continuum and Canada.

Sponsored by Canadian Committee on Antibiotic Resistance

# **Health Care Innovations and Technologies**

## Design of Novel Eye Drop Delivery Device

**Advisor:**

Dr Zbigniew Pasek

**Presented by Group:**

Tallat Noor

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Many people need medicated eye drops for various diseases, especially the elderly. However, elderly persons often have other difficulties, which inhibit their ability to administer eye drops. These difficulties include tremors, loss of dexterity, arthritis, and Multiple Sclerosis. As a result, some people may exert too much force on the medication bottle and streaming can occur. This streaming not only delivers too much medication, but also wastes the prescription and increases cost, as the typical prescription is \$25. Consequently, it is desirable to develop a device to prevent streaming and allow the patient to accurately administer a single drop of medication into the eye with ease, safety, and comfort. The proposed distinctive design fulfils the need and prevents the streaming and allows the patient to accurately administer a single drop of medication in to the eye with easy and comfort. Our design accommodates different types of medications (different bottle sizes) conserve medication to reduce cost, easy to squeeze durable, inexpensive, simple design and maintain sterility of medication.

## **Robotics Application in Deferent Fields**

### **Jiehui Wang**

Now a days, people are quite familiar with the Robotics, They have been widely implemented in modern industries and have quite a lot of different applications. They are what we normally called industrial robotics.

Besides the application in the manufacture industries, Robotics can still used in different fields due to the robotics technology development. There are endless lists to indicate its applications, such Space explore, Service industries and Health care engineering.

In this presentation, I will mainly focus on the technology deference between industrial robotics and surgical robotics. Here I would like to highlight some major points which will be included in my presentation.

### **Industrial Robotics**

Mainly focus on the main components of the industrial robotics such as manipulator structure, encoding system, I/O system and computer system. The technical characteristics such as path repeatability and relative accuration. The advantages and values of the industrial robotics used in the manufacture industries such as constant quality, high productivity, less maintenance.

### **Surgical Robots**

In these part will mainly focus on what is the deference between industrial robots and surgical robot such as path repeatability and high volume production with individualized surgical operation. The pro and con of the surgical robotics will give the current surgical robot advantages and disadvantages. What is the major challenges now the surgical robotics faced, is it intelligent enough to replace the surgical doctors or the surgical doctors need surgical knowledge and in the mean time need to learn how to operate the complex surgical robotics. What kinds of problems should be solved or need to be researched will mainly discuss the artificial intelligence, Nami-tech and new material research in that fields.

### **Forecast of the surgical robotics in the future**

Mainly discuss what future surgical robotics can be and what future surgical robotics can do and what kind of future surgical robotics can really take the surgical operation without the help of the surgical doctors or even replace the surgical doctors. And also in this paper will discuss the surgical robotics can change our life style in different ways.

### **Conclusion and Q/A**

## USE OF PATENT ANALYSIS TO DETERMINE SPEED OF PROGRESS IN MEDICAL HOME DEVICES

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Blood pressure measuring/monitoring devices (BPMs) are one of the most popular home health diagnostic tools in common use. A contemporary line of products available on the consumer market today usually has considerable range of variety and functionality. Before the BPMs took their present form, since the inception of the original sphygmomanometer in the 18th century, their design went through a number of innovations and modifications – a process that is still continues today. The first patent for non-invasive sphygmomanometer was issued in 1855, then in 1896 Riva-Rocci reported the method which is still presently used, which was enhanced by introduction of stethoscope by Korotkoff in 1905. Recent USPTO patent database search listed 1312 patents of relevance issued between 1897 and 2007. Closer analysis reveals that number of patents over time follows a cubic curve that can be broken into three temporal segments (pre-1960, 1960-1990, 1990-present), that can be related to particular technological breakthroughs.

The design of individual BPMs can be assessed using a list of key functional characteristics (such, as, for example, ease of use, power source, etc.), important to the users. Each of these characteristics can be evaluated for any particular device, by using a Likert scale, where the maximum value corresponds to the best (most desirable) case, and the lowest – to the worst. An aggregate index consisting of the sum of all the values for the set of characteristics would then represent how close any particular design comes to the “ideal” solution. Using such scoring metric for devices described in patents provides with an insight into how big of a gap in terms of consumer needs still exists. Combining this with technological progress curve derived from database analysis can provide a clear picture of where and how soon can we expect new developments in BPMs.

## E-Prescription

Authors: Mohammed Alam, Medhi Khangholi, Kerri Maurina, Firas Sallumi

A prescription is a legal document that is typically handwritten on preprinted prescription pads that are issued by the doctor. Prescriptions represent the media of transformation of information between doctors and pharmacists. The issue being addressed is geared towards eliminating the aspect of the patient receiving the physical prescription from the doctor and bringing it to the pharmacist. The problem with this process is the extensive waiting times for prescription fills, as well as, increased stress on the pharmacist to fill the prescriptions on time and error free. Other kinds of difficulties may arise throughout this process for instance: misspelling the names of medications, doctor's poor handwriting, and prescription forging. Forging done by some patients such as: adding more medications, increasing dosage levels, and changing refill times on the prescription. Furthermore, there are some hidden troubles that can be very vital, for example, interaction of medications or harms arising from the use of different systems of medications' names like generic names and trade names. Another setback is the responsibility of the patient not to lose the prescription.

The traditional method of paper prescription has been used for decades. This method starts with the doctor writing the names and dosages of medications on a piece of paper and gives it to the patient. The patient takes the prescription to the pharmacy to get his/her medications. Waiting time to get the medications is usually ranging between 10 to 40 minutes. This process is time consuming due to some of the problems mentioned above.

In this project we looked at similar services and information systems in other fields. In fact we are much more developed in other aspects of life than health care information system. The World Wide Web has been used for many years now to transfer information between two locations. **So, why has it not been applied for prescriptions?**

**E-Prescription** is our proposed approach to solve all the problems mentioned above. It is a website database prescription system that provides a quick and secure communication tool to transfer data from doctors to pharmacists. Only registered doctors and pharmacists can access the system which will be password protected. Implementing a system like this would ensure that all medications, pharmacies, and patients' names could be located in one database. This system would be effortless to use, yet highly organized and accessed through a computer. The system will keep the patient's history of medications for future consideration that will help the doctors giving care to that patient. The main administer of the system has yet to be determined, but a strong candidate for the position is the Government.

E-Prescription will have many advantages over traditional paper prescription as:

1. It would impact the medical field enormously by decreasing waiting times in pharmacies.
2. It will diminish errors due to doctors' poor handwriting.

3. It will prevent the patient from forging his/her prescription.
4. Better work flow in pharmacies because all the data is stored electronically.
5. Pharmacists will have more time helping patients on how to use their medications.
6. No worry for patients to lose their prescriptions.
7. It will benefit the environment by reducing the usage of paper.
8. The administrator of E-Prescription will benefit from this system in multiple ways:
  - Making a long run profit from all pharmacies by charging monthly fees.
  - Ability to track medications given to patients and record history.
  - Act as a legal body between doctors and pharmacists.

# **Therapeutic Communication and Relationships**

## **Perceived Facilitators and Barriers of Interdisciplinary Healthcare Providers on Implementing Evidence-Informed Recommendations on Therapeutic Relationships**

### **Evangeline Danseco, PhD**

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### **Barbara Davies, RN, PhD**

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Co-Director, Nursing Best Practice Research Unit

**Content Area of Focus:** 3. Maximizing clinical outcomes related to implementation of best practice guidelines through interdisciplinary collaboration

### **Background**

The recommendations in the RNAO Best Practice Guideline on Establishing Therapeutic Relationships are challenging to implement as they involve complex changes in attitudes and perceptions, and often require integration of a philosophical change in practice. Yet, these recommendations are central to nursing care. Moreover, patients benefit when therapeutic relationships with other healthcare providers are also established. Plans are underway to implement this BPG among all staff at the Hôtel Dieu Grace Hospital.

### **Objectives**

Prior to implementation, we will assess perceptions of facilitators and barriers among all healthcare providers (nurses, social workers, family physicians and specialists, physiotherapists, etc.) in two inpatient units (mental health and medical). We hypothesize that facilitators and barriers include organizational or contextual factors, perceptions of potential adopters, and leadership/team effectiveness. Our objective in this study is to describe the similarities and differences in these perceived facilitators and barriers among staff versus administrators, among nurses versus those in other professional groups, and among those in the mental health unit and the medical unit. We hypothesize that there will be differences in perceived facilitators and barriers among administrators versus staff, and among those in mental health services versus medical services. Providers in a mental health unit may tend to have more training and more skills in establishing therapeutic relationships.

### **Approach**

We examined the literature and various models to determine important contextual, organizational and individual level facilitators and barriers when implementing evidence-informed practice change. A mixed methods approach in obtaining perceived facilitators and barriers (using a questionnaire with Likert scales and a semi-structured interview) is under review by content experts and will be administered to participants.

**Practical Application & Conclusions**

Results of the study will be presented on how perceived facilitators and barriers prior to implementation can be used to tailor implementation strategies, communication activities and change management strategies.

## Nurses' Roles with Families: Perceptions of ICU Nurses

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This descriptive survey examined: (a) differences between nurses' ( $N = 47$ ) perceptions of self-performance and that of their colleagues with regard to their roles with family members of intensive care patients, and (b) the impact of nurses' comfort on their role enactment as it relates to family-focused interventions. Participants rated their self-performance higher than that of their colleagues with respect to 15 of the 19 items, suggesting that they think they perform better than their colleagues. The results also showed that nurses' comfort was positively correlated with their role enactment as it pertains to discussing patient prognosis ( $r = .496$ ;  $p < .001$ ), explaining patient's equipment ( $r = .43$ ;  $p = .003$ ), and discussing the possibility of death with family members ( $r = .43$ ;  $p = .003$ ).

# **Workplace Environment**

## **JOB SATISFACTION: THE SEABROOK MODEL OF DYNAMIC BALANCE**

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Job satisfaction for some nurses remains an intangible goal of practice. These nurses find themselves relocating from facility to facility looking for an employer that will give them a quality work environment with reasonable working conditions. In long-term care the issue has been enduring. Long-term care facilities have struggled for years to recruit and retain registered nurses. "Numerous studies suggest job satisfaction is a predictor of retention and identify indicators and their significance associated with job satisfaction," (Moreno, p. 1).

Using findings from the literature, the components of the factors of person, unit, and organization are presented in a new model for job satisfaction. Based on the physics of force and motion in a "teeter-totter" as an exemplar, this model explains job satisfaction as a mechanism of dynamic balance. This systems-based model explains the relationship of the factors that create job satisfaction and the interplay that is required to keep a nurse interested and excited about the work of nursing; particularly long-term care. Variability in the teeter-totter's structure and strength of forces explains when, how, and why job dissatisfaction occurs. The investigator believes that the model may have universal applicability in explaining job satisfaction.

## **Application of Lean Process Improvement and Simulation in Health Care: An Emergency Department Case Study**

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One of the current challenges concerning health care in Canadian hospitals is the Emergency Departments (ED). In general, the EDs are very crowded, the medical personnel are overloaded and the waiting times are long. That influences directly the satisfaction of the patients, the ability of the medical professionals to act immediately or in a reasonable amount of time to patients' health issues and generates additional cost. Addressing the sources of waste and improving the process will provide a higher level of care and satisfaction to the patients, as well as increase efficiency and the ability of the medical professionals to intervene on time.

In collaboration with a regional hospital in Windsor area, a team of University of Windsor graduate students used Lean and Simulation techniques in order to improve (ED) patients' experience from the moment they enter the ED to the point the patient is released in the ER. The project addressed some of the wastes in the front-end ED process, including transportation, over-processing, waiting, motion etc. To deal more effectively with different type of waste (Muda) in the process, the team applied Lean methodology techniques in order to understand the current state, develop an improved state of the process, identify the gaps and prioritize the activities.

After defining the area of the project focus, the improvement team analyzed the historical data in order to understand the current state – e.g. waiting times, # of patients/day, # of EMS/day, # of employees involved etc -. The Team used different Lean & Simulation tools in order to analyze and address the issues – e.g. Cycle Time Analysis, Work Combination Charts, Cause & Effect Matrix, Fish-bone Diagram, Affinity Diagram, ProModel simulation software etc -.

The success of the project is measured based on different improvement comparing to the current state – e.g. patient's travel distance, the number of medical/non-medical staff involved in the process, the work balance among different functions, etc, The simulation aspect of the project uses ProModel software in order to dynamically show different scenarios based on different improvements.

### Keywords:

Lean Process improvements, Simulation, Health Care

## **Nursing's Role in Creating Safer Practice Environments: Understanding and Addressing the Hazards in Healthcare**

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The field of "patient safety" is a new and emerging science in healthcare. The report from the Institute of Medicine (IOM) in 1999, *To Err is Human*, alerted us to the fact that the healthcare delivery system in the United States was "fragmented, prone to errors and detrimental to the goal of safe patient care" resulting in the death of up to 100,000 patients per year from preventable errors. Canadian research has also identified that there is an urgent need to address preventable adverse events in Canadian hospitals. These errors result in the deaths of approximately 9,000- 24,000 patients each year (Baker et al, 2004).

This paper will focus on the nurse's role within the health care team to address the hazards in the current environment. Although most of the research has been on hospital errors, there is emerging research that demonstrates that errors occur across the continuum of care. One of the first questions asked about this field is "What is patient safety?" The breadth and complexity of the problem makes it a difficult concept to comprehend. After several years of teaching patient safety, the author redesigned the content into a "hazard model" to assist with understanding the scope of the problem. This model will be shared. Strategies to reduce each hazard will be described. Opportunities for nursing research will be examined.

This session would be of interest to all nurses regardless of where they work. The paper will emphasize that safe patient care and the creation of a safe practice environment is the responsibility of every employee but nursing leadership and competency in this new field is essential to make this a reality.

## TESTING TWO THEORIES OF EMPOWERMENT WITH BACCALAUREATE NURSING STUDENTS IN ACUTE CARE CLINICAL PRACTICE

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**Purpose:** To report a study examining second-year baccalaureate nursing students' (n=352) perceptions of: empowerment, their teachers' use of empowering teaching behaviours, and nurses' practice behaviours within acute care clinical settings.

**Rationale and Significance:** Nursing shortages and increased patient acuity levels are serious health care system issues that will impact new nurses upon graduation from nursing education programs. Currently, nursing students involved in clinical courses are interwoven in the fabric of acute care settings where teaching and learning co-exists within the context of these broader structural issues. Therefore, it has never been more vital for nursing students to develop a sense of empowerment and to practice confidently, while providing quality health care to patients. Clinical teachers and nurses work closely with students, and are perceived as role models who support students' learning and professional development. With both recruitment and teaching-learning issues in mind, it is important to assess how students' perceive teachers' and nurses' behaviours, as the strength of their perceptions may ultimately influence students' decisions about remaining in the profession or in a nursing program.

**Theoretical Framework:** Integration of Kanter's (1977, 1993) theory of empowerment and Conger and Kanungo's (1988) empowerment process will contribute to a broader awareness of students' development to becoming practicing nurses.

**Sample and Setting:** A purposive sample of nursing students (n=352) from collaborative baccalaureate nursing programs in Ontario who had completed an acute care clinical course.

**Methodology:** A cross-sectional survey design was used. Nursing students completed coded questionnaires at the conclusion of an acute care practicum course.

**Outcomes:** Study instruments were found to have strong alpha coefficient reliability values. Key research outcomes and implications will be presented at conference.

**Conclusion:** No studies to date have examined how organizational power and structure issues influence nursing students' empowerment. Study findings have implications for both academic and practice contexts related to healthy work environments, nursing education, and recruitment and retentions issues.

# **Acute and Clinical Practice**

## LESSONS LEARNED DURING GROUNDED THEORY RESEARCH IN CAUCASIAN AND FIRST NATIONS DIABETES

Cheri Ann Hernandez, RN, PhD, CDE  
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The rapid growth in the rate of diabetes has become a major national and international problem, and has reached epidemic proportions in First Nations communities. The negative impact of diabetes and its complications is seen on individuals, families and the health care budget. Diabetes education programs have been developed to educate clients and counteract the negative outcomes; the major emphasis is on controlling blood glucose through adherence to a diabetes regimen. These programs have had short-term success but it is known that blood glucose levels deteriorate over time. Programs specifically targeting First Nations diabetes have had success related to psychosocial benefits but not with physiological outcomes. An understanding of the experience of diabetes might be beneficial for facilitating more positive outcomes in Type 1 and Type 2 diabetes. A series of grounded theory studies were conducted with Caucasian and First Nation adults who had Type 1 and Type 2 diabetes, respectively, to uncover the experience of diabetes. Findings demonstrated that the main problem encountered by the participants was that of having to deal with two selves: the *persona* self (being that existed prior to diabetes diagnosis) and the *diabetic* self (entity that emerged upon diabetes diagnosis). The resolution of this problem was through a three phase process of integration. These findings became the basis for instrument development research and intervention studies. In addition to the research findings, five types of practical lessons were learned during the research process: rethinking assumptions, ascription of expertise, insights into practice, grounded theory impact on participants, and a new understanding of the grounded theory research process. The resulting implications for nursing knowledge development, nursing research and nursing education will be discussed.

## **Application of Neural Networks for Improving Efficiency in Canadian Patient Triage**

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The analysis of level of diseases and diagnosis and sorting patients mostly depend on the Triage nurse. While this analysis affects the way patients are treated through and level of available resources are consumed for in hospital, the existence of many decision factors provides some risks in decision-making process. Moreover, the long hours of working hours for triage nurse and short period of decision-making process provide more risky situation. Therefore, it becomes important for us to develop a decision-support system helping a triage nurse to analyze and guide patients with fewer errors.

We focus on procedure and steps of decision making in Canadian triage system. It becomes very difficult to take into account so many decision factors, their interaction in short period of decision-making. Using neural network concept, we developed a decision-support system for making judgments that is more accurate. This type of decision support system is extremely rare to find.

The rules for the decision-making are generated by joining a few neurons. The multi-layered weight-oriented feed forward neural network style of the decision-support system makes it more robust, error-free and trouble-free to program. This decision-support system, not only will help a triage nurse to select the correct level of a particular patient quickly, easily and precisely, but also can support new triage nurse for training purposes. Moreover, in some emergency situations, when massive casualties may require quick action and medical professionals may be in short supply, the support system can provides the similar support. In addition, there is suitable chance to assess the effectiveness of the computer-based decision support, and detect more risky situation in decision-making process, the level of hazards for patients in more quantify style and opportunities for revising the levels after the first decision-making step to maximize the efficiency of emergency rooms.

Keywords:

Neural networks, Decision support system, Health care

## Extraneous Effects on Nursing

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In our current world, technology has taken a commanding role in nursing practice. There are simulation labs, computer charting and electronic devices such as thermometers, IV and medication pumps, mechanical hearts and artificial limbs. If you are interested in science fiction, such as Buck Rogers and the Star Trek series the presence of these devices, tools and approach to nursing care may not surprise you.

In the late 1950's and 60's the buzz words in nursing discussed by the then leaders such as Margretta Styles, Laura Barr, President of the Registered Nurses's Association of Ontario (RNAO) and Helen Mussalem to mention a few were "The Technical Nurse versus the Professional Nurse." This terminology developed in response to the proposal that nurses be prepared in an educational setting as opposed to a hospital setting. Another aspect of this discussion was the idea of a B.Sc. N. as entry into practice.

This paper will discuss through a review of the literature what effect the advancing scientific technology might have on nursing development, change and education.

## **Algorithm for Perioperative Hemoglobin Optimization and Anemia Management for the Perioperative Blood Conservation Program**

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**Purpose:** To develop an evidence-based, best practice tool to decrease exposure to allogeneic blood and its inherent risks in elective surgical procedures that have an anticipated blood loss of greater than 10%.

**Rational and Significance:** The strategies to avoid transfusion are many faceted, varying significantly hospital to hospital. The algorithm assists health care practitioners, enabling them to provide better patient centered care regarding hemoglobin optimization / anemia management. The algorithm provides the ability to stratify/adjust appropriate treatment based on individualized care considering pre-existing medical conditions and the surgical procedure planned. Blood Conservation has become integral to the continuum of care in surgical settings. The resultant algorithm assists coordinators and health care professionals to articulate the needs of these patients to physicians.

**Methods:** A review of the literature identified common risk factors for transfusion and the availability of numerous blood conservation strategies to reduce the risk of exposure to allogeneic blood. Research also shows that not all interventions can be applied successfully to each patient; hence, flexibility is critical. A small working group of ONTraC Coordinators reviewed different algorithms and other tools from various ONTraC sites over the course of a year. At regular intervals, the working group presented the algorithm to the coordinators and medical director for review / revision to ensure efficacy and validity. Consensus was reached on the final product of a flow chart representative of the ONTraC approach to enhancing peri-operative blood conservation.

**Results:** The algorithm is in the early stages of dissemination and as such, results are pending. Allowing for individual patient and site variations, the tool has been favourably received.

**Conclusions:** This tool assists health care practitioners in using a patient centered approach to optimize hemoglobin levels and manage anemia more effectively. It provides a standardized, evidence based, flexible, synergistic approach to avoiding transfusion and supports the Krever Commission recommendation of the patients' rights to appropriate treatment.

# **Mental Health**

## **Mental Health of University Nursing Students**

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### **Purpose of the Study**

Nursing faculty at the University of Windsor is concerned about the mental health of students. There seems to be a growing number of students with stress and anxiety, depression and suicidal ideation. The literature reports that there is a crisis of mental health problems in university students (Kadison, Digeronimo, 2004). Patterson (2003) reports the number of University students with depression has doubled, while students with suicidal thoughts has tripled, and sexual assaults have quadrupled on university campuses between 1988 and 2001. A new collaborative program that was implemented in 2001 has changed the structure of the nursing program. Since then student stress seems to have increased. This research study examined stress, coping, social support, and depression levels in nursing students at the University of Windsor in 2005-2006.

### **Methodology**

Students were recruited to participate in the study. Students would complete four instruments in the fall and again in the winter. Instruments would be administered by a research assistant who would explain confidentiality. Tests would be administered in the classroom. Two bonus points were given to participants. The instruments were reliable and valid:

- 1 YA-Files: Young Adult-Family Inventory of Life Events and Strains
- 2 A-Cope: Young Adult –Coping Orientation for Problem Experiences
- 3 YASSI: Young Adult Social Support Inventory
- 4 BDI: Beck Depression Inventory

### **Results**

There were 182 nursing students who completed the study. There were 94.5% were female and 5.5% were males. Data was analyzed in a 2 x 4 analysis of variance (ANOVA) with pre-post test as a within—subject factor and the year of study as between subjects factor. There were many significant results that will be discussed. Student results were significantly different from the test norms. The Beck Depression Inventory identified 40 students with abnormal scores. These students were contacted, assessed and offered counselling.

## **PERCEIVED STRESSORS, COPING STRATEGIES, AND BURNOUT PERTAINING TO PSYCHIATRIC NURSES WORKING ON LOCKED PSYCHIATRIC UNITS**

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President of Sigma Theta Tau International, Eta Rho Chapter  
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Nursing in general and psychiatric nursing, in particular, have been found to be stressful occupations, and there is a national concern regarding nurses who are leaving the profession as a result of burnout. The purposes of this study were to describe perceived occupational stressors, coping strategies, and burnout levels of psychiatric nurses working on locked psychiatric units in southeastern Michigan ( $N = 46$ ) as well as to examine the relationships among demographic factors and these variables. This study utilized a correlation design adapting the stress, coping, and burnout theoretical frameworks of Seyle, Lazarus, Folkman, and Maslach. The instruments utilized were the Devilliers Carson Leary (DCL) Stress Scale, the PsychNurse Methods of Coping Questionnaire (PNMCQ), and the Maslach Burnout Inventory Human Service Survey (MBI-HSS).

The results indicated that the majority of psychiatric nurses in this study were experiencing low levels of stress. The nurses who utilized more coping strategies experienced less stress. The most stressful events reported by the subjects were related to staffing issues. Coping strategies utilized by psychiatric nurses most frequently were activities conducted outside of work.

The majority of the nurses surveyed were found to be experiencing moderate levels of burnout. Years of experience in mental health nursing were found to be significantly negatively correlated to emotional exhaustion, indicating that more experienced nurses were experiencing less burnout. Findings suggested that staffing issues played an important role in determining stress levels, and activities outside of work were preferred as methods of coping. Since the majority of research in the area of psychiatric nursing is being conducted outside of the United States, this research provides a baseline from which to address the problem of stress among psychiatric nurses working on locked psychiatric units in the southeastern Michigan region.

## BEST PRACTICES, PROMISING PRACTICES AND OTHER WAYS OF KNOWING: A CRITICAL PERSPECTIVE

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In January of 2007, a multidisciplinary panel with expertise in practice, education and research, from hospital, community and academic settings, was convened under the auspices of the Registered Nurses Association of Ontario (RNAO) to design a Clinical Best Practice Guideline titled, *Assessment and Care of Adults at Risk of Suicidal Ideation and Behaviour*. Subsequently, a search of the literature for clinical practice guidelines, systematic reviews, relevant research studies and other types of evidence was conducted based on five clinical questions pertaining to assessment, intervention, postvention, prevention and risk reduction as it relates to suicidal ideation and behaviour. All evidence was ranked according to the Level I-IV standard ranking of 'evidence' and subsequently was used to guide the design of this document.

In this paper we critique the notion of 'evidence' as it pertains to our experience as nurse researchers with expertise in mental health and membership on the above panel. Particular ideologies underpin the concept of 'Clinical Best Practice Guidelines,' both influencing and defining recommended practices. There are both challenges and opportunities inherent in designing practice guidelines from different philosophical positions, paradigms, disciplinary bodies and 'cultures.' The legitimization of other ways of knowing, for example, Indigenous epistemologies, has implications for nursing practice in this realm.

# **Research and Theoretical Perspectives**

## **A CRITICAL ANALYSIS OF QUALITATIVE CASE STUDY METHODOLOGY IN NURSING RESEARCH**

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Qualitative case study methodology (QCSM) is constructivist inquiry that fits well with nursing's scope of interest. Increasing complexity in health and health care issues coupled with increasing use of QCSM in nursing supports the need for current examination of this methodology. The critical analysis was guided by an integrative review methodology. Four research questions focused the critical analysis to explore why, where, and how qualitative case study methodology has been used in nursing research. Analysis of a three-year sample of QCSM studies revealed that QCSM is becoming entrenched in the nursing research lexicon as a well-accepted methodology with outcomes that may have significant contributions to health and well being. Methodological challenges of the integrative review process were explored. Several significant contributions of QCSM to nursing science were considered. Implications for future nursing research using QCSM were addressed. The use of QCSM in nursing science is growing and warrants continued analysis and appraisal for the promotion of nursing knowledge development.

## GRANTSMANSHIP AND GROUNDED THEORY: BUILDING A PROGRAM OF QUALITATIVE RESEARCH

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This theoretical paper will describe and explain the application of a qualitative research methodology to writing a grant proposal that builds on the principal investigator's doctoral research. The proposed study is described as follows. **Study purpose:** The purpose of this grounded theory study is to describe how community dwelling older people with dementia who live alone and their formal and informal caregivers interact to support these older people to live independently in their homes. **Rationale and significance:** Research shows that older people with dementia who live alone are at risk of being placed in institutions prematurely despite their desire to continue to live alone at home as long as they can. **Methodology:** Glaser and Strauss's grounded theory approach will be explained and applied to each element of the study design. **Setting:** Participants will be recruited from multiple community health and social service agencies in Hamilton and Windsor in Ontario, Canada. **Sample:** Eligibility criteria and recruitment strategies will be described. The plan is to conduct one or two audio-taped, face-to-face, semi-structured interviews with eight to ten participants of each category (ie., caregiver, older person, health care professional) for an estimated total sample size of 24-30 participants. **Results:** Study outcomes will include (a) the identification of a process common to the experience of older people with dementia who live alone and their formal and informal caregivers, and (b) a list of suggested strategies to support older people with dementia who live alone in their homes. **Conclusions:** This paper provides an example of how to incorporate a qualitative research methodology into a grant proposal and build a program of research using qualitative research methods.

## **LIMINALITY: A CONCEPT ANALYSIS OF BEING "BETWIXT AND BETWEEN"**

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Arising from van Gennep's theory of the rites of passage, liminality (the state of transition) was originally conceptualized as being "betwixt and between" the phases of separation from society, and subsequent reintegration after life-changing junctures. Liminality in modern contexts has come to represent a dynamic situation that may be somewhat indefinite and open-ended. This provides a useful framework for the discussion of processes and demarcations that occur when individuals experience profound changes. A review of the nursing and social science literature revealed that the concept of liminality is being utilized as a lens for inquiry in a striking variety of contexts and clinical situations. Instances include people experiencing disabilities, cancer, HIV/AIDS, mental illness or undocumented immigration status.

Rogers' evolutionary approach to concept analysis was utilized as it is congruent with the fluid, dynamic, and diverse ways in which liminality is employed. The paradoxical nature of liminality arising from the simultaneity of being both a process and social location was identified. Proposed attributes of liminality comprise: being anticipated and unanticipated, visible and invisible, protective and stigmatizing, temporary and lifelong, and isolating and nurturing. Implications arising from the use of this concept in nursing and further possibilities for exploration are discussed.

## **GROUNDED THEORY METHODOLOGY: A POWERFUL METHOD FOR CONDUCTING NURSING RESEARCH**

Cheri Ann Hernandez, RN; PhD; CDE  
University of Windsor

Grounded theory methodology, developed by Glaser and Strauss (1967) has become one of the most popular methods for conducting qualitative research in nursing. Unfortunately, the research and theoretical literature demonstrate that there is great confusion about exactly how grounded theory research should be carried out. Much of the confusion is due to the later methodological disagreement and divergence between the co-developers of grounded theory, as well as the additional complexity resulting from the emergence of grounded theory variants such as feminist grounded theory and constructivist grounded theory.

The purpose of this presentation is to differentiate among the various methods of grounded theory and to provide an in-depth delineation of the methodology known as classical or Glaserian grounded theory. In addition, the potential usefulness of grounded theory research results in informing clinical practice and nursing education, improving client care and quality of life, and building disciplinary knowledge in nursing, will be addressed, using published examples from the nursing and diabetes research literature.

# **Poster Presentations**

## SEXUALITY AND SEXUAL FUNCTION AFTER HEMATOPOIETIC STEM CELL TRANSPLANTATION: NURSING IMPLICATIONS

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**Kelly Metcalfe, RN, PhD**

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The importance of sexuality and sexual function as it relates to quality of life has been well documented in cancer survivorship literature, where most of the work has focused on malignancies such as gynaecologic, breast, prostate, testicular and rectal cancers. However, problems with sexuality and sexual function have been described in the literature as a major concern for recipients of hematopoietic stem cell transplantation as well. Some of the commonly cited late effects for this population include problems with body image, libido, orgasm, painful intercourse, vaginal dryness, erectile and ejaculation dysfunction (Gruber et al., 2003; Niezert et al., 1998; Rizzo et al., 2006; Socie et al., 2003). Nurses have a responsibility to proactively engage with their patients with regards to their sexual health and yet such practice is often challenged by nurses' discomfort and difficulty with addressing the issue in such a way that is meaningful to their patients (Higgins et al., 2006; Horden & Street, 2007; Horden & Currow, 2003).

This presentation will provide an overview of the literature regarding:

- 1) sexuality and sexual function after hematopoietic stem cell transplantation
- 2) strategies for improving nursing practice in promoting sexual health

## **Exploring anticipated willingness of health care workers to respond to an event of bioterrorism?**

Diane Bradford  
University of Windsor

**Background:** Since the terrorists attacks of September 11, 2001, there have been increased concerns about future acts of bioterrorism. However, little is known about the current attitudes of Canadian emergency health care workers regarding willingness to respond to an event of bioterrorism.

**Purpose:** The purpose of this study is to examine the mental willingness of emergency health care workers to respond when called upon to duty during an event of mass bioterrorism.

**Method:** A descriptive survey will be conducted in which three case scenarios (mild, moderate, and severe attack) will be presented to emergency respondents. Each scenario will require a yes or no answer as to whether or not the respondent would go to work. These answers will then be examined against a five point psychological scale that measures the personality traits and the demographic characteristics of the respondents.

**Data analysis and anticipated results:** Logistic regression analysis will be performed to examine the factors that influence the health care workers' anticipated decision to whether or not they are willing to report to duty in the case of a terrorist biological attack. The results obtained are intended to provide insight into whether or not emergency health care workers will respond to an event of bioterrorism.

Will health care workers respond to an event of bioterrorism?

## REHABILITATION AFTER BONE MARROW TRANSPLANTATION

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Though an established treatment for several hematological malignancies, significant physical, psychological, and neurocognitive impairments have been documented after bone marrow transplantation (BMT) which have implications on community reintegration and quality of life for patients and their families (Baker et al., 1999). A structured literature review was conducted to determine the current evidence base regarding rehabilitation after BMT. A total of 229 abstracts were identified. No systematic reviews were found, however 3 primary studies met the inclusion/exclusion criteria. Dimeo et al. (1996) found significant improvements in maximal physical performance, maximum walking distance and lower heart rate with equivalent workloads after a 6-week exercise program. Mello, Tanaka & Dulley (2003) evaluated a similar 6-week program and found increased muscle strength in all muscle groups tested in the treatment group. Courneya, Keats & Turner (2000) found that exercise during hospitalization correlated with measured quality of life indices. In summary, existing research studies have broadly examined rehabilitation related to physical functioning. Further work to delineate the attributes of effective physical rehabilitation programs and inform interventions for psychological and neurocognitive rehabilitation will help to mediate functional decline post-BMT and increase quality of life for these patients and families.

## **Decreasing Nursing Related Muscular-Skeletal Disorders; A Novel Approach to Patient Lift Assists**

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The nursing industry, RN's and RPN's specifically, account for more than 10 % of all lost time injury claims in Canada, third only behind the manufacturing and service industries (WSIB, 2006) at a cost of approximately \$10 billion annually (Edlich et al., 2001). The lumbar spine and shoulders are the most commonly injured structures, due in part to the strenuous patient handling tasks nursing staff are exposed to. While numerous attempts have been made to implement patient lift and transport devices to assist the nurse and reduce the mechanical loading on the body, Byrns et al. (2004) reported that 93% of nurses do not use the lift assist devices even when they are readily available. Therefore, the purposes of this research were to evaluate existing lift assist devices and design a novel lift assist approach with a focus on nursing injury prevention.

25 female nurses were asked to complete a generic two part nursing/lift assist questionnaire. The first part was an evaluation of existing lift assists, while the second part asked nurses to rate a series of characteristics they felt were important in the design of a novel product. This data was used in a house of quality (HOQ) to aide in the design of a new bed-to-stretcher/bed-to-bed patient lift assist. Furthermore, a biomechanical analysis (Michigan 3DSSPP v 4.3.6, University of Michigan) was performed to compare the loading on the L4/L5 lumbar vertebrae between a commonly used lift assist and the new design.

The resulting design encompasses an inflatable outer mattress surrounding a rigid, comfortable, and moveable mid-section. When transportation is necessary the outer mattress is deflated the thickness of the rigid center exposing a pair of relatively frictionless telescopic slider ramps that allow the center mattress and patient to be transferred to the desired bed or stretcher, with minimally applied force. Preliminary biomechanical analysis showed a 50 % decrease in the L4/L5 compression force. While the authors acknowledge that the proposed design is, at this time only a concept, it was also the aim of this project to highlight the consistently high rates of nursing injuries, and the need for new, innovative ideas in nursing injury prevention.

## HEALTH LIFESTYLES OF WOMEN AFTER EXPERIENCING GESTATIONAL DIABETES

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University of Windsor

Marilyn Evans RN PhD  
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***Purpose of study:*** Assessment of the longevity of behavioural changes, to explore the women's experiences of maintaining a healthy lifestyle, and to understand trends in their perceived health status.

***Rationale and Significance*** A significant risk factor for future development of type 2 diabetes in women includes a history of gestational diabetes mellitus (GDM). Risk factors for type 2 diabetes, such as weight gain and levels of activity can be modified by women maintaining a healthy lifestyle postpartum. Few studies exist that explore whether the dietary and activity level changes that women with GDM make while pregnant are continued after delivery. Little is known about the women's perception of their health status postpartum or what support measures help them maintain a healthy lifestyle.

***Methodology:*** A longitudinal descriptive study using a mixed method approach was used to follow postpartum women who were treated for GDM during their most recent pregnancy. Qualitative and quantitative data was collected concurrently at four time points, 6 weeks, 3 months, 6 months and 12 months postpartum through the use of in-depth interviews, the SF-36 General Health Survey, and self-report diet and activity records. The interviews included questions regarding general health, diet, exercise, weight loss, daily activities, and future health concerns.

***Sample and Setting:*** Eligible women were recruited from diabetes education clinics using convenience sampling.

***Results and Conclusions:*** Qualitative data from the interviews were coded and themes extracted to describe these women's experience over time. Comparisons are made between the results of the qualitative and quantitative data through discussion of the inter-relationships between SF-36 scores and the emergent themes describing the women's health and lifestyle change over the first year postpartum. Preliminary findings on the health status and life style changes during the first year postpartum for women with a history of GDM will be presented.

**THE ACQUISITION OF PROFICIENCY IN ENGLISH AMONG A  
GROUP OF ADULT IMMIGRANT WOMEN:  
IMPLICATIONS FOR HEALTH SERVICE UTILIZATION**

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The capacity to communicate is of central importance in accessing and utilizing the available health, social, and settlement services. While a considerable portion of recent immigrant women to Canada speak English or French fluently, many others do not speak either of these languages fluently enough to access and utilize available health care and services. The purpose of this poster is to present findings on the acquisition of proficiency in English and their implications for health service utilization, based on a recently conducted qualitative research project that involved a combination of in-depth individual interviews and focus groups with 54 women in total, as well as with 28 key informants. The findings point to a number of challenges women face in learning English or French after coming to Canada as well as the ways in which some women have overcome these challenges. Taking an analytical approach based on the social determinants of health, we will present a number of strategies in both their practice and policies that health care professionals might be able to incorporate in order to better support women's attempts to remain healthy and ensure the health and wellbeing of their family members.

## Electronic Health Care Information System

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In Canada, one of the major complaints about the health care system is waiting time. Also there are many medical errors and unnecessary deaths and injuries each year. Those problems are mainly caused by disconnected Health Care Information System. Particularly, in most clinics and hospitals nurses or doctors record patients' situation based on paper. Those paper files are not connected, hard to find out, may lose, or handwriting is unreadable. Those also cause wasting time and money.

I suggest that nurses and doctors first try to get rid of paper. How to perform that is actually easy. Nowadays computers are everywhere. When nurses or doctors want to record anything about patients (such as, vital signs, medicine, meals, bowl movement, feeling, etc.) just type on the keyboard to save it in computers instead of writing down on piece of paper. There're many kinds database software can be using, such as, Access, Oracle, or SQL server, MYSQL, Informix, etc. Moreover, nurses and doctors can use digital cameras connecting with computer recording pictures and language and save them in the computer immediately. All those health information based on the computer is not easy lost, also easy to find, easy transfer and exchange with other health units.

Electronic (Digital) health care information system can generate, analyze, collect, sort and store clinical data. Using modern technologies can better share health care information, reduce medical errors, reduce cost, reduce waiting time, provide quality health care.

Electronic databases and widespread computer literacy now give doctors access to enormous amounts of data. "Within ten years, every American must have a personal electronic medical record. The federal government has got to take the lead in order to make this happen by developing what's called technical standards" (President George W. Bush).

Health care information systems are assuming an increasingly critical role in providing quality patient care in an effective and efficient manner. Reliable information from electronic data supports evidence-based decision-making at national and sub-national levels. However, the success of these systems in achieving these goals remains a lingering concern, including money, time, standards, technology, patients' privacy, etc.

**Key words:** Electronic (Digital) health care information system, clinical trial database, Patients' paper files, Health information technology (HIT), Health information system (HIS), Electronic health record (EHR), Electronic medical record (EMR), Computer based database.

## **“Patient Safety Matters”**

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**Purpose:** There is an urgent need to improve the safety of patients in Canadian hospitals where approximately 9,000- 24,000 patients die each year from preventable medical error. Patient safety is an emerging science in health care and a new area for competency development in nursing. Baccalaureate nursing students need to increase their knowledge of patient safety so they will have the knowledge, skills and abilities to contribute to the design of safe practice environments.

**Rationale and Significance:** Patient safety is defined as “The reduction and mitigation of unsafe acts within the health care system, as well as through the use of best practices shown to lead to optimal patient outcomes” (The Canadian Patient Safety Dictionary, 2003). Faculty and nursing students need a compendium of patient safety resources to guide their learning and practice.

**Methodology:** The post diploma nursing students, as part of their course requirements in Nursing Leadership and Management, investigated, analyzed and summarized an inventory of patient safety web sites that will be of interest to all nursing professionals.

**Results:** Students summarized key elements and resources of ten patient safety web sites.

**Conclusions:** There are many high quality patient safety resources available on the web site. These sites can be used by nurses regardless of where they practice. The post diploma students identified these sites as crucial resources for all nurses. They will share a “take home” summary called “Patient Safety Matters”, an important assignment in knowledge translation by a class of future nurse managers and leaders.

## **Investigating the risk factors of deep vein thrombosis among neurosurgery patients in a community hospital**

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**Background:** Pulmonary embolisms (PEs) are associated with 10 - 25 percent of all hospital deaths and are thus considered one of the most common causes of death in hospitalized patients. Approximately 90 % of PEs originate as a blood clot in the deep veins of the legs, known as deep vein thrombosis (DVT). Surgery, particularly neurosurgery, has been established as a risk factor for venous thromboembolism (VTE), a term that is inclusive of both DVT and PE. The incidence of DVT among neurosurgery patients ranges from 2 to 50%, while the incidence of PE ranges from 1.5 to 5%. Mortality attributed to PEs among this patient population ranges from 9 to 50%.

**Purpose:** Identify the risk factors of deep vein thrombosis among neurosurgery patients.

**Design:** A retrospective case-control study was implemented to examine the factors associated with the development of DVT among neurosurgery patients. Chart reviews were conducted on a sample of two equal groups of patients. The first group, also known as the cases group, will be composed of all patients who developed DVT between 2000 and 2006. The second group is the control group and will be composed of a randomly selected equal number of patients who were admitted during the same time frame but did not develop DVT.

**Results:** Data analysis is currently underway. It will include description of the study sample and the regression analysis to identify the independent predictors of VTE.

**Implications:** Knowledge of the risk factors for developing VTEs can be used by clinicians to facilitate decision-making with respect to the nature and scope of their prophylactic management.

## **Risk Factors, Prevention Strategies, and Policy Implications Concerning Falls in Older Adults with Dementia**

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It is highly evident in Canadian society today that the older adult population is aging at an exceptionally rapid rate. This swift rise in the older adult population poses a threat of potential increases in dementia cases for the decades approaching. It is widely known throughout the healthcare system that older adults with dementia are at an increased risk of becoming injured. As a result, an injury such as falling is a major risk factor for seniors, resulting in a significant burden on the healthcare system.

This theoretical paper examines the existing risk factors regarding falls, including the utilization of mobility aids; the potential prevention strategies to reduce the amount of falls within the older adult population with dementia; and the policy frameworks in Canada that have been put forward to both prevent and diminish the falling rate. Finally, the implications for future studies will be outlined including how the risk of falls for older adults with dementia will affect the Kinesiology profession.

## **Do nurses practice what they preach? Exploring health behaviours and perceptions of professional nurses and nursing students**

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**Background:** Nurses are responsible for the majority of professional health care delivery across North America, but their behaviours might not be setting a healthy example for clients who look to nurses for leadership. Little is known about the current practices and perceptions of Canadian and American nurses regarding personal health care.

**Purpose:** The purpose of this study was to examine health behaviours and perceptions of professional nurses (including nursing students) as a foundation for further research to provide information for the development of staff education and employee assistance programmes.

**Method:** Participants were invited to complete an on-line survey via notices posted on-line on nursing message boards, professional nursing associations, and volunteer websites. The survey consists of questions about a variety of holistic, objectively measurable preventive and risky health behaviours, and health perceptions. All responses were anonymously submitted with the option to send a separate email to enter a draw for small incentives.

**Data analysis:** For this paper we report the preliminary analysis of nurses health behaviours from data collected to date ( $N = 165$ ; nurses  $n = 140$ ; students  $n = 25$ ). The answers to the self-care behaviours were examined against position statements, health care standards and recommendations of professionally-recognized health care agencies and associations, and extensive, evidence-based information.

**Results:** Over 90% of respondents reported adherence with several preventive behaviours consistent with recommendations: brushing their teeth daily, wearing seat belts; and having completed routine immunizations. Those behaviours that were followed at rates 70 - 90% included: tetanus immunization, engaging in exercise, and limiting caffeine intake. Rates of adherence 50-70% including flossing teeth daily, taking medications as prescribed; following a government sanctioned food guide; being screened for diabetes mellitus; avoiding tobacco; using ultraviolet radiation protection and hand washing at work. Of note were the behaviours that were inconsistent with recommendations. Nurses and students reported risky health behaviours at rates greater than 50% in the areas of: speeding; non-use of barrier methods in sex for those having had more than one partner; less than 7 hours of sleep daily; unsafe lifting; and lack of hand washing outside of work.

**Conclusions:** Preliminary findings of the on-going Nurses' Health Behaviour study suggest that on average, nurses adhere to several chosen recommendations at rates that are much lower than is desirable for primary health care professionals. Results are discussed in terms of potential interventions, and the role of stress in the less than desirable behaviours noted.

## SENIORS DRIVING SAFELY

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Seniors aged 65 years and over comprise a growing segment of society. As a result, they represent an ever increasing number of drivers on the roadways. This is concerning; normal cognitive, physical, and visual changes of aging can have an effect on the complex process of driving. Research states, elderly drivers are more likely to be involved in fatal accidents than other age groups. It is suggested however, that elderly drivers maintain safe driving practices by the use self limiting behaviors such as, driving during daylight hours, keeping away from highways or avoiding driving during certain weather conditions. Policies, such as the Senior Driver Renewal Program have been implemented to keep roadways safe. These policies offer false reassurances. They are not standardized and lack evidence to support their claims. The development of policy that monitors, and enforces safe driving behaviour instead of targeting people based on age is essential.