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## 4127

### DEVELOPMENT OF A DISTRESS MANAGEMENT STRATEGY IN THE AMBULATORY PATIENT CLINIC. Lori Johnson, RN, BSN, OCN®, Moores UCSD Cancer Center, La Jolla, CA

Based on several comprehensive studies about patient/family distress, the diagnosis of cancer elicits a distress response, ranging from normal feelings of vulnerability, sadness, and fear to clinical depression, isolation, and spiritual crisis. Oncology nurses are in a unique position to identify patient/family needs and implement distress management interventions.

The purpose of this project was to establish a structure and process for oncology clinic nurses to provide early assessment, interventions and follow up related to patient and family distress management.

An interdisciplinary distress management team led by nurses was formed. Baseline data included national benchmarks and internal measures. Training, based on National Comprehensive Cancer Network (NCCN) guidelines, was provided to all clinic nurses.

The process included a comprehensive initial assessment to determine the level and source(s) of distress. Mildly distressed patients were provided information on available resources and our Patient /Family Resource Center. Moderately distressed patients were referred to Social Work for more in-depth evaluation. Severely distressed patients were referred to Psychology for evaluation of counseling needs. Nursing follow up on distress then occurred at each visit with intensity commensurate with the patients' level of distress.

Comparison of baseline and follow up data show improvement in quality measures compared to national aggregate data. Internal referral volume also increased at a rate greater than visit volume. Based on these results, this distress management strategy showed that nursing assessment and interventions are crucial in managing cancer-related distress.

The structure and process implemented are designed to ensure early detection and management of distress. Outcomes-supported by research literature- are better adherence to treatment, fewer calls and visits based on anxiety, and prevention of patients' developing severe anxiety or depression. This strategy can be adopted by other ambulatory cancer centers with attention to initial organization, process and a timeline for periodic evaluation.

## 4133

### PREVENTING EXTRAVASATION: GOING THE "EXTRA STEP." Linda Voner, RN, OCN®, Lahey Clinic Medical Center, Burlington, MA; Brenda Hill, BSN, OCN®, Lahey Clinic Medical Center, Burlington, MA; Nellee Fine, RN, BSN, MA, AOCN®, Lahey Clinic Medical Center, Burlington, MA

Extravasation of vesicant and irritants drugs is an uncommon event that can result in pain, blistering, tissue necrosis, altered sensation and functional deficit. During 2005-2007, in the Oncology/Hematology Outpatient Clinic, there were an average of 3562 treatments with only 2 extravasation events (EE) (.00018). In 2008, treatments increased to 4,447, with 4 EE of volumes greater

than 100ml (.00089) even though Smart pump technology was required after 2007

To investigate this new trend, chemo-provider nurses, including clinic staff nurses, the clinic nurse manager and the clinical nurse specialist, convened a task force. The task force goals were to: determine causes of the spike in EE and develop nursing actions to reduce these events.

Each event was investigated, the literature and ONS practice guidelines were reviewed, and data from 2003-2008 were analyzed. Root cause analysis found: 1) all EE occurred on first cycle, 2) the nurses were different, 3) the agents were different, and 4) no EE occurred with the IV push route. In 2009, a process improvement project, utilizing evidenced based best practice actions, the "Going the EXTRA-STEP" (GOES) program, was implemented in both outpatient and inpatient oncology units. The GOES program identified 3 areas for practice improvement: 1) pump pressure settings, 2) vesicant/irritant infusion monitoring, and 3) increased need for nurse/patient teaching, particularly in the first cycle. In response to this initiative: 1) pump settings were made more sensitive, 2) a "green sticker" alert is always placed on tubing of vesicant/irritant infusions, and 3) the critical need for nurse/patient partnerships in reporting signs/symptoms of extravasation is emphasized.

The 2009 rate minimally decreased (.00084) with 5 EE in 5950 treatments. However, the volume of each EE was less than 20 ml with rapid site healing within 4 days. Ongoing data collection has documented zero EE in the last 120 days.

Compliance with this initiative has elevated both staff and patient awareness to the ever present EE risk. EE is a critical quality measure that requires annual tracking. This program can be easily adapted by other oncology nurses to improve patient safety.

## 4146

### NEPHROSTOMY TUBE FLUSHING: AN EVIDENCE-BASED PRACTICE PROJECT. Marie Swisher, MSN, RN, OCN®, Johns Hopkins Hospital, Baltimore, MD

Approximately fifteen patients require inpatient admission to this National Cancer Institute-designated Comprehensive Cancer center each year for nephrostomy tube placement due to ureter blockage. Most of these blockages are tumor-related. Nursing staff identified a variation in practice within the institution for the care of nephrostomy tubes. An initial literature search revealed no research studies and few references on the subject so the nursing staff decided to complete an evidenced-based practice (EBP) project.

The purpose of the EBP project was to determine the best-practice recommendations for the flushing of nephrostomy tubes.

The Johns Hopkins Nursing Evidence-based practice (JH-NEBP) model was the framework utilized to conduct the EBP project. A literature search using the key words nephrostomy, nephrostomy tube, nephrostomy tube care, and nephrostomy flushing was completed in Pub Med and Cinahl databases. In addition, the questions to be answered were posted on the Society of Interventional Radiologists List serve. An internet search yielded several examples of institutional policies, patient edu-

cation materials, two nursing text books, and web based data bases (e.g. Up To Date®). Thirty nine references were identified between the years of 1984 and 2009. All sources were evaluated using the JHNEBP Evidence rating scales. Strength of evidence was found to be Level V for all sources (opinion based on non-research evidence/ clinical expertise). Quality of evidence was rated as good (Expert opinion-expertise appears to be credible).

The literature revealed that nephrostomy flush volumes ranged from 2-15mls, mode 10mls (29%). The most common flush solution was sterile normal saline (33%). Of those that specified, sterile nonbacteriostatic normal saline was preferred (21%). Frequency of flushing for those that specified (49%) ranged from as needed (PRN) (69%) to two-four times a day (3%). Reasons for PRN flushing included blood in urine, tube not draining, sediment, or flank pain. Of those that specified, 56% recommended against nephrostomy tube aspiration.

The results of this EBP project will be communicated to the departments of Interventional Radiology, Urology, Nephrology, and Nursing. Nursing will facilitate discussion among these groups with the goal of standardizing nephrostomy tube flushing procedure and patient education throughout the institution.

#### 4157 SCOUTING OUT NURSES: AN OUTREACH STRATEGY TO PROMOTE NURSING AS A CAREER.

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Labor statistics suggest that employment of nurses is expected to grow exponentially in the next decade; however there will not be enough nurses to meet this demand. Whether you work in an academic center or private practice, nurses and employers are faced with how these challenges will affect cancer care.

The purpose of the ONS Southern Jersey Shore Chapter's program was to bring "real-life" nurse stories coupled with interactive technology to Girl Scout Troops within our region to generate interest in nursing.

The chapter collaborated with a local college and the Girl Scouts of Central and Southern New Jersey to develop the program. Invitations were sent to troop leaders and the program was held on a weekend. The program consisted of targeted learning to meet the age appropriate needs for each level of Girl Scouts (brownies to cadets). Sessions were built from easy "hands on" learning to more advanced simulation. Chapter members were dedicated to a "learning" level to assist with coaching and directing participants through each activity. The use of SimMan®, an advanced patient simulator which has realistic anatomy and clinical functionality, provided opportunity for listening to heart/lung sounds, palpating a pulse, and "virtually interacting" with a simulated patient. Other activities included hand washing stations, and listening to each other's blood pressures/heart rates with use of medical equipment. A question and answer panel featuring diverse nurses, such as advanced practice and clinical trial nurses, allowed participants to listen to "real life" nursing stories, and provided time for participants to query the panel about a nursing career. A "game-style" station focused on promoting healthy behaviors, such as smoking prevention and exercise. The program provided breakfast, a certificate of completion, a "nursing" badge, and a "nursing keepsake" for participants.

Participant and parent evaluations were collected and feedback was positive. Participants conveyed that they would attend

again if the program was offered and promote the event to other Girl Scout troops.

Oncology nurses can make a difference promoting nursing as a career through use of creative strategies, and partnering with community and academic organizations to foster a positive portrayal of nursing

#### 4161 IMPACT OF HUMOR ON SYMPTOMS OF CANCER AND CHEMOTHERAPY.

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Many positive outcomes are popularly attributed to humor; however, no known randomized controlled trial has examined the impact of a humor intervention on patients with cancer.

The purposes were to compare symptoms related to cancer and chemotherapy, salivary immunoglobulin-A, and salivary cortisol between patients randomized to a humorous or non-humorous intervention and to describe perceptions of patients and caregivers regarding the overall intervention experience.

Psychoneuroendocrinology and psychoneuroimmunology models were used to examine the impact of humor on symptoms, immune function, and stress levels in patients receiving chemotherapy.

50 participants were randomized to view a 45-minute humorous DVD or a 45-minute non-humorous DVD. Edmonton Symptom Assessment Scale (ESAS), a portion of the Spielberger State-Trait Anxiety Index (STAI-S), salivary IgA, and salivary cortisol were obtained before and immediately after the intervention. Participants and caregivers were asked open-ended questions to evaluate the intervention experience. Student T tests were used to analyze changes in ESAS, STAI-S, salivary IgA and salivary cortisol levels within and between the two groups.

Participants in both groups were high-functioning, with a Karnofsky performance status of > 90. Age was the only statistically significant variable between the two groups.

Compared to their baselines, participants in the humor group reported a significant post-intervention decrease in symptoms related to cancer and chemotherapy ( $p=0.04$ ) as measured by total ESAS score, as well as a significant post-intervention decrease in anxiety levels as measured by STAI-S score ( $p=0.03$ ). The humor group showed increased salivary IgA levels ( $p=0.03$ ), which indicated enhanced immune function. Differences between groups did not reach statistical significance. In post-humor intervention interviews, participants described physiological and psychological improvements which they attributed to feeling more relaxed, more positive and to being distracted from the stress of chemotherapy and cancer. Findings support the use of humor as an inexpensive, efficient, and effective intervention that may complement pharmacological therapy for the management of symptoms related to cancer and chemotherapy.

**Funding Sources:** University of Hawai'i School of Nursing and The Queen Emma Nursing Institute Partnership Grant

#### 4164 REDUCING THE ENVIRONMENTAL FOOTPRINT OF THE HOSPITAL: A MULTIDISCIPLINARY APPROACH.

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Memorial Sloan Kettering-Cancer Center (MSKCC) generates 16 tons of waste/day, including general regulated medical

waste (RMW), pathological, recyclable and solid waste. According to the U.S. Environmental Protection Agency hospitals can significantly reduce the volume of waste and such reductions are beneficial to the environment and health of our communities. A group of leaders at our center including a Nurse Leader, Hospital Administrators, Director of Library Services, Human Resources Information Manager, and a Financial Researcher were asked to reduce the Center's unfavorable impact on the environment.

The purpose of this "Green Team" was to provide recommendations on how to promote best, sustainable environmental practices by identifying possible simple alternatives that are cost effective and easy to implement while raising employee awareness.

The team reviewed literature on environmental best practices, ran focus groups with high school students investigating innovative waste management ideas and toured Environmental Services and Food Nutrition Departments. An employee survey was conducted to assess recycling willingness and 97% indicated they would recycle if separate waste bins were provided. A recycling program was instituted in our cafeteria. A culture of "Reduce, Reuse and Recycle" was promoted and formal recommendations for waste reduction and recycling cost analysis were presented to hospital leadership.

Evaluation of the program took place in 2009. Overall, the cafeteria recycling program was successful. A copier and printer paper reduction initiative reduced over 8 million sheets of paper/year. A 'shut the sash' initiative for laboratory hoods reduced energy consumption by 60%. 'Turn off your computer' campaign reached a 49% compliance rate resulting in an estimated \$368,179/year savings from electricity, heating and cooling. This presentation will describe the collaborative efforts of the team as well as the results of ongoing measurement of impact.

Nurses are actively participating in waste management and environmentally "green" activities. As we face the economic challenges of sustaining our institutions, there are significant steps to take to amend our daily activities and directly impact costs and our future. Oncology nurses need to leverage their influence as positive role models and embrace these measures.

## 4166

**PREVENTING PAC/PICC LINE INFECTIONS.** Karla Smiley, RN, OCN®, Seton Medical Center, Austin, TX; Andrea Walker, Seton Medical Center, Austin, TX

Central venous catheters (CVCs) including port-a-caths (PACs) and PICC lines play a vital role in cancer care. As the only oncology designated unit in Austin, Texas, we administer chemotherapy, biotherapy, blood products, antibiotics, and many other medications through patients' CVCs. For approximately two years, our unit had difficulty with bloodstream infections (BSIs). Therefore, we implemented changes in our procedures, and BSIs decreased significantly.

BSIs are life threatening to oncology patients, especially those who are neutropenic. The purpose of our project was to develop guidelines for managing CVCs and establish guidelines for the care of neutropenic patients that would decrease the number of BSIs.

Our interventions center around communication within a multidisciplinary team consisting of nurses, clinical assistants, PICC line insertion team, housekeeping, transport team and the imaging department. Each department was educated about neutropenic precautions and worked together to provide safe care for patients. Our new guidelines for managing CVCs include using a biopatch for all PACs and PICC lines, tubing change guidelines, and guidelines for using PACs accessed at another facility. Our entire nursing staff underwent reeducation for the new CVC guidelines and every nurse was validated for competency. We have also implemented a "Protected Environment" for neutropenic patients, which includes daily bath and linen change, deaerated room cleaning, as well as patient and family education

For the two years prior to the implementation of this project, our unit had 21 bloodstream infections. In the first six months of

the project, we had zero BSIs. In 2009, three BSIs were reported, all of which were traced to translocation of bacteria into the bloodstream and not due to break in technique. By implementing simple steps to protect oncology patients, nurses, in collaboration with a multidisciplinary team, drastically decreased BSIs

On our unit, BSIs have decreased significantly. The decline in BSIs contributes to improved patient safety, decrease in patient stay and cost of stay, and an increase in the standard of nursing practice on our unit. We have recently presented our findings to multiple network administrators, with the goal of implementing these policies throughout the network.

## 4169

**TEACHING NEW CHEMOTHERAPY PATIENTS: DEVELOPMENT OF A DAILY CHEMOTHERAPY CLASS AT AN OUTPATIENT CANCER CENTER.** Lynda Tunon, MSN, RN, OCN®, UPMC Cancer Centers, Pittsburgh, PA; Karen Cotter, RN, OCN®, UPMC Cancer Centers, Pittsburgh, PA; Doris Dickinson, RN, BSN, OCN®, UPMC Cancer Centers, Pittsburgh, PA; Susan Frank, RN, MSN, UPMC Cancer Centers, Pittsburgh, PA; Gloria Gotaskie, RN, MSN, UPMC Cancer Centers, Pittsburgh, PA; Nikki Urban, RN, BSN, UPMC Cancer Centers, Pittsburgh, PA

Outpatient Services experienced a 172% growth rate in the last few years. Educating patients for their first chemotherapy treatment had been shared by Collaborative Practice Nurses who began the process when the plan of care was determined. The majority of the education was done by Treatment Nurses during the first chemotherapy appointment. As patient volume in the treatment room grew, the nursing staff shared concerns about needing a new process to ensure that patient teaching was consistent, comprehensive, and easily documented.

The purpose was to develop a process that shifts a portion of the teaching from Treatment Nurses to a new chemotherapy class taught by the Nurse Educator. A major role of oncology nurses is to provide patients with comprehensive education in preparation for treatment.

Our teaching plan was updated based upon ONS guidelines and divided into 3 parts. The teaching is started by Collaborative Practice Nurses who discuss the treatment plan. The second part of the education is the new class that was developed to meet the needs of our patients. This class is scheduled prior to the first treatment and covers side effects and community resources. It is taught in the education center daily by the Nurse Educator. The third part is done by Treatment Nurses who reinforce managing side effects specific to the drug treatment plan and provide specific discharge instructions. New documentation forms detailing the topics taught ensures that the teaching is comprehensive and consistent.

We have trialed the new process for 6 months and patients have evaluated the class as "very helpful". The poster will present 6 months of Press Ganey scores about chemotherapy and community resources education. We will present data from a survey of Treatment Nurses that assesses patients' knowledge of side effect management and community resources.

Redistribution of teaching amongst the nursing staff allows the Treatment Nurses to spend more time with emergent patient issues and reinforce previous teaching. Other outpatient centers experiencing similar growth may benefit from developing a daily chemotherapy class. The poster describes the content, teaching tools, evaluation, and documentation forms for the class.

## 4170

**DIFFERENCES IN SELF-REPORTED ATTENTIONAL FATIGUE PRIOR TO THE INITIATION OF RADIATION THERAPY IN PATIENTS WITH BREAST CANCER AND PROSTATE CANCER.** John Merriman, RN, AOCNS®, UCSF School of Nursing, San

Francisco, CA; Marylin Dodd, RN, PhD, UCSF School of Nursing, San Francisco, CA; Kathryn Lee, RN, PhD, UCSF School of Nursing, San Francisco, CA; Steven Paul, PhD, UCSF School of Nursing, San Francisco, CA; Bruce Cooper, PhD, UCSF School of Nursing, San Francisco, CA; Christine Miaskowski, RN, PhD, UCSF School of Nursing, San Francisco, CA

Purposeful concentration during demanding situations, like the diagnosis and treatment of breast or prostate cancer, results in attentional fatigue. This is experienced as a decreased ability to concentrate and to maintain purposeful activity at a time when attentional demands are high.

The purposes of this study were to: (1) determine if self-reported attentional fatigue prior to radiation therapy (RT) differed in patients with breast and prostate cancer and (2) determine the relationships between baseline levels of attentional fatigue and other symptoms.

The theoretical framework for the proposed study is the Theory of Symptom Management. This theory places symptom management in the context of the domains of nursing science, namely person, health and illness, and environment.

This descriptive, cross-sectional study, conducted in two RT departments, recruited 73 women with breast cancer and 82 men with prostate cancer who received primary or adjuvant RT. Patients completed the Attentional Function Index and other symptom measures prior to RT. Descriptive statistics, Pearson's correlations, and univariate analyses of variance were used for data analyses.

Women with breast cancer were significantly younger and reported a poorer mean Karnofsky Performance Status score than men with prostate cancer. After controlling for age, women with breast cancer reported significantly lower mean attentional function than men with prostate cancer (6.7 versus 7.4). In both groups, lower attentional function correlated significantly with higher levels of depression and anxiety and more sleep disturbance and physical fatigue. However, these correlations were stronger in women with breast cancer (range  $r=-0.33$  to  $-0.70$ ) compared to men with prostate cancer (range  $r=-0.29$  to  $-0.59$ ). The presence of pain did not correlate with attentional function.

This study is the first to identify differences in self-reported attentional fatigue in women with breast cancer versus men with prostate cancer at the initiation of RT. Although anxiety and depression are known to correlate with attentional fatigue in women with breast cancer, findings from this study suggest that a similar association occurs in men with prostate cancer. Additional research is needed to identify the mechanisms that underlie the relationships between attentional fatigue and physical and psychological symptoms.

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## 4175

**210 BY 2010: SUCCESSFUL MEMBERSHIP RECRUITMENT AND RETENTION FOR A LOCAL CHAPTER.** Eleanor Flores, RN, FNP-BC, AOCNP®, UCSD, La Jolla, CA; Sheila Bedard, RN, BSN, Retired, San Diego, CA; Aran Levine, RN, MSN, AOCNS®, Scripps Memorial Hospital, La Jolla, CA; Jennifer Alisangco, RN, BC-FNP, AOCNP®, Naval Medical Center, San Diego, CA

As dedicated board members of our local Oncology Nursing Society Chapter we strive for chapter growth and excellence. Our chapter covers a vast area of San Diego County and we recognize we are not well represented in all districts.

In an effort to recruit new members and also retain existing members, we set a goal to have 210 members by the year 2010. This goal was set by our 2008 Chapter president as we started to look forward to hosting the 2010 ONS Congress. At that time we had 134 members. We drew up a detailed plan with a two year timeline. Committees were formed and concrete interventions

were identified. At each board meeting we discussed the status of our membership retention and recruitment efforts and celebrated our achievements.

Our interventions included:

1. Creating a network of nurse liaisons to verbally communicate chapter events in their practice and distribute applications and answer questions
2. Developing a PowerPoint presentation and presenting it to nurses in practices that lacked membership
3. Offering free dinner meeting attendance to nursing students as well as offer guidance and mentorship
4. Holding contests throughout the year for membership recruitment efforts and meeting attendance
5. Holding an email campaign to recruit nurses who are identified as national members and not local members

We encouraged membership retention by:

1. Offering 8, \$400 educational scholarships per year
2. Offering a 2-year discount on local membership
3. Holding dinner meetings in all areas of the county so all members were able to attend
4. Offering CEU's at 80% of our dinner meetings

As of December, 2009, we have 205 members. This is over a 50% increase in our membership in just 2 years.

This dramatic increase has proven beneficial on many levels. We are now developing a strong community presence. We feel that our nursing colleagues and employers throughout the county truly value the nurse who belongs to the Oncology Nursing Society. Most importantly, the chapter benefits as it harvests the knowledge and enthusiasm of its members in preparation for ONS Congress 2010 and beyond.

## 4176

**BEYOND INTERVENTION: PREDICTING, PREVENTING, DIAGNOSING AND MANAGING ALCOHOL WITHDRAWAL SYNDROME IN CANCER PATIENTS.** Deena Dell, MSN, RN-BC, AOCN®, Fox Chase Cancer Center, Philadelphia, PA; Mary Ellen Morba, RN, BSN, Fox Chase Cancer Center, Philadelphia, PA

Alcoholism affects 10 -50 % of hospitalized patients. Alcohol abuse occurs in up to 63.6% of presurgical head and neck patients. Patients experiencing alcohol withdrawal pose a danger to themselves as withdrawal can lead to life threatening complications such as seizures, infections, bleeding, and metabolic and electrolyte abnormalities. It is reported that alcoholic patients admitted to ICUs experience a 50% mortality rate compared with 26% for non-alcohol abusers. Physical safety of staff can also be endangered. In the oncology setting, surgery is often performed, even if the patient refuses preoperative treatment for alcoholism, as it is felt that the benefits of preventing cancer progression outweigh the risks related to the danger of withdrawal. It is essential that caregivers can detect and treat early symptoms in order to prevent potential harm to patients and staff.

An interdisciplinary committee was formed to develop guidelines to: objectively monitor patients at risk for alcohol withdrawal syndrome (AWS); prevent the development of AWS; and intervene when symptoms arise due specifically to AWS.

The committee consisted of a patient safety coordinator, anesthesiologist, psychiatrist, hospitalist, clinical nurse specialist, staff nurses, pharmacist and social workers. A literature search was done to identify interventions with the highest level of evidence to support them. Ethic and legal consultations were obtained. A well validated standardized assessment tool (Clinical Institute Withdrawal Assessment form [CIWA-ar]) was chosen to determine symptom severity. Policies, procedures and standing order sets were developed. Roles of nursing, social work, and medicine were delineated. Nursing interventions were designed to positively impact the following nurse sensitive outcomes: return to usual function, preventing infection, nutrition, anxiety and caregiver strain. Intensive education of all disciplines took place.

All cases will be reviewed monthly by committee members for compliance to practice and effectiveness of symptom management. Occurrence reports and length of stay pre policy implementation will be compared to those post implementation.

Participation of nursing is essential to ensure a safe outcome for patients with the potential for AWS and their caregivers. The nurse is at the center of the interdisciplinary team initiating assessments, interventions, and referrals, and ensuring effective communication.

## 4177

### **EDUCATION OF PATIENTS ABOUT FERTILITY PRESERVATION: INTEGRATION STRATEGIES FOR YOUR PRACTICE.**

Joanne Kelvin, CNS, AOCN®, Memorial Sloan-Kettering Cancer Center, New York, NY; Mary S. McCabe, RN, BS, MA, Memorial Sloan-Kettering Cancer Center, New York, NY

Approximately 126,000 patients between 20 and 44 years of age are diagnosed with cancer annually in the US. Many have not yet started or completed their families at the time of diagnosis, and many want to be parents after treatment. With advances in reproductive technology, most patients can preserve their fertility before treatment through sperm banking or embryo/egg cryopreservation. However, oncology nurses do not routinely discuss fertility with their patients, so these opportunities are often missed.

In 2009, an NCI-designated cancer center in NY launched a program to provide patients of reproductive potential with: information about the effects of treatment on fertility and options for fertility preservation; referrals to a reproductive specialist if desired; and information about other options for parenthood. This presentation will review strategies used to accomplish these goals and discuss how oncology nurses can implement these in their own settings.

Baseline data was collected to determine knowledge, attitudes, and behaviors of ambulatory care nurses working at the center. The survey revealed that nurses are unaware of current technologies, lack educational resources and referral sources, and do not routinely address fertility issues in practice. Development of resources was the first priority. Resources for patients include written materials, an external web site, and information about financial assistance. Resources for clinicians include pre-filled computerized orders and an internal web site to guide referrals. Education of clinicians was the next priority, focusing on the effects of cancer on fertility and options for fertility preservation, and introducing the new resources. Finally, a Clinical Nurse Specialist is available to answer questions, educate patients, serve as a liaison with reproductive centers, and facilitate financial assistance applications.

Baseline data used for program planning will be presented as well as data on use of resources and patient referrals to the CNS.

Oncology nurses have an important role in helping patients actualize their desire for parenthood after cancer treatment. This presentation will describe one cancer center's approach to providing nurses with the knowledge and resources needed to educate patients effectively and will offer suggestions on how to adapt these strategies in any practice setting.

## 4178

### **MAKING EDUCATION COUNT: REMOVING BARRIERS TO EFFECTIVE PATIENT EDUCATION ON A MEDICAL/ONCOLOGY ACUTE CARE UNIT.**

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Nursing literature and patient satisfaction scores measured in hospital systems report ineffective and inconsistent patient

education regarding disease, treatment options, symptom management, follow-up interventions, and community resources for oncology patients in the acute care setting. Ineffective and inconsistent patient education has been identified as contributing to patient anxiety and poor patient outcomes. Lack of consistent patient education was identified as a problem on a 36-bed medical/oncology unit in an urban academic medical center. Accurate and well-delivered disease information is crucial to patient involvement, decision-making and achieving positive patient outcomes. A review of the literature supported the main themes of: (1) Cancer patient dissatisfaction with the level of information provided; and (2) Improved opportunities for patient participation and decision-making.

The purpose of this pilot study is to examine the efficacy of educational information for oncology patients in decreasing anxiety and increasing patient satisfaction. Social cognitive theory revolves around the process of knowledge acquisition and focuses on combining behavioral, personal and environmental factors to design interventions and strategies for patient learning.

An oncology patient education checklist, talking points (script for nurses), individualized disease-specific education binders and a patient evaluation tool were developed as a toolbox. This toolbox serves as a guide to ensure the educational structure and process for providing information is consistent between nurses.

A pilot evaluation tool using a Likert scale examined the anxiety level of patients (N=74) prior to and after the educational intervention was provided. Results showed that 45% had decreased anxiety, 41% had no change in anxiety level, and 14% had increased anxiety. Overall, 77% rated satisfaction with education as good to excellent.

In the study population, a standardized patient education checklist and disease-specific binder improved the delivery method of information and provided tools for consistent education regarding disease, treatment options, symptom management, follow-up interventions, and community resources. This toolbox can empower patients with knowledge and may decrease anxiety. Standardized patient education is especially important when patients are located in medical-surgical units where the nursing staff may not be oncology certified nurses.

## 4179

### **CLINICAL END-OF-LIFE EDUCATION FOR NURSING STUDENTS.**

Michelle Gabriel, RN, MS, OCN®, ACHPN, Department of Veterans Affairs, Palo Alto, CA

Oncology nurses provide care across the illness trajectory and at the end of life. However, researchers have shown that nurses are not well prepared by their training to do so. Reviews of nursing textbooks revealed minimal content dedicated to end-of-life, and schools do not always offer dedicated lectures on this topic. At the same time, researchers have found that dedicated education on end-of-life for nursing students increased most students' comfort level in dealing with issues related to caring for dying patients.

The purpose of this project was to increase awareness and comfort among nursing students in providing care to dying patients and their families by offering clinical education on end-of-life content as part of a geriatrics rotation.

The intervention was an 8 hour day of clinical instruction that included the following topics: pain assessment and management in the dying patient; symptom assessment and management in the dying patient; communication; and actively dying. The types of teaching methods included discussion, the use of videos, role play, and a simulator.

The intervention was evaluated by a pre and post-survey, with plans for an additional survey six months post intervention. The survey assessed comfort with symptom management, caring for the dying, and communication. The post-intervention survey also queried participants' evaluation of the intervention to determine it's usefulness in the clinical setting and will inform future interventions to ensure utility for nursing students.

This pilot project attempts to expand upon nursing students' educational exposure to end-of-life topics and skills in order to improve students' comfort when caring for dying patients and their families. This pilot project looks at whether exposing students to these issues during their education will be better prepare them to care for dying patients and their families.

#### 4182

**LINKING REGIONAL NETWORKS: DEVELOPING A COMPREHENSIVE EDUCATION PROGRAM FOR MULTIPLE SITES.** Marjorie Mosley, RN, MS, OCN®, Memorial Sloan-Kettering Cancer Center, New York, NY

A comprehensive cancer center located in an urban area has five regional networks, each within a 50 mile radius of the main campus. Each site has a unique combination of services which include chemotherapy administration, radiation therapy, radiology, surgery consultations, dermatology and medical oncology. The current practice had been to use several different educators to cover the regional sites. As the regional sites started to grow the coverage was assigned according to the nurse educator's availability which presented challenges for the staff, managers and educators and resulted in a lack of continuity in education services

A review of the literature highlighted the importance of providing standard education for nurses in this ever changing and increasingly technological environment of healthcare. A novel concept was conceived to restructure the nurse educator's assignments so that one nurse educator could be dedicated to the regional networks. This nurse educator would be responsible for developing and implementing a standard education program for all five sites.

A Regional Nurse Educator was recruited. The requirements included a strong background in oncology nursing with OCN® certification, excellent communication skills, understanding of the adult learning process plus a willingness to travel to each site. The goals of this position were to assure that nurses and managers at the regional sites received the same standard of education while maintaining continuity; and to bring the regional site managers and nurses together as a team under one educator.

The nurse educator began by working closely with each regional manager to bridge the communication gap between the sites. A comprehensive program was designed to include standard orientation, continuing education and staff recognition. After about one year into this model, positive feedback was received from the staff and management remarking on improved continuity, increased communication, and a new appreciation for having one designated nurse educator.

This presentation will outline the methods, tools, outcomes and evaluations used to develop a successful education program in the oncology setting. The model developed could also be applied to other multisystem hospitals through our country facing similar challenges.

#### 4183

**NURSE NAVIGATOR ROLE IMPACTS CANCER PATIENTS/FAMILIES AND THE HEALTH CARE TEAM.** Erin VanDyke, RN, BSN, OCN®, Spectrum Health, Grand Rapids, MI; GERALYN ROOBOL, RN, BS, LMSW, Spectrum Health, Grand Rapids, MI

Cancer care is delivered by multiple providers within an already fragmented health care system and has led to persistent gaps in the care process. The nurse navigator serves to bridge those gaps and assures high quality patient care. Patient navigation programs reduce delays in the treatment process, assure patients understand their care processes and navigate the health care system as effectively as possible maximizing their satisfaction with care, as well as the satisfaction of the rest of the health care team.

To evaluate the impact of the lung cancer nurse navigator role on the outpatient population served, physicians and the multidisciplinary team.

The nurse navigator begins with patients/family at the point of cancer diagnosis and continues to provide individualized interventions throughout the care process. Satisfaction surveys were developed with a 5-point scale to measure satisfaction with the nurse navigator program. All patients/family served in the first year of the program were surveyed. Health care team members completed a satisfaction survey as well. Open-ended questions were also a part of the survey.

Patients and family members rated the impact of the role on their emotional needs, how well the team worked together, accessibility of the nurse navigator, how well informed the navigator kept the patient and education related to the disease process/treatment plan. The satisfaction scores were overwhelmingly positive about the impact of the role on their care with the patient overall rating at 4.85 and family members rating the program a 4.7. The health care team members were queried about their experience with how well the nurse navigator removed barriers to treatment, helped expedite appointments, coordinated care, involved the health care team and research, and provided patients with explanations about what to expect in their treatment. The health care team assigned an overall score of 4.7.

Increasing numbers of cancer treatment programs are employing the use of nurse navigators as a strategy to improve patient satisfaction, the efficiency of the care process and adherence. The concept of nurse navigators has evolved over the past twenty years and has emerged from the field of oncology nursing as an effective response to patient's needs for navigating an ever-changing, complex and fragmented health care system.

#### 4185

**COPING WITH BREAST CANCER: SKILLS AND STRATEGIES.** Linda Eaton, MN, RN, AOCN®, University of Washington School of Nursing, Seattle, WA; Kelly Carpenter, PhD, Talaria, Inc., Seattle, WA; KrisAnn Schmitz, MSW, Talaria, Inc., Seattle, WA; Ardith Doorenbos, PhD, RN, University of Washington School of Nursing, Seattle, WA

Coping with breast cancer requires skills for handling a wide array of issues including managing the stress response, communicating effectively with health care providers, coping with the physical side effects of cancer and its treatment, and learning how to maintain relationships with friends and family.

The aim of our study is to develop and demonstrate the usability and feasibility of a web-based cognitive behavioral stress management intervention to help women with breast cancer learn adaptive coping. The project addresses the ONS Research Agenda priority area to design and test interventions to improve psychosocial outcomes in patients with cancer.

The intervention is founded on Lazarus' and Folkman's Cognitive Theory of Stress and Coping and is based on an empirically supported face-to-face group treatment.

The research and development team consists of representatives from psychology, nursing, social work, and medicine. Development of the web-based intervention included the user interface and 10 intervention modules. Each module tailored to the needs of women with early stage breast cancer includes self-assessment and targeted feedback, didactic psychoeducation, interactive exercises and practice sessions, and self-monitoring opportunities. The modules went through a series of content evaluations by content experts and consultants with psychosocial cancer treatment expertise. Two in-person usability studies with 19 breast cancer patients demonstrated high levels of approval, satisfaction, and ease-of-use. Currently, pilot testing is underway evaluating the feasibility of an online randomized clinical trial (RCT) for the intervention. For this pilot study, we are enrolling 10 women with early stage breast cancer from local cancer centers. The women will use one module of the intervention each week for 10 weeks. Before and after the 10-week intervention participants will complete nine different psychosocial scales. During biweekly telephone assessments, participants will complete the

Distress Thermometer, the Mini-Profile of Mood States, and the Perceived Stress Scale. At the end of the intervention, participants will complete a satisfaction and acceptability instrument. Given the exploratory nature of this pilot study, we will provide descriptive statistics on the study outcomes.

Pilot study results will be used to inform the RCT which will begin recruiting nationwide in the spring of 2010.

#### 4187

##### **POST-TRANSPLANT NEEDS OF BONE MARROW AND CORD BLOOD TRANSPLANT SURVIVORS AND THEIR CAREGIVERS.**

Elizabeth Murphy, EdD, RN, National Marrow Donor Program, Minneapolis, MN; Nancy Omondi, MBA, MS, National Marrow Donor Program, Minneapolis, MN; Ellen Denzen, MS, National Marrow Donor Program, Minneapolis, MN; Kari Bailey, MBC, National Marrow Donor Program, Minneapolis, MN

Educating transplant nurses on the Living Now newsletter improves access to health services for transplant survivors and their caregivers. The purpose of the Living Now newsletter is to improve quality of life by educating patients and to promote patient self-advocacy in their post-transplant care. Self-advocacy is demonstrated through better conversations between patients and their physician/medical team. The National Marrow Donor Program's Office of Patient Advocacy supports patients and their families from diagnosis through survivorship by providing transplant educational resources.

To assess the usefulness of medical and psycho-social topics addressed in the Living Now newsletter and to evaluate whether the Living Now newsletter influences better conversations between patients and their physician/medical team.

Primary data was collected via mail survey from October 2007 to October 2008. This survey utilized a cross-sectional design and assessed (1) usefulness of medical and psycho-social topics; (2) whether the information in the newsletter helps patients have better conversations with their physician/medical team; and (3) additional survivorship topics on which patients would like to receive more information.

Questionnaires were mailed to 2,557 transplant survivors and their caregivers with a response rate of 4 % (N=105). Among patients, 70% were aged 50 years and older; 54% attended some college or were college graduates. By topic area, "Medical Concerns" and "Your Healing Attitude" were rated the most useful (34%; 29%). 51% of respondents indicated that the newsletter helped them have better conversations with their physician/medical team. 52% were interested in receiving more survivorship-related information. The level of education significantly influenced better conversations with patients' physician/medical team ( $p = .036$ ).

Overall, transplant survivors and their caregivers found the Living Now newsletter useful; respondents were interested in additional survivorship topics including GVHD, insurance information and caregiving. There was an association between level of education and whether patients had better conversations with their physician/medical team having read the Living Now newsletter. Educating transplant nurses on the Living Now newsletter improves patient self-advocacy in post-transplant care. Increased access to post-transplant information benefits both patients and their caregivers.

#### 4188

##### **JOURNEY TO SUCCESS—OUR ONCOLOGY RN STAFF ACHIEVE 100% COMPLIANCE AS ONS CHEMOTHERAPY AND BIOTHERAPY COURSE PROVIDERS—HOW WE DID IT.**

Janet Greco, RN, BSN, MA, OCN®, White Plains Hospital Center, White Plains, NY; Margaret Brock, RN, MSN, OCN®, White Plains Hospital Center, White Plains, NY; Cathy Waters, RN, BSN, OCN®, White Plains Hospital Center, White Plains,

NY; Sue Epting, RN, MSN, AOCNS®, Genentech, Yorktown Heights, NY; Lisa Schuldt, RN, OCN®, White Plains Hospital Center, White Plains, NY

Administration of chemotherapy/biotherapy is a high risk process which requires a distinct body of knowledge and skill set. Historically, at White Plains Hospital Center, new oncology nurses were trained for this process using our own "home grown" course taught by senior staff. Although this had been working well, our goal was to establish a minimum competency for administration for all our oncology practitioners using the ONS Chemotherapy/Biotherapy Course combined with a supervised practicum prior to administration of these drugs.

Because we are at least 40 miles from the nearest facility that was offering this course and cost per participant can average \$300, we chose to develop our own training team to offer the course on-site for the convenience of our staff and to reduce cost.

Trainers need to each hold the provider card and then participate in the trainer course. Our first trainer collaborated with a colleague in our local ONS chapter to teach the first course at our facility. Subsequently other eligible staff participated in one of the trainer courses over a three year period. The trainer course gave us the tools needed to successfully plan, market and conduct the program as well as tips on teaching the content and making the program successful. Course fees to the ONS are currently ninety dollars per participant. By marketing the course through the ONS website and through our ONS chapter as well as to local hospitals and oncology office practices we have been able to provide enough revenue to cover the cost of all our own staff.

We began this journey in 2005 and currently have four trainers on site. Following the presentation of our most recent course in October 2009, 100%(42) of our staff who administer chemotherapy/biotherapy hold the provider cards indicating they have the knowledge to administer these treatments and have completed a subsequent practicum of administration. The card must be renewed every two years with completion of an on line exam which validated knowledge of the most current treatments.

Our project has strong implications for oncology nursing practice in that as a community hospital we have been able to develop our own training staff and to successfully become leaders in education of chemotherapy and biotherapy administration in our geographic area.

#### 4189

##### **AMERICAN COLLEGE OF SPORTS MEDICINE/ONCOLOGY NURSING SOCIETY EXERCISE GUIDELINES FOR CANCER SURVIVORS.**

Anna Schwartz, PhD, ARNP, FAAN, University of Washington School of Nursing and St. John's Hospital, Expert Panel Members ACSM Exercise and Cancer Survivors, Jackson, WY

There is a strong base of evidence that exercise both during and following cancer treatment can improve fatigue, emotional disturbance, sleep disturbances, quality of life, muscle strength, cardiovascular condition, balance and body composition. Research demonstrates that these physical and emotional benefits improve tolerance for treatment, reduce risk for recurrence and death from disease. Exercise rehabilitation is becoming an important component of clinical care, and will undoubtedly become standard of care. For this research to be adopted in an evidence-based practice it is vital to organize and disseminate the research in a way that is useful for practitioners.

The purpose was to convene the world's leading cancer and exercise clinical and research experts to develop evidence-based exercise guidelines for cancer survivors and disseminate the outcomes of the meeting to professional and survivor stakeholders.

The research was critically reviewed and categories of evidence determined. The ACSM Roundtable focused on seven cancer sites where sufficient evidence had been assembled to review the literature for multiple health outcomes. The outcomes highlight

the important role that exercise plays in the cancer control and survivorship arena and provides direction for nurses interested in implementing physical activity programs for cancer survivors during and after cancer treatment.

The categories of evidence presented are by the National Heart, Lung, and Blood Institute, including: A (data from randomized controlled trials (RCTs)), B (few RCTs exist), C (uncontrolled, nonrandomized and/or observational studies), and D (panel's expert opinion). The diversity of cancer types among survivors presented challenges, because the appropriateness of extrapolating results for common outcomes across tumor sites varies by the extent to which treatments and their sequelae are common across sites. Some extrapolation was required for some rare cancers or endpoints. Specific evidence-based exercise guidelines are provided for different types of cancer.

The 2010 ACSM/ONS Exercise Guidelines provides the critical first step to moving exercise programs into the mainstream of cancer care. The guidelines provide a scientifically sound knowledgebase for oncology nurses to educate survivors about exercise during and following treatment.

## 4190

### PATIENTS' PERCEIVED EDUCATIONAL NEEDS DURING TREATMENT FOR ACUTE MYELOGENOUS LEUKEMIA.

Mary Ward, RN, BS, OCN®, Carilion Clinic, Roanoke, VA; Anne Cattigan, RN, OCN®, Carilion Clinic, Roanoke, VA; Rebecca Clark, PhD, RN, Carilion Clinic, Roanoke, VA; Patricia Kingery, MSN, RN, Carilion Clinic, Roanoke, VA; Elizabeth Martin, RN, OCN®, BFA, Salem Health and Rehab, Salem, VA; Laura Boyd, RN, BSN, OCN®, Carilion Clinic, Roanoke, VA; Mary Spence, RN, ADN, Carilion Clinic, Roanoke, VA

About 13,000 patients a year are diagnosed with Acute Myelogenous Leukemia requiring a lengthy hospitalization for intensive diagnostic and treatment interventions. Patients, typically diagnosed in the outpatient setting, are immediately admitted to the hospital where they may remain for up to thirty days. The diagnosis of cancer is overwhelming, yet nurses must provide extensive education about diagnosis, treatments, prognosis and timeline. Our challenge has been to balance patients' physical, psychological and learning needs with our professional responsibilities to present appropriate education. As we strive to provide patient-family centric care, it is important to identify the patients' perspectives on topics of concern, timing and adequacy of information following their diagnosis.

We designed a qualitative study to elicit patients' perceived needs regarding education and information. There is limited research on the patients' perspective with this diagnosis and we felt the findings of this work would improve our understanding of the educational needs of patients during the diagnostic and treatment phases. We anticipated that we would be able to improve the pace of our education, to reduce patient stress and enhance learning.

We are conducting a qualitative study of patients with AML who are admitted for consolidation. The interviewers are members of the research team who have had minimal or no direct care of the patient during their admission for induction chemotherapy. Subjects are interviewed using a questionnaire with open-ended questions. The interviews are transcribed and analyzed for key themes and ideas.

We have identified themes related to both the positive aspects of education and areas for improvement. While the study is ongoing, we have recognized significant points regarding patient responses to education and their emotional and psychological needs.

Patients admitted for unexpected and life changing illnesses are unprepared for the many lifestyle challenges that accompany their diagnosis. Nurses have a professional responsibility to provide education in a manner that accounts for the patient and caregivers' emotional state and readiness to learn. Information from this qualitative study is significant to AML patients, other oncology patients and any patient with a life-altering diagnosis.

## 4193

### THE MEANING OF MEETING: THE PSYCHOSOCIAL CARE OF LUNG CANCER PATIENTS. Ann Culkin, RN, OCN®, Memorial Sloan-Kettering Cancer Center, New York, NY

Lung cancer is the most common cause of cancer-related deaths in men and women in the U.S., with overall 5-year survival less than 15%. At this NCI-designated cancer center, over 3,000 newly diagnosed lung cancer patients were seen in 2008. Oncology nurses, having a heightened awareness of the psychosocial impact, poor prognosis and high symptom burden of this disease, identified the need for multidisciplinary planning to address the needs of lung cancer patients and families across the continuum of the illness and multiple treatment sites at our institution.

A Thoracic Psychosocial Team was formed with the purpose of regularly convening nurses and psychosocial care providers to identify high risk lung cancer patients and develop a comprehensive plan to address their needs. The implementation of the electronic ambulatory nursing referral system has increased referrals to the department of social work and case management.

The team started meeting monthly in 2005. Patients are identified by referrals submitted to the department of social work intranet referral system derived from patient requests or nurse assessment of need. At each one-hour meeting, patient cases are presented and include discussions regarding reactions to the diagnosis of and treatment, stressors to the family and friends and any cultural, religious or socioeconomic struggles in dealing with this life-limiting disease. This forum allows for development of a comprehensive plan for patients and families across all settings and providers.

This presentation will show staff satisfaction survey results. The process for discussion where patient's stories get told has a profound impact on the health care team and will be reviewed with case study presentations. The data will attempt to show increased referrals with the implementation of electronic referral process.

There is meaning to this monthly meeting in which a multidisciplinary group attempts to address the profound psychosocial impact for those affected by lung cancer. Each provider brings his/her views of the individual cases which improves communication. This presentation will include a description of the presentations, the meeting process and a typical plan of care.

## 4200

### FRIENDSHIPS OF ADOLESCENTS IN CANCER TREATMENT. Jeanne Erickson, PhD, RN, AOCN®, University of Virginia School of Nursing, Charlottesville, VA; Caitlin Hogan, University of Virginia School of Nursing, Charlottesville, VA

A diagnosis of cancer during the adolescent years has a profound impact on young patients and their relationships with peers. Frequent and lengthy hospitalizations, absences from school, and physical side effects related to cancer therapy limit adolescents' abilities to develop and maintain friendships and participate in normal teenage activities. While friends are a significant source of social support for adolescents with cancer and enhance coping, many adolescents report it is often difficult to maintain their friendships during cancer treatment. Little is known about the specific ways that adolescents with cancer stay connected with their friends throughout the treatment period.

The purpose of this qualitative study is to identify the strategies adolescents with cancer use to maintain and foster their friendships throughout cancer treatment. Improving psychosocial outcomes for patients during a specific lifespan period meets a priority content area in the current ONS Research Agenda.

This study is guided by Haase's Adolescent Resilience Model, which includes social integration with friends as a protective factor critical for positive psychosocial outcomes.

This study will use a qualitative approach to interview adolescents who were diagnosed with cancer between the ages of



11 and 23 years of age and are either currently receiving cancer treatment or have recently completed treatment. Each interview will consist of 18 open-ended questions, focused on how the adolescent stayed connected with friends during the early months of cancer treatment. The interviews will be audio-recorded, and data will be transcribed and analyzed for common themes and trends using a content analysis method.

Findings from this exploratory study will give healthcare professionals a better understanding of how adolescents with cancer maintain their friendships during cancer therapy. Healthcare professionals can then develop, test, and implement specific interventions that will enhance positive social relationships between adolescents with cancer and their friends during the challenging early period of treatment.

## 4208

### **CHEMO READY . . . PATIENT IS READY FOR TREATMENT WHEN THEY WALK THROUGH THE DOOR!**

Jeanine Gordon, RN, MSN, OCN®, Memorial Sloan-Kettering Cancer Center, New York, NY; Maureen Bland, RN, OCN®, Memorial Sloan-Kettering Cancer Center, New York, NY

Oncology patients are receiving more complex chemotherapy treatments in the outpatient area and surviving longer with cancer. At this NCI-designated comprehensive cancer center, the downstream effects of greater patient volume and demands for physical treatment space have made it progressively more important to improve efficiency and the patient experience. Chemo Ready is a process in which nurses collaborate with other multidisciplinary team members and patients to ensure that all requirements are completed in advance of patient arrival to their scheduled chemotherapy appointment.

The purpose of Chemo Ready is to improve the chemotherapy experience for eligible patients by obtaining all necessary testing and symptom/toxicity assessments prior to the treatment day to ensure a smooth, delay free visit. We believe this decreases chemotherapy wait times and ultimately leads to improved patient satisfaction and quality of life.

Implementation of the program began in January 2009 in one chemotherapy infusion unit. Patient eligibility was identified as all those receiving non-protocol chemotherapy. All physician, nursing, pharmacy and support staff were educated. Relationships with local laboratories were established. The process follows: patients have blood work drawn 24 hours prior to appointment and results are reviewed; the nurse conducts a telephone symptom assessment and confirms results meet set parameters; if so, the nurse alerts Pharmacy via standardized e-mail message to prepare the drug for the next day; if the criteria is not met, the nurse consults with the physician to modify the plan. Wait times were measured according to usual practice.

Prior to implementation of Chemo Ready average chemotherapy wait time was 86 minutes. Following implementation, during the 3rd Quarter of 2009, Chemo ready patients experienced an average wait time of 30 minutes, a 65% reduction. This presentation will include a description of the process as well as the results of ongoing measurement of outcomes.

Chemotherapy wait times are a universal measurement in the ambulatory chemotherapy setting. Developing innovative systems to improve patient experience is an important role for oncology nurses. Chemo Ready provides an example of how multidisciplinary coordination can improve the overall patient chemotherapy experience.

## 4209

### **EXPANDING NURSING KNOWLEDGE AND EXPERTISE OF IMPLANTED PORT CARE.**

Jennifer Martens, RN, BSN, OCN®, William Beaumont Hospital, Royal Oak, MI; Jane Caplinger, RN, BSN, MSA, OCN®, William Beaumont Hospi-

tal, Royal Oak, MI; Mary Royle, RN, MSN, CMSRN, William Beaumont Hospital, Royal Oak, MI

Caring for an implanted port is a routine nursing skill practiced by oncology nurses at our 1060 bed hospital. These nurses demonstrated increased competency and expertise in accessing and problem solving implanted ports. However, nurses on other inpatient units, who encounter implanted ports less frequently, lack knowledge, experience, and confidence in providing care for implanted ports. Consequently, implanted ports were not being accessed and/or patients were receiving multiple needle pokes to obtain peripheral intravenous access. Oncology nurses were regularly being called away from their own patients to other nursing units to care for patients with implanted ports.

The purpose of this project was to provide educational resources for nurses throughout the institution to aid in their ability to access and problem solve implanted ports. Making educational information readily available to nursing staff will increase the likelihood that ports are readily accessed, patients do not receive unnecessary peripheral intravenous access, and oncology nurses are called less often for assistance.

Oncology nursing staff identified areas of knowledge deficits in implanted port care throughout the institution. The hospital policy/ procedure was reviewed and revised. An educational pamphlet was developed and distributed to the inpatient nursing units, outpatient care areas, and oncologists' offices. A video was created that highlighted important policy points as well as demonstrated nursing care of an implanted port.

The video was added to the corporate nursing web page as an easily accessible resource. A non-oncology unit was surveyed to determine if the implanted port video and pamphlet improved knowledge of current policy and confidence level in caring for the implanted port. Oncology nursing can help educate other nurses to care for implanted ports. As experts in this skill, oncology nurses remain available as a resource for unresolved implanted port issues.

Patients with implanted ports can present in any patient care area in our corporation, therefore requiring the expertise of oncology nursing. It is imperative that all nurses demonstrate knowledge and competency in caring for an implanted port. The port instructional video and pamphlet were shared throughout the corporation, which includes three hospitals and multiple outpatient facilities.

## 4211

### **EVALUATING AN ELECTRONIC MEDICAL RECORDS SYSTEM IN AN OUTPATIENT INFUSION CENTER FOR CONSISTENCY WITH ASCO/ONS CHEMOTHERAPY ADMINISTRATION SAFETY STANDARDS.**

Carol Bell, RN, MSN, OCN®, Stanford Cancer Center, Stanford, CA; Chris Tucker, BSN, Stanford Cancer Center, Stanford, CA; Mary Solom, BSN, Stanford Cancer Center, Stanford, CA; Torey Benoit, RN, Stanford Cancer Center, Stanford, CA; Tammy Baltic, RN, MSN, AOCN®, Stanford Cancer Center, Stanford, CA

Automated systems and electronic medical records (EMR) promote consistent and safe patient care. Stanford University Cancer Center Infusion Treatment Area (ITA) began implementation of EMR in the outpatient center in February 2008 and computerized physician order entry (CPOE) in May 2008. In November 2009 the American Society of Clinical Oncology and the Oncology Nursing Society published Chemotherapy Administration Standards with recommendations for safe chemotherapy administration

Evaluate verification and documentation tool developed by nursing for the EMR and CPOE in use at Stanford ITA for consistency with ASCO/ONS standards

A chemotherapy/biotherapy documentation flowsheet with a drop down menu selection of all vesicant, irritant, non-vesicant, and biotherapy agents administered for oncology patients was created. This menu allows the nurse to choose the drug(s) being

administering and document the verification process with dose calculation, laboratory values check, etc. Steps of administration include blood return and appearance of IV site are also documented. A second chemotherapy certified nurse accesses the same menu to document independent verification of the same information. Electronic signatures by both nurses confirm verification. During the two-nurse bedside check planned treatment is confirmed with the patient, identification of right patient, drug, dose, route and time are captured on the electronic MAR using bar code technology. Nurses confirm expiration date and appearance and physical integrity of the drug. A hard stop for second nurse signature was incorporated into the MAR which prevents documentation on the MAR without the second nurse's signature

The system developed by nursing at Stanford ITA does meet standards established by ASCO/ONS. While staff nurses using the tool found the EMR system overly complicated at first, as they became familiar with it has proved more efficient

The new EMR chemotherapy/biotherapy documentation improved consistency in documentation of verification and bedside check process. Nurses utilizing the EMR to document chemotherapy administration can identify problems and create solutions to assure safe patient care.

## 4213

### CARING FOR THE ELDERLY WITH CANCER: MEETING THE CHALLENGES THROUGH INDIVIDUAL EMPOWERMENT.

Ellen Mullen, RN, BSN, ANP, GNP, MD Anderson Cancer Center, Houston, TX; Peter Lai, RN, BSN, MSN, MD Anderson Cancer Center, Houston, TX; Noel Mendez, RN, BSN, MD Anderson Cancer Center, Houston, TX; Amelita Marzan, RN, BSN, MSN, MD Anderson Cancer Center, Houston, TX

The fastest growing population in the United States which is expected to double between 2000-2050 are individuals over 65 years of age. Concurrently with the normal changes of aging the prevalence of cancer also increases. Current projections estimate that by the year 2020, close to 17% of the total U.S. population will be 65 years and older. It is expected that the surge in elder cancer patients will challenge healthcare resources. In 2005, the total cost of all cancer care was \$209.9 billion. Cancer expenditures will be of even greater concern as the ranks of the U.S. Medicare program increase from 42.5 million in 2005 to almost 70 million by 2030. Oncology nurses play an important role in meeting the challenges of caring for the elderly cancer patients.

The purpose of this presentation is to educate nurses about the concept of individual empowerment among elderly cancer patients. The addition of a chronic illness with the added psychological and financial stressors to the physiological changes of aging adds burden to the individual and their family. Nurses are in the forefront of assisting elderly cancer patients to manage their health through the concept of empowerment. Empowerment is defined as a participative process through a nurse-client dyad designed to assist in changing unhealthy behaviors. It is important to understand as it has the potential to address issues of safety, quality of care and access to health care.

The presentation will provide conceptual definition of empowerment. The moderating and mediating factors of empowerment among elderly cancer patients will be presented. Nursing actions that can lead to empowerment such as participatory style, information giving, patient education empowerment will be discussed.

The presentation will provide better understanding of the concept of individual empowerment as it applies to the care of the elderly cancer patient. Elderly cancer patients are considered vulnerable and require tailored interventions. Nurses will be able to assist patients with obtaining and utilizing resources as they and their families deal with cancer.

Focusing on the individual empowerment of elderly cancer patients, nurses can provide valuable information to their patients. Oncology nurses must be knowledgeable about interventions that can empower patients and improve quality of life.

## 4216

**MULTIDISCIPLINARY SURVIVORSHIP CARE.** Sue Gardner, RN, MSN, CRNP, AOCNP®, Lehigh Valley Health Network, Allentown, PA; Gregory Harper, MD, PhD, Lehigh Valley Health Network, Allentown, PA; Dorothy Morrone, RNC, MS, OCN®, Lehigh Valley Health Network, Allentown, PA; Jennifer Brennan, RD, CSO, Lehigh Valley Health Network, Allentown, PA; Andrea Geshan, RN, MSW, Lehigh Valley Health Network, Allentown, PA; Diane Brong, LCSW, Lehigh Valley Health Network, Allentown, PA; Jennifer Roeder, MSPT, MBA, Lehigh Valley Health Network, Allentown, PA

There are more than twelve million cancer survivors in the United States, and as treatments improve, this number will grow. Because there are positive and negative effects of cancer treatment, and concerns about residual treatment toxicities, recurrence, and secondary malignancies, there is increased need for specialized care of this population once active treatment is complete.

At Lehigh Valley Health Network, a multidisciplinary clinic, Survivor PLACE (Programs for Living After the Cancer Experience) was devised to meet the needs of patients who completed treatment, but still had physical, emotional, or rehabilitative concerns. The goal of Survivor PLACE is to ease transition from focused oncology care to primary care, with emphasis on surveillance, support and advocacy.

Patients referred to Survivor PLACE received a pre-visit quality of life questionnaire. This was reviewed by the team: oncology nurse practitioner, registered dietician, physical therapist, social worker and an oncology nurse who summarized the session. Having the assessment in advance allowed inclusion of genetics counselors, sex therapist, or financial counselors if needed. At an initial two hour visit, patients had a history and physical examination, discussion of nutrition, bone health, exercise, and psychosocial concerns. Each patient received a disease-specific treatment summary, listing staging, procedures, treatments, and complications of therapy. Summary copies were sent to designated care providers. The team then devised a survivorship care plan listing recommendations for surveillance and follow up care. The entire packet, with each team member's assessment, was given to the patient and copied to the primary care providers.

Feedback from pilot patients was unanimously positive. Many patients felt they would have benefitted from survivor services soon after treatment completion. Several felt that a cancer diagnosis, although stressful, helped them focus on a healthy lifestyle. There were requests for smoking cessation, weight management, yoga, acupuncture, meditation and exercise programs.

Survivorship is a challenging part of the cancer experience continuum. After treatment completion, patients have a road to recovery that is traveled much easier with support. A multidisciplinary survivorship program can address the myriad issues facing today's survivors, and help them achieve and maintain physical and emotional wellness.

## 4217

**MULTIPLE MYELOMA: PRACTICE PATTERNS FOR ONCOLOGY NURSES.** Beth Faiman, RN, MSN, APRN, BC, AOCN®, Cleveland Clinic, Cleveland, OH; Marilyn Haas, PhD, ANP-C, Institute for Medical Education and Research, Miami, FL

Exciting new developments in the treatment of multiple myeloma (MM) have improved both survival and quality of life. However, management of this disease can be complex. Oncology nurses (ONs) are in a unique and powerful position to observe adverse effects, raise physician/patient awareness, and ensure proactive management of side effects related to novel agents.

This study assessed the practice patterns of oncology nurses with regard to the treatment of MM.

A 23-item survey was developed from a review of the literature and with expert oncology nurse input. A convenient sample was obtained from Institute for Medical Education and Research

(IMER) database. Online and written surveys were distributed prior/during ONS 10th IOL conference. The domains of the survey included demographics, knowledge, attitudes, and practice behaviors related to treatment of MM.

Ninety ONs responded to the survey. The sample was comprised of staff nurses and nurse clinicians (53%), and 82% had obtained a bachelor's degree or higher. Each item focused on relevant aspects of side-effect monitoring, oncology nursing management, and general knowledge related to MM and bortezomib, lenalidomide, pegylated liposomal doxorubicin, and thalidomide. The majority of nurses reported peripheral neuropathy (PN) as the most frequently occurring side effect of bortezomib (51%) and thalidomide (41%) therapy. In addition, ONs reported PN as the most challenging side effect of bortezomib and thalidomide to manage (62% and 47% respectively). Management of PN symptoms included pharmacologic use of anticonvulsants and dose reductions of anti-myeloma therapy (70% and 73% respectively). Strategies for assessment of PN symptoms in MM were gait/balance (85%) and touch/sensation (86%), but only 33% of nurses surveyed reported using a standardized assessment tool for PN symptoms.

This innovative survey was developed to reveal knowledge deficits and describe practice patterns of ONs integral to the care of patients with MM. Of domains surveyed, PN management was regarded by ONs as a major side effect of newer therapies. Interventions may include development of a PN tool to assess symptoms and an education care plan to prevent and treat PN symptoms. Further research is warranted to evaluate effective non-pharmacologic prevention and treatment strategies for PN.

## 4219

**FACTORS ASSOCIATED WITH NURSES' DISCUSSIONS OF HOSPICE.** Kristen Merkh, RN, BSN, OCN®, Saint Joseph Hospital, Orange, CA; Denise Boyd, RN, BSN, OCN®, Saint Joseph Hospital, Orange, CA; Dana Rutledge, RN, PhD, Saint Joseph Hospital, Orange, CA; Victoria Randall, RN, BA, Centinela Hospital Medical Center, Inglewood, CA

Nurses are ideally situated to facilitate communication surrounding prognosis and hospice referral among patients, families, and other professionals. Knowing how nurses perceive hospice care and discussions with terminally ill patients and their family members is critical to developing programs to enhance communication about these issues among staff, families, and physicians.

Study purpose was to determine factors associated with nurses' hospice discussions with patients and family members.

This study was based upon educational and communication theories, where professional/patient relationships require adequate communication.

Nurses eligible for the study were those working in oncology areas (inpatient unit, cancer center) at a 500+ bed Magnet-accredited hospital. An adapted version of the "Caring for Terminally Ill Patients Nurse Survey" included 55 items. Descriptive statistics were used to describe nurse characteristics and responses; linear regressions determined factors related to hospice discussions.

Thirty-one nurses practicing in inpatient (61%) or other cancer settings (47%) participated. Predominately female (94%) and white (68%) with almost half being bachelor's prepared. 68% were in staff nurse positions.

On average, nurses indicated discussing hospice care with 2.2 patients and 2.3 family members/primary caregivers in the past 3 months. More nurses had discussed hospice with family members than with patients (81% v. 71%). Substantial numbers of nurses (66%) had family members inquire about hospice prior to any nurse-initiated discussion.

Bivariate analyses identified factors significantly associated with hospice discussions. Factors associated with numbers of cases where nurses discussed hospice with patients included: more terminally ill patients cared for, fewer years working as nurse, disagreeing that it is difficult for physicians to talk with patients about dying (R2 = 32%). Factors associated with num-

bers of cases where nurses discussed hospice with family members were: more terminally ill patients cared for, fewer years working as a nurse, and disagreeing that hospice meets family needs better than conventional care (R2 = 38%).

Findings may allow development of programs to improve the capacity of clinicians to deliver effective interventions to terminally ill cancer patients.

## 4229

**NEXT GENERATION IMMUNOTHERAPY FOR ADVANCED MELANOMA.** Blanca Ledezma, RN, NP, The Angeles Clinic, Los Angeles, CA; Marilyn Haas, PhD, Carolina Clinical Consultant, Asheville, NC

Immunomodulatory approaches (e.g., antibodies, small molecule inhibitors, vaccines) promise a major paradigm shift in the treatment of melanoma. Immunomodulatory antibodies differ from traditional immunotherapy in their mechanisms of action, response patterns, durability of response, and adverse effects. As these agents are incorporated into treatment protocols, it is imperative that the latest efficacy/management data be disseminated to the broader nurse audience.

This study assessed the practice patterns of oncology nurses regarding melanoma treatment.

A 16-question survey was developed from a literature review and input from nursing experts. A convenient sample was obtained from the IMER database. Online and written surveys were distributed prior/during the ONS 10th Annual IOL conference. The survey focused on demographics, knowledge, attitudes, and practice behaviors related to melanoma treatment.

Sixty nurses responded. They had varied educational backgrounds; 51% held a master's degree. Survey results revealed that 64% use interferon- $\alpha$ -2b for the adjuvant treatment of stage III melanoma. Combination chemotherapy plus interleukin-2 was the most common (20%) treatment regimen for stage IV disease. The results showed most respondents (30%) managed 1-5 patients/week who were participating in clinical trials. Fifty-seven percent replied as unsure of response patterns for ipilimumab. Established institutional guidelines to manage side effects for immunomodulatory targeted therapies were lacking for 40% of respondents. Thirty-five percent of respondents reported management of side effects as a great unmet need in melanoma education. Results revealed that immunomodulatory therapies were commonly used in clinical trials as standard of care with interferon- $\alpha$ -2b, interleukin-2, or with new novel agents such as ipilimumab. These results confirmed the deficiency in education of side-effect management, kinetics of response, and established institutional guidelines for immunomodulatory therapies.

Education is an important component of staying abreast of the agents that have newly become available for patients. In order to continue providing quality care, oncology nurses must have greater access to continuing education regarding immunomodulatory therapies and a greater move towards self-directed learning.

## 4233

**IMPLEMENTATION OF A STANDARDIZED TEACHING TOOL AND PROCESS IN THE OUTPATIENT MANAGEMENT OF VENOUS THROMBOEMBOLISM ACROSS MULTIPLE TREATMENT SITES.** Kimberly Pacewicz, RN, BSN, OCN®, Memorial Sloan Kettering Cancer Center, Basking Ridge, NJ; Jamie Mastrodomenico, RN, BS, OCN®, Memorial Sloan Kettering Cancer Center, Basking Ridge, NJ

Providing patients with education and resources that are comprehensive, consistent and clear is part of our nursing role in assuring excellent care and positive patient outcomes. At this off site community-based treatment branch of an NCI-designated cancer center, an increase in outpatient managed venous thromboembolism (VTE) and implementation of institutional Antico-

agulation Guidelines required a review of our current patient education materials. A collaborative committee was formed to standardize practice across sites and create comprehensive education materials on blood clots.

The purpose of the project was to standardize materials for teaching outpatients about management of VTE based on institutional evidence-based guidelines. Additionally, a systematic process was needed in our regional facility to increase compliance with standards, ensure safety and improve patient outcomes.

A comprehensive teaching tool was created and an implementation process developed at our regional site. Blood Clot packets were created to facilitate consistent education and stored in a central location. Nurses were educated on new materials, education packets, and guidelines for use. Implementation occurred during 1st quarter of 2009.

Evaluation was accomplished by surveying patients and nurses. Patients were assessed for learning and satisfaction with materials. Nurses were surveyed for satisfaction with materials and the new process. Between 4/09-7/09, nine patients were diagnosed with a blood clot and educated according to new process. Overall 86% of the patients strongly agreed that the education was helpful. 80% of nurses strongly agreed that it helped them incorporate all pertinent aspects in their teaching. The survey identified that a new documentation tool was needed. This presentation will include a description of the tools and process as well as the evaluation data.

Implementation of evidence-based institutional guidelines for the treatment of blood clots was accomplished by standardizing patient education materials across all sites. This project demonstrated that an organized and comprehensive teaching packet and use of a consistent process by nurses at our regional site improved patient's understanding of diagnosis and treatment of blood clots and can serve as a model for other institutions.

## 4236

### EFFECTS OF A CANCER REHABILITATION PROGRAM ON FUNCTION, QUALITY OF LIFE AND CONDITIONING.

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Many cancer patients are left with unique, persistent physical and psychological effects from their malignancies and treatments. There is evidence that participating in regular physical activity after cancer diagnosis may improve functional status, symptom control, and quality of life. To assist patients in becoming physically active during and after cancer treatment, we developed a comprehensive cancer rehabilitation program accessible to cancer patients during and after treatment who are referred by their medical oncologist. The program is 4 – 8 weeks in length depending on patient needs.

This study aims to evaluate the feasibility and effectiveness of a cancer rehabilitation program in improving functional status, quality of life, conditioning level and symptom severity.

Social Cognitive Theory including components of performance accomplishments, verbal persuasion, social modeling and physiological cues guided the development of the cancer rehabilitation program.

72 cancer rehabilitation program participants will be evaluated using a pre-post longitudinal design comparing baseline data to the end of the program with paired t-tests. Functional status is measured with SF-36 Physical Component Summary (PCS); quality of life with SF-36 Mental Component Summary (MCS);

fitness level with the 6-minute walk test (SMWT), grip strength, metabolic equivalent (MET) level; symptoms with the M.D. Anderson Symptom Inventory (MDASI).

To date, 62 participants have been enrolled in the program (mean age 62); 39% had metastatic cancer; 63% were female; 63% had completed active cancer treatment. Participants' medical oncologists referred them to the program and they were willing to participate despite many being symptomatic from their disease or treatment at enrollment. Participants who completed the program showed significant improvements in SMWT ( $p=.021$ ), MET level ( $p=.0001$ ), and symptom interference ( $p=.047$ ). Non-significant improvements were also noted in SF-36 PCS and MCS scores. Eighteen participants (29%) dropped out of the program, many due to disease or treatment complications. Participants who were able to continue with the program experienced benefits in fitness and symptom control. Oncology nurses should promote physical activity and encourage patients to enroll in cancer rehabilitation services as available.

## 4238

### OSTOMY INFORMATION SHEET BRIDGES TRANSITIONS FOR OSTOMATES IN AN ONCOLOGY SETTING.

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With a team of seven certified wound, ostomy and continence nurses (CWOCNs) providing direct education to an average of 750 new ostomy patients per year, this NCI designated comprehensive cancer center identified the need to standardize patient education and improve communication across the continuum of care. Since the majority of ostomies are created secondary to a diagnosis of cancer or to protect anastomotic junctions to allow for post-operative healing, it is appropriate that a CWOCN team from a cancer center develop ostomy information summaries to fulfill the JCAHO 2008 Standards on Provision of Care to facilitate care, treatment and services continuity for patient community or facility transitions.

This document standardizes individual educational care summaries provided to patients at outpatient CWOCN clinic visits and inpatient discharges throughout the institution. It summarizes basic care instructions specific to urostomies, ileostomies, colostomies and captures ostomates' discharge learning and equipment needs for other facilities, home care nurses, patients and families. In conjunction with its development, related nursing procedures and orders were developed with electronic import and export capability. Evaluation of patients' educational status regarding ostomy care is included to facilitate further teaching after transitions.

The documents are part of patients' permanent medical records with printing ability for patient education purposes. It features the ability to include standardized care instructions regarding pouch changes, peristomal skin care, CWOCN contacts, other resources and specific equipment needs including manufacturer names and product numbers. Once electronically submitted, it is then available to both inpatient and outpatient CWOCNs for easy reference and distribution as patients transition throughout practice areas.

Staff education, as well as, system evaluation is underway to continue to refine this new standardized ostomy information sheet. CWOCN team members report significant reduction in time spent preparing individual ostomy care summaries. Though patient responses have been overwhelmingly positive, the team continues to incorporate patients' feedback for improvement of the tool.

Exploitation of available software applications by CWOCN clinicians improves documentation, communication and educational material enhancing patient care, satisfaction, communica-

tion, efficiency and continuity of services. This standardized tool facilitates self care learning needs and provides a consistent communication and educational approach.

## 4239

**THE ROLE OF THE REGISTERED NURSE IN PROVIDING HYPNOSIS FOR SYMPTOM MANAGEMENT.** Kathy Kravits, RN, LPC, ATR-BC, HNB-BC, City of Hope, Duarte, CA

Hypnosis may be defined as an agreement between a person designated as the hypnotist (e.g., healthcare professional), and a person designated as the client or patient, to participate in a therapeutic technique based on the hypnotist providing suggestions for changes in sensation, perception, cognition, affect, mood, or behavior. With the advent of systematic exploration of hypnosis by randomized clinical trials, new understanding of its role in the management of symptoms of disease has been achieved. There is significant evidence that hypnosis is effective in decreasing pain, nausea and vomiting, fatigue and anxiety.

A number of states have generated position papers to specifically address the issue of CAM therapies, including the use of hypnosis, in nursing practice. California, for example, has taken a clear, positive stand affirming that nursing scope of practice includes hypnosis and that nurses may provide it as long as they have appropriate education and training and can demonstrate competence in it.

The National Institute of Health supports the use of hypnosis as an adjunct therapy for the management of cancer pain. Substantial evidence exists to demonstrate that hypnosis is an effective therapy associated with minimal risk that may become self-directed with appropriate patient education. Nurses are in the ideal position to administer this therapy. However, insufficient numbers of nurses are prepared to provide hypnosis to patients.

The purpose of this presentation is to report the results of a pilot study describing the role of the nurse in providing hypnosis to pre-operative patients.

A scripted, 15 minute nurse-led hypnosis experience was provided to pre-operative breast cancer patients with positive results.

Patient satisfaction with the hypnotic experience was evaluated post-operatively using a semi-structured interview conducted by a data collection nurse. Qualitative analysis was performed on the results and descriptive statistics were used.

Hypnosis is a valuable, low risk intervention that falls within the scope of nursing practice in many states and can be competently performed by nurses.

## 4241

**ONE INSTITUTION'S EFFORTS TO INCREASE REFERRALS TO THE NURSE NAVIGATOR.** Susan Keen, RN, OCN®, Thomas Johns Cancer Hospital at CJW Medical Center, Richmond, VA

The role of the Oncology nurse navigator is assisting the patient from diagnosis to survivorship. This role has grown in popularity among healthcare professionals, however; there is not yet uniformity amongst practitioners as to how nurse navigators should function and how referrals should be garnered. Therefore, variances exist between programs across the county. At the Thomas Johns Cancer Hospital several interventions have been employed to promote use of the navigator with varying degrees of success.

Patient referrals are essential for the navigation program to succeed. General oncology navigators who care for patients with many types of cancer encounter different obstacles as they work with multiple disciplines. This project will review successful paths for obtaining referrals and development of the nurse navigator role.

Becoming the coordinator/facilitator of our chest conference, the navigator organizes and prepares the cases for conference day. This in return provides the navigator with referrals of the patients being discussed. Secondly, all cancer-related pathology reports are sent directly to the navigator with a blanket approval by many of our physicians to see these patients. Additionally, surgeons have

begun sending their surgery schedules which involve cancer cases to the navigator for post-operative visits. Order sets were developed, consulting the nurse navigator following lung surgery.

Facilitating the chest conference developed collegially between the physician and the navigator; giving the navigator a physician champion of the role. This was very effective in helping the program to grow exponentially. In addition, the navigator became skilled at ways to work with the different disciplines by working on order sets to include navigation consultation. Although receiving pathology reports were helpful in identifying patients, this did not always result in patient consultation, but instead occurred after patient discharge.

There is more to be done for navigation. Providing value added service to busy physicians will build the relationships needed for navigators to receive referrals. This positive effect and outcomes will yield increased referrals. A physician champion is almost essential to boost viability of navigation program.

## 4243

**EVIDENCE BASED PRACTICE FOR THE PREVENTION AND TREATMENT OF CANCER RELATED INFECTION.** Sylvia K. Wood, DNP, ANP-BC, North Shore Hematology Oncology Associates, East Setauket, NY; Patricia Bruckenthal, PhD, RN, ANP-C, Stony Brook University, School of Nursing, Stony Brook, NY; Paichuan Chen, Stony Brook University, Department of Applied Mathematics and Statistics, Stony Brook, NY

In 2010, cancer is expected to be the leading cause of death worldwide. Innovations in diagnosis and treatments have improved survivorship. However, cancer-related infection remains a major obstacle in achieving effective outcomes causing significant morbidity and mortality. Cancer patients face unique infectious threats from novel chemotherapeutic and immunomodulating biologic agents creating new challenges for practitioners. Current epidemiologic trends show pathogens changing over the last two decades with antimicrobial resistance a serious emerging problem. Knowledge gaps and inadequate prophylactic strategies are prevalent. While neutropenia remains a major risk factor, other immunocompromised cancer states and their spectrum of susceptible pathogens pose equal infectious risk. The National Comprehensive Cancer Network (NCCN) expanded guidelines for all cancer states, creating the 2008 Clinical Practice Guidelines in the Prevention and Treatment of Cancer Related Infection.

To investigate patient outcomes after an NP practice improvement intervention for implementation of the NCCN Clinical Practice Guidelines for the Prevention and Treatment of Cancer Related Infection.

Adoption of Innovations Theory, a conceptual model of the adoption process and knowledge translation for expert learning within the larger context of health care system influences.

Convenience sample of 110 adult community cancer patient records compared before and after the NP intervention for implementation of NCCN guidelines, and resulting patient outcomes: cancer related infections, hospitalizations, and cancer treatment delay and dose reductions. Descriptive statistics, T-tests, and Linear Regression were used for data interpretation.

Statistically significant improvements in the prospective group found guideline implementation increased by approximately 20%. The prospective sample had significant reduction in hospitalizations, sepsis, and death with cancer related infections approaching significance. Significant predictive relationships found cancer related infections increased guideline implementation. Hospitalization and dose reductions had decreased use. This research confirms clinical practice guidelines can improve patient outcomes. Efforts to improve care require identification of barriers for successful integration of evidenced based guidelines into clinical practice. Disparities in guideline use can elucidate areas of guideline adoption/practice conflict signaling opportunities for educational and practice enhancement to achieve improved patient outcomes for the community cancer patient population.

4244

**UNDERSTANDING THE EXPERIENCE OF HEMATOPOIETIC STEM CELL TRANSPLANT NURSING: COMPASSIONATE PRESENCE.** Brenda Sabo, RN, BA, MA, PhD, Dalhousie University School of Nursing, Halifax, Canada

Research on occupational stress continues to remain largely quantitative in nature. More recently, qualitative studies have begun add a richer dimension and understanding to existing evidence on the experience of nursing work. To date, a paucity of research has focused on the psychosocial effects of hematopoietic stem cell transplant (HSCT) nursing; in particular, what are the benefits/rewards and adverse consequences of caring for patients who undergo HSCT and their families. Further, research suggests that caring for individuals who are suffering, traumatized or at end-of-life inevitably leads to occupational stress (burnout, compassion fatigue, vicarious traumatization and/or moral distress).

To enhance an understanding of psychosocial effect(s) of HSCT nursing

An interpretative phenomenological study grounded in the philosophical stance of Heidegger and van Manan was used and supported by feminist and social ecological theories. The use of both theories was not purposeful; rather, their use was to facilitate awareness of features that may support or constrain psychosocial health and wellbeing among HSCT nurses

Twelve HSCT nurses from three hospitals in Canada shared their experiences through multiple interviews and focus groups. Thematic analysis informed by Benner and van Manan was used to bring to light the experience of HSCT nursing

A *de novo* finding compassionate presence emerged which challenged the notion of working with patients and families who are suffering, traumatized or facing end-of-life as inevitably leading to occupational stress such as burnout, compassion fatigue, moral distress and/or vicarious traumatization. Additionally, four core interconnected themes were also identified which added clarity and understanding to the nature of HSCT nursing. The findings reinforce and support the importance and value of the relational foundation of nursing work – the nurse-patient-family relationship. Nurses can and do find immense reward, as well as personal and professional satisfaction from entering into and connecting with patients and families who are suffering or at end-of-life. The findings will be presented along with implications for nursing practice, education and future research.

4245

**TRAUMATIC STRESS, DEPRESSION AND CAREGIVER BURDEN AMONG SPOUSAL CAREGIVERS OF HEMATOPOIETIC STEM CELL TRANSPLANT RECIPIENTS: A FEASIBILITY STUDY.** Brenda Sabo, RN, BA, MA, PhD, Dalhousie University School of Nursing, Halifax, Canada; Deborah McLeod, RN, PhD, QEII Health Sciences Centre, Halifax, Canada; Stephen Couban, MS, FRCPC, QEII Health Sciences Centre, Halifax, Canada; Jean Hughes, RN, PhD, Dalhousie University School of Nursing, Halifax, Canada

Few studies have explored the psychosocial health of spouses caring for patients undergoing hematopoietic stem cell transplantation (HSCT) yet the very nature of the spousal role in care-giving suggests the potential for posttraumatic stress, depression and poor quality of life.

to: i) identify adverse effects such as depression, traumatic stress and decreased quality of life associated with the caregiver role; and ii) identify at what points along the treatment continuum spouses are most vulnerable (pre-transplant, 6 weeks post transplant, 6 months and 1-year post transplant).

a multi-method approach involving both qualitative (interpretative phenomenology) and quantitative (questionnaires) components was used to gain an understanding of the spousal experience of care-giving across the HSCT treatment continuum.

11 participants were interviewed and given questionnaires at four points in time (pre-HSCT; 6 weeks post HSCT; 6 months post HSCT; and 1 year). Open-ended questioning reflecting the phenomenological approach of Heidegger was used to elicit the experience and meaning of spousal care-giving. Questionnaires included Pro-QOL-R-IV, Caregiver Quality of Life Cancer, CES-D and were used to screen for compassion fatigue, caregiver burden and depression respectively. Descriptive statistical analysis was used for the quantitative component. Thematic analysis (Benner, van Manan) was used for the qualitative component of the study.

The findings suggest that the time immediately prior to, and 6 weeks post HSCT are periods of high distress for the spouse, with 50% of spouses at increased risk for experiencing traumatic stress and 38% experiencing depression. The relationship between quality of life, depression and traumatic stress was highly significant across the 4 points in time. Given the potential risk for depression, traumatic stress and poor quality of life, care-givers should be regularly assessed for psychological distress across the treatment continuum as part of routine care delivery. More understanding is needed about the experience of care-giving in order to design relevant interventions for this population.

4246

**THE ONCOLOGY NURSE'S ROLE IN THE ADJUVANT TREATMENT OF EARLY STAGE BREAST CANCER: STREAMLINING THE PROCESS OF ORDERING ONCOTYPE DX BREAST CANCER ASSAY.** JoEllen Warnke, RN, BSN, OCN®, Moffitt Cancer Center, Tampa, FL; Kathleen Roberto, RN, BSN, OCN®, CBCN, Moffitt Cancer Center, Tampa, FL

The Oncotype DX® assay is a diagnostic test that can help women with early stage estrogen receptor positive breast cancer learn how likely their cancer may return in the future (distant recurrence) or if they would benefit from adjuvant chemotherapy. Since not all women benefit from chemotherapy, the assay provides individualized prediction and prognostic data to tailor their treatment. With this information, the patient is better informed and more confident in their breast cancer treatment.

To better prepare the woman in the decision for adjuvant breast cancer treatment, the nurse's role is to help streamline the course by educating and giving tools necessary to understand their treatment benefits. We are using evidence as recommended by NCCN and ASCO guidelines to help women and their providers feel confident in their treatment decisions with respect to chemotherapy. The purpose of this presentation is to describe the role of the oncology nurse in preparing the patient for the discussion about adjuvant therapy.

Once the patient undergoes surgical management and pathological criteria are met, the surgical team is alerted and the nurse orders the Oncotype DX® assay online. Within 10-14 days, the surgical team receives the report. The nurse communicates the results to the patient and a copy is provided to the patient in preparation for the visit with the Medical Oncologist. She arrives with a personalized evidence-based understanding needed for the discussion of adjuvant treatment.

Oncotype DX® Recurrence Score is received within 2 weeks after surgery and communicated to the patient. This process prepares the patient for their adjuvant therapy discussion and patients are more informed and confident about their personalized treatment options.

Oncology nurses can be key players in assisting newly diagnosed breast cancer patients by streamlining the ordering process and educating patients. Patients can then develop a personalized treatment plan with their Medical Oncologist. This important role of nurses in educating patients can be applied to other cancer assays as they become available in the future.

4248

**TRANSFORMATIONAL LEADERSHIP WITH A NEW CARE DELIVERY MODEL.** Colleen O'Leary, RN, MSN, OCN®,

AOCNS®, Advocate Good Samaritan Hospital, Downers Grove, IL; Jodi Overbeck, RN, MSN, OCN®, Advocate Good Samaritan Hospital, Downers Grove, IL; Carrie Bauman, RN, BSN, Advocate Good Samaritan Hospital, Downers Grove, IL; Joy Kennedy, RN, BSN, Advocate Good Samaritan Hospital, Downers Grove, IL

Leadership is critical to providing best care. Without strong leadership, nurses feel disempowered and frustrated resulting in apathy which influences care. Transformational leaders protect against this by creating an empowering culture that motivates staff to pursue mutual goals and share visions thus delivering care with greater effectiveness

Transformational leadership was used to implement a new care delivery model at Advocate Good Samaritan Hospital. The leadership for this model consists of a Clinical Nurse Manager (CNM)/ Clinical Nurse Specialist (CNS) dyad and a new position, Clinical Nurse Coordinator (CNC). The CNC assumes accountability for the patient's plan of care while coordinating care provided by the multidisciplinary team. This leadership team works together to motivate and empower staff to meet high expectations aimed at improving patient outcomes. Working in unison towards building and motivating team efforts resulted in successful patient outcomes.

Through regular communication with the CNC's and staff, the CNM and CNS served as a catalyst for change. Tools such as shared governance and unit committees changed the tone from dictatorial to ownership for outcomes. The CNCs motivated and energized staff empowering them to work towards mutual goals. Each day leaders are seen rounding on patients, providing support and modeling the care that is required.

To determine the effectiveness of this model, data was collected on patient satisfaction, patient outcomes, and staff satisfaction prior to implementation and 8 months after.

Press Ganey and HCAPHS patient satisfaction scores improved 42 and 27 percentile points respectively. Nursing overall care improved from 77th to 94th percentile, nurses keeping patient informed went from the 59th to 94th percentile, nurses treating patients with courtesy improved from 45th to 60th percentile and nurses explaining things in a way you understand went from the 59th to the 90th percentile. Patient outcomes improved an average of 15%. Staff satisfaction improved by 0.5 points while the RN vacancy rate decreased by nearly 14 %.

Nurses are change agents, visionaries, and advocates for their patients. Transformational leadership utilizes the nurses' vision, creativity, decision making, autonomy and empowerment creating a standard of care delivery that improved patient outcomes, satisfaction and retention.

## 4250

**GLUTEAL INTRAMUSCULAR INJECTIONS: EVALUATION OF CLINICAL PRACTICE AND FACTORS ASSOCIATED WITH SUCCESS AND FAILURE.** April Boyd, AND, RN, University of Texas M. D. Anderson Cancer Center, Houston, TX; Jeannette Mares, PA-C, University of Texas M. D. Anderson Cancer Center, Houston, TX; Linda DeFord, MS, University of Texas M. D. Anderson Cancer Center, Houston, TX; James Yao, MD, University of Texas M. D. Anderson Cancer Center, Houston, TX

Gluteal intramuscular injection remains an important method for delivery of a variety of medications including octreotide LAR which is effective for control of carcinoid syndrome and delay in tumor growth in midgut carcinoid tumors. However, many intended gluteal intramuscular injections are delivered subcutaneously which may lead to altered pharmacokinetics and suboptimal therapeutic patient outcomes.

To improve the rate of successful gluteal intramuscular injection by contributing problem analysis information and injection guideline clarifications.

Patients receiving intramuscular injection of octreotide LAR at the Gastrointestinal (GI) Center, University of Texas M. D. Anderson Cancer Center were identified. 22 Nursing interviews were conducted to identify injection technique. Pelvic CTs were reviewed for evaluation of injection success. Barriers to successful gluteal intramuscular injections were identified and analyzed. Factors associated with successful injection were identified and the information disseminated among a group of nurses administering octreotide LAR.

Nursing interviews revealed wide variation in injection site location method among a diverse group of nurses within the center. 251 intended intramuscular injections between 12/21/2005 and 6/25/2008 were evaluable by CT. 105 (42%) were associated with subcutaneous nodules indicating subcutaneous placement; 146 (58%) were deemed successful intramuscular injection. Successful intramuscular injection rate was lower in females (42% vs 77%;  $P < 0.001$ ). Factors associated with successful intramuscular injection included self-reported indicators of experience, injection site location method, depth of needle insertion, and use of non-syringe hand. In 14 to 34% of patients, needles great than 38mm (length of needle available in US) would be needed for successful intramuscular injection.

A significant number of octreotide LAR injections are not successfully delivered into the intramuscular space. Common reasons for unsuccessful intramuscular injection are poor injection site selection, and not advancing needle to full length. Data on nursing experience and injection technique will be presented and discussed. Nursing education may improve successful intramuscular injection rate. Increased awareness and post-instruction project phases have resulted in an increased success rate of intramuscularly administered octreotide LAR injections in the GI Center.

## 4251

**COMPARISON OF APTT VALUES FROM VENIPUNCTURE SPECIMENS AND CENTRAL LINE SPECIMENS IN HOSPITALIZED ADULT PATIENTS RECEIVING CONTINUOUS HEPARIN INFUSIONS.** Colleen O'Leary, RN, MSN, OCN®, AOCNS®, Advocate Good Samaritan Hospital, Downers Grove, IL; Mary Sue Dailey, RN, APN, Advocate Good Samaritan Hospital, Downers Grove, IL; Carrie Bauman, RN, BSN, Advocate Good Samaritan Hospital, Downers Grove, IL; Joy Kennedy, RN, BSN, Advocate Good Samaritan Hospital, Downers Grove, IL; Karen Hagmaster, RN, BSN, Advocate Good Samaritan Hospital, Downers Grove, IL

Many hospitalized patients receive heparin to prevent or treat blood clots. When a patient is receiving a continuous heparin infusion, the standard of care is to monitor the Partial thromboplastin time (aPTT) values and make adjustments in the heparin infusion rate to maintain a therapeutic blood level. Very specific processes need to be in place to ascertain accurate results for patient safety. If a patient has a central venous catheter (CVC), the blood sample may be collected either from the CVC or a vein. The validity of results drawn from a CVC is often questioned, as evidenced by the number of suspected contaminated specimens and critical aPTT values reported. There are wide variations in techniques for collecting the blood specimens from a CVC. Previous studies found no clear guidelines regarding specific procedures the nurse should follow when collecting aPTT specimens from a patient with a CVAD receiving continuous heparin.

The purpose of this study is to determine if there is a clinically significant difference between the aPTT results from a specimen collected from CVC and a specimen collected from a peripheral vein.

Paired blood samples from 80 patients receiving a continuous heparin infusion through a CVC will be collected. One specimen will be collected from the CVC following a defined protocol and one specimen will be collected at the same time from a peripheral vein. Results from the paired specimens will be compared.

Data from a Clinical Environment Form, a Chart Review Form and the laboratory aPTT values will be entered into an Excel spreadsheet for cleaning and verification. All variables will be screened for outliers or unexpected values. Following data verification, descriptive statistics will be generated. Further data concerning type of line, any concurrent infusions, and other clinical variables will be performed as indicated.

It is expected that there will be no clinically significant difference in the specimen pairs when the defined specimen collection procedure is followed for collecting the CVC specimens.

## 4253

**GLYCEMIC STATUS AND IMMUNE FUNCTION IN PATIENTS WITH CANCER: A CONCEPTUAL MODEL.** Marilyn Hammer, PhD, DC, RN, New York University College of Nursing, New York, NY; Joachim Voss, PhD, RN, University of Washington School of Nursing, Seattle, WA

Patients with cancer have compromised immune systems, leaving them susceptible to infections and increased rates of morbidity and mortality. Hyper and hypoglycemic status and/or increased glycemic variability can influence immune function significantly; however, the role of glycemic status and immune function in patients with cancer is not well understood. In addition, the potential contributors to glycemic status that can be manipulated (nutrition, physical activity levels, stress, and pharmacological agents) among this patient population need to be fully understood in order to implement interventions that will lead to better outcomes.

The purpose of this presentation is to introduce a novel conceptual model to describe the influencing variables of glycemic status and its impact on immune function, leading to increased risk of infection among patients with cancer. This model provides insight for future research studies to better conceptualize the relationships between deregulated glycemic status and the subsequent development of infections in the context of cancer disease and treatment. The ultimate goal of this model is to provide the theoretical background to test effective interventions to improve glycemic status and immune function for patients with cancer.

Clinical interventions are proposed to improve glycemic control through new protocols for nutritional evaluation and guidelines, enhancing physical activity, and aiding patients with stress control. New protocols for pharmacological interventions for improved glucose control are under development.

Future studies are needed to better evaluate the influence of glycemic status in immune function among patients with cancer. Additionally, intervention studies to address the contributors to glycemic status that can be manipulated (nutrition, physical activity, stress, and pharmacological protocols), need to be conducted among various populations of patients with cancer.

As new evidence emerges regarding the contribution of glycemic status to immune function in patients with cancer, interventions for the various contributors to glycemic status need to be implemented. Optimizing glycemic control may lead to decreased rates of infections in patients with cancer, which will decrease morbidity and mortality.

## 4258

**HYPERGLYCEMIA AND PATIENTS WITH CANCER—LIMITING THE IMPACT ON ONCOLOGIC THERAPIES AND QUALITY OF LIFE.** Laura Herbener, RN, OCN®, Lehigh Valley Health Network, Allentown, PA; Nicole Reimer, BSN, RN, OCN®, Lehigh Valley Health Network, Allentown, PA; Catherine Quinn, RN, BS, Lehigh Valley Health Network, Allentown, PA

'Healthy People 2010' initiatives focus on diabetes, with goals to decrease impact of the disease and cost. The number of cancer patients with diabetes co-morbidity is increasing, posing associated, enhanced threats to patients' oncologic therapies and quality of life. Evidence has shown decreased morbidity and

mortality in multiple acutely ill populations when blood glucose levels were maintained within a defined target range. Although a paucity of published data addresses glycemic control in the oncology inpatient, the concept was adopted within an academic, community magnet hospital.

This presentation will discuss the impact of hyperglycemia on patients with cancer and actions taken to maintain glycemic control for patients on a 20 bed medical-surgical oncology unit.

A review of inpatient oncology patients demonstrated that glucose levels were within compliance parameters of a defined evidence based protocol 30 percent of the time. A diverse action plan for improvement included the following: three hours of didactic education for registered nurses and mid-level practitioners by an advanced practice diabetes nurse specialist; transparency of data reporting, including real-time electronic documentation of trending and analysis and readily seen visual displays on the unit 'Metric Dashboard'; daily, continuous rounding by the unit educator, to reinforce expectations, discuss and clarify interventions, and recognize and reward adherence to the protocol.

Quantitative metrics include compliance of blood glucose levels within the target range and infection rates. Qualitatively, staff members report a perceived sense of confidence, an enhanced knowledge base, and empowerment in discussing the glycemic management of diabetic oncology patients with the physician; also, by including the mid-level care providers in the initiative action planning and education, these individuals have become collegial champions of the initiative, with the staff nurses.

Tight glycemic control adds yet additional work for the oncology care delivery team. Thus, to achieve desired compliance with established glucose parameters within a protocol, careful planning which incorporates change theory action strategies is necessary. Learners attending this session will gain pragmatic insights and strategies to deliver care to their diabetic cancer patients in accordance with the evidence and best practice.

## 4259

**PAIN, FATIGUE, AND SLEEP DISTURBANCE IN CANCER SURVIVORS AND THEIR RELATIONSHIP WITH USE OF MIND-BODY THERAPIES.** Kristine Kwekkeboom, PhD, RN, University of Wisconsin–Madison School of Nursing, Madison, WI; Catherine Cherwin, MS, RN, University of Wisconsin–Madison, Madison, WI; Ronald Serlin, PhD, University of Wisconsin–Madison, Madison, WI

Pain, fatigue, and sleep disturbance form a common symptom cluster experienced by persons with cancer. Cancer survivors may continue to experience symptoms months to years after treatment ends, and symptoms can worsen if the disease recurs. Mind-body therapies may help cancer survivors manage persistent symptoms.

The purpose of this study was to describe reports of pain, fatigue, and sleep disturbance among cancer survivors, explore their use of mind-body therapies, and evaluate variables that may explain how and for whom these therapies work. This study addresses ONS research priorities including cancer symptoms/side effects and long term survivorship issues.

The study tested relationships in a conceptual model suggesting that effects of mind-body strategies are mediated by personal control beliefs, and moderated by age, gender, and the personal-ity factor, openness to experience.

A secondary analysis was conducted using data from the Midlife Development in the United States-II (MIDUS-II) survey; a study of behavioral, psychological and social influences on health using a national sample of 4963 adults. Of these, 560 MIDUS-II participants reported a history of cancer and provided data about their demographic characteristics, cancer experience, symptoms, use of mind-body therapies, control beliefs, and openness to experience. Participants' symptom experiences and use of mind-body therapies were summarized with descriptive statistics. Nonparametric regression analyses were used to test hypothesized relationships.



Forty-six percent of the survivors reported pain, 48% reported fatigue, and 79% reported sleep disturbance. Twenty-four percent reported all three symptoms. Nearly half (49%) had used at least one mind-body therapy in the past year. The most frequently used techniques were prayer and relaxation/meditation. Control beliefs mediated the relationship between mind-body therapies and pain, fatigue, and sleep disturbance. Age, gender, and openness to experience did not moderate the relationship between mind-body therapies and symptoms. This study provides preliminary evidence of a symptom cluster in cancer survivors and furthers understanding of how mind-body interventions influence symptoms. Future research should use a prospective experimental design to evaluate effects of mind-body therapies on control beliefs and co-occurring pain, fatigue, and sleep disturbance in cancer survivors.

## 4261

### MANAGEMENT OF ACUTE TOXICITIES DURING RADIATION TREATMENT OF NON-SMALL CELL LUNG CANCER.

Haihong Cai, ANP-C, MD Anderson Cancer Center, Houston, TX

Radiotherapy is one of the primary treatment options for patients who have either medically inoperable, locally advanced non-small cell lung cancer, or limited stage small-cell lung cancer. While radiotherapy is considered standard of care for non-small cell lung cancer, management of acute toxicities during radiation therapy is critical because radiation-induced toxicities can severely compromise patients' well being. The severity can also be aggravated by concurrent chemotherapy.

Identify and describe management of frequently experienced toxicities during radiotherapy for non-small cell lung cancer.

Radiation can cause erythema, blistering, ulceration, and possible superimposed bacteria infection. Before the radiotherapy starts, patients are instructed on appropriate skin care, including avoidance of exposure to chemical irritants, and direct sun light. They are instructed to refrain from applying any substances to the torso to minimize the radiation dosage to skin. During and post radiotherapy, alcohol/fragrant free skin ointments, gel patches, and antibiotic ointments are used to promote healing.

To reduce and manage esophagitis that may occur 2-3 weeks into the treatment, topical anesthetics and analgesics are prescribed for comfort, and proton pump inhibitor to reduce irritation to esophagus. Patients are advised of dietary modifications. Stricture of esophagus is usually a late effect. Sometimes oral candida infection has similar manifestation as esophagitis, which is more common in patients receiving concurrent chemotherapy.

Patients who experience radiation pneumonitis may be treated with prednisone and antibiotics in addition to close monitoring. Fibrosis, usually a late sequel of radiation pneumonitis, requires on-going surveillance and treatment.

Surveillance and appropriate management of acute toxicities is critical to allow for completion of radiotherapy without dosage reductions or interruptions in the treatment plan.

Radiation-induced damage to normal tissue remains the most common dose-limiting factor in the chest radiotherapy and can involve any structures within the thorax, such as skin/cutaneous tissues, lungs, esophagus, spinal cord, and heart. With the advancement of radiation techniques, such as IMRT and proton, and cytoprotective agents, such as Amifostine, it is possible for patients to receive higher doses with less acute toxicities. Nevertheless, patient education, such as diet, skin care, plays an important role to promote patients' well-being.

## 4267

### COLORECTAL CANCER SURVIVORS: A CLINICAL MODEL FOR FOLLOW-UP CARE.

Zana Correa, NP, Memorial Sloan-Kettering Cancer Center, New York, NY

When colon and rectal cancers are found early, there is nearly a 90% chance of cure. Survival from colorectal cancer has improved

over the last 15 years as a result of advances in detection and treatment, but patients are left with significant treatment related sequelae. In response to the growing number and needs of survivors, this comprehensive cancer center initiated a survivorship clinic for stage I-III colon and rectal cancer survivors November 2007.

The purpose of the Colorectal Cancer Survivorship clinic is to provide comprehensive follow up care to colorectal cancer patients treated at our institution following curative therapy. Transitioning patients to a dedicated survivorship NP provider allows for care that is more focused on the comprehensive post treatment needs and eases volume in the practices of oncologists and surgeons.

A NP with training in survivorship was selected as the independent care provider. Standards were established for patient eligibility and referral: rectal cancer patients are referred at 5 years post surgery and colon cancer patients referred at 1 year post surgery and chemotherapy. Standard visit components includes history and physical examination, surveillance according to NCCN guidelines, and routine assessment of physical and psychosocial treatment sequelae, such as fatigue, sexual dysfunction, nutritional problems and fears about recurrence. Counseling is provided about appropriate cancer screening, and evidence based health promotional behaviors, and referrals are made for any identified physical and psychosocial problems. A treatment summary and care plan is reviewed with the patient and a copy sent to the primary care physician with a follow up letter.

Since November 2007, there have been 427 colon cancer and 193 rectal cancer patient visits in the survivorship clinic. Data is collected on referrals for screening, and specialty services. Primary care provider and patient satisfaction surveys are underway. The presentation will include detail about the clinic operations, specialty referrals and satisfaction survey data.

This Survivorship NP directed clinic addresses the unique challenges and issues of CRC survivors. As the number of survivors increases it is imperative that advance practice nurses have an understanding of the complexity of care needed, and services that are available.

## 4268

### SIMULATION BASED COMPETENCY TO INCREASE INPATIENT NURSE'S SKILL IN THE DELIVERY OF PERIPHERAL VESICANT CHEMOTHERAPY AND THE MANAGEMENT OF EXTRAVASATION.

Shirley Sampson, RN, BSN, MA, OCN®, NE-BC, Stanford Hospital and Clinics, Stanford, CA; Theresa Latchford, RN, MSN, CNS, AOCN®, Stanford Hospital and Clinics, Stanford, CA

Cancer treatment may require administration of intravenous (IV) vesicant chemotherapy which can cause severe tissue damage if extravasated. The risk of extravasation for the patient receiving a peripheral vesicant agent is estimated to be as high as a 7 percent. Patient risk factors include small fragile vessels, frequent previous venipunctures and prior drug treatment. Practitioner risk factors include deficient IV skills, improper site care after insertion, and inexperience with extravasation management.

With the increased use of central venous access devices in the oncology population, the administration of peripheral vesicant chemotherapy has become a high risk, low volume skill. On the inpatient hematology, oncology, and bone marrow transplant units, it was taking an average of 1 year to complete the institution's peripheral vesicant competency. Barriers to the completing of the competency were the nurse's expression of anxiety in starting IVs, administering vesicants and treating extravasation.

The primary goal of this project was to provide new chemotherapy nurses the opportunity to acquire IV skills while safely infusing peripheral vesicants and managing extravasation. This was accomplished by developing a scenario using an IV training arm with simulated blood flow. In addition, the nurses could complete chemotherapy competency within a shorter timeframe.

A competency checklist utilizing an IV training arm was developed. The competency criteria included the comprehensive

process for administering peripheral vesicants and included an extravasation scenario. After completing the requirements for non vesicant chemotherapy administration, the staff was scheduled for their peripheral vesicant competency.

Twelve nurses completed the competency. In a pre-competency survey, all staff showed a high level of anxiety for inserting peripheral IVs to administer vesicants as well as managing extravasation. The post-competency survey showed a decrease in the level of anxiety. The new chemotherapy nurses were able to complete their competencies within 2 months of initiating the process.

The development of a competency utilizing an IV training arm has shown to decrease anxiety of new chemotherapy nurses administering peripheral vesicants. It can also shorten the time to complete an institution's peripheral vesicant chemotherapy administration competency requirements. This competency could also be used for annual chemotherapy/biotherapy re-validation process.

## 4275

### WHAT'S ON THE MENU TONIGHT? DELIVERING ONCOLOGY EDUCATION TO NURSES ON THE OFF SHIFTS.

Martha Kershaw, RN, MSNEd, OCN®, Roswell Park Cancer Institute, Buffalo, NY

Nursing staff at a comprehensive cancer center provide care to oncology patients 24 hours a day. The specialty of oncology nursing requires ongoing education to keep nurses current on changes in care and the needs of their patient population. Nursing Education provided directly on the units in a non traditional way allows staff to observe their patients and still participate in educational offerings. Planned educational offerings must recognize the constraints on nurses time while still providing opportunities to offer evidenced based education to oncology nurses on all shifts.

Provide oncology focused, evidenced based education to nurses in a comprehensive cancer center working non-traditional shifts.

A review of the annual needs assessment was conducted to identify specific oncology topics of interest to nursing staff. To meet the needs of different levels of experience found on the non-traditional shifts, it was decided that staff would participate in selecting of topics of interest/need.

To make it more fun to select the topics, a format that mimicked a restaurant menu was developed. Each unit/patient population based menu was developed with both traditional categories, and a "special" of the week which involved a formal inservice on a specific oncology topic. If staff missed the weekly special, they were given a handout summarizing the information.

Traditional menu categories were replaced with Games, Case Studies, a suggestion for independent study and a weekly reminder each utilizing the same topic as the weekly special.

In developing the educational program on the topic of the week, the night shift staff development instructor utilized current evidence to create the program. The menu was distributed to all units and the staff contacted the night shift staff development instructor with their "menu" selections.

Informally, after the first week, the phrase, "what's on the menu tonight?" became a common question asked. After 6 months, an online survey will be distributed to nursing staff via surveymonkey including an evaluation of the "menu" format and request for topic ideas.

By involving staff nurses working non-traditional shifts in the process of selecting education offered, a more valuable learning experience is provided.

## 4277

### CATCHING THE WAVE: DEVELOPING A COMPREHENSIVE VOLUNTEER PROGRAM FOR THE BREAST CARE NAVIGATOR PROGRAM.

Jeannie Keith, RN, MSN, AOCN®, NEA-BC, Christus Spohn Cancer Center, Corpus Christi, TX;

Cathy Claveria, MSN, Christus Spohn Cancer Center, Corpus Christi, TX

The Christus Spohn Cancer Center is an outpatient treatment center that serves approximately 46,000 patients annually. Out of the 46,000 annual visits, 20% of these visits are breast cancer patients. In 2007 the cancer center identified a gap in services for breast cancer patients. The cancer center staff identified a variety of barriers facing newly diagnosed breast care patients that include transportation, funding, lack of information and education, access to services and limited support services. After a review of the literature, findings were discussed and a breast cancer navigator program was established.

To meet the mission of the hospital and enhance the navigator care delivery model, it was decided to create a volunteer group that was designed to assist the navigator staff which included nurses, social work, and chaplain.

Initially the team met with our system's Director of Volunteer services to inform her of the navigator program's volunteer objectives. We wanted to draw candidates from the established volunteer pool because of our system's stringent qualifying processes. Once the announcement that a specialized navigator volunteer group was being recruited, we had many candidates apply. Several were breast cancer survivors that had walked the same cancer journey of our patients. We formed a cohesive volunteer team, provided an intense navigator orientation, elected officers, and assigned designated volunteer tasks. The group is self governed, autonomous, and takes ownership to enhance avenues that will increase the quality of patient and family needs.

In this first year of our navigator program we have had the privilege of following 300 patients. In the first three months after executing our program, with a focused volunteer team our patient satisfaction scores had climbed from the low 60's into the 90th percentile.

Volunteers are essential component to a navigator program. By developing a comprehensive volunteer program we are able to provide a variety of services that would not be available to our breast cancer patients and their families. Our navigator volunteers compliment the program's effectiveness and assist us in achieving successful outcomes by improving knowledge regarding diagnosis and treatment and limiting psychological distress.

## 4278

### SURVIVORSHIP PASSPORT PLAN FOR HEALTH—COMMUNICATION PLAN FOR SUCCESS.

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As cancer patients transition from treatment to survivorship there is a critical need for communication with community physicians about cancer survivors returning to their practice. The Institute of Medicine (IOM) report, *From Cancer Patient to Cancer Survivor: Lost in Transition* recommends patients' completing primary cancer treatment is provided a written treatment summary and a comprehensive plan for follow-up. The IOM recommends the care summary also be provided to the patient's primary care providers.

The Thyroid and Gynecologic Oncology (Gyn) outpatient clinics initiated a project to reduce the time of communicating thyroid and gynecologic cancer survivor's health information to community physicians. A multidisciplinary team of nurses, physicians, clerical and health information management staff utilized the Deming Cy-

cle of continuous improvement; plan, do, check, act (PDCA). The purpose was to identify the causes of communication delays, plan interventions, implement changes and evaluate results.

For baseline data we reviewed 266 survivors' medical records. Quality tools were used to (1) determine the baseline median number of days and variation level between visit date and the mail date of follow-up plan of care to community physicians (2) identify problem areas (3) stratify the highest impact interventions. Interventions were implemented, including a care summary document our Passport Plan for Health (Passport). Post-implementation we reviewed 140 medical records from survivorship clinic visits. We examined the median number of days and the percent of survivorship visits resulting in the Passport being mailed to the patients' community providers.

Post-intervention showed improvements with mail rates to community providers of 86% and 81% (baseline 54% and 28%) for Thyroid and Gyn respectively. The median time to mailing the Passport reduced to four days for Thyroid and six days for Gyn survivors.

Improving communication with community providers about survivors' care needs is necessary to coordination and quality patient care. Providing the health care team with tools and resources to improve care and involving them in developing and implementing the solutions were key to success. Nurses will be able to use the information in this presentation to guide similar improvement projects in their clinical settings.

## 4280

**COGNITIVE BIAS IN CLINICAL PRACTICE: THE POTENTIAL FOR DIAGNOSTIC ERRORS.** Mary Peterson, RN, ANP-BC, OCN®, Mayo Clinic Arizona, Phoenix, AZ; Jay Maningo-Salinas, RN, MS, Mayo Clinic Arizona, Phoenix, AZ

Despite advances in the understanding of cognitive bias in clinical practice, little is known about prevention of diagnostic errors. The presence of a single misleading detail may lead clinicians down a path toward incorrect diagnosis. James Underwood, a pathologist at the University of Sheffield reports in a study that 30% of diagnoses made in the Intensive Care Unit (ICU) may be incorrect. With this high rate of incidence in the ICU setting, alarm bells should be going off in other areas of medicine. While the recent studies turn toward the declining number of post-mortems and the failure of physicians to "learn from their mistakes"; early symptom recognition and response plays a major role.

Nurses are on the frontline of symptom recognition. Good communication between the nurse and the physician assists in painting an adequate picture in which the physician can draw differential diagnoses. Thus, the nurse must be able to accurately describe the symptoms and recognize variations between patient report and documentation. According to Sprangers and Aaronson there is a low to moderate level of concordance between symptoms assessed by the patients versus symptoms assessed by the physician or nurse. The purpose of the poster is to describe a patient care scenario with an emphasis on symptom recognition and the importance of thorough investigation into patient complaints to accurately diagnose and treat life-threatening illnesses.

This patient scenario is based on a young male patient undergoing allogeneic matched related donor bone marrow transplant for pure red cell aplasia with secondary common variable immune deficiency. His post transplant course was complicated by naso-esophageal bleeding, resulting in intubation, abdominal cramping/pain, liquid stools in excess of 2L/day and, persistent uncontrolled nausea.

In attempting to sort through multiple life-threatening issues, the team focused their efforts on common side effect profiles, post transplant complications and treatment modalities. Unfortunately, diagnoses may share common symptoms which may in turn make it challenging for clinicians to rule out each differential diagnoses and overcome potential clinical bias.

This patient case scenario exemplifies the importance of recognizing common symptoms, and avoiding clinical bias and tunnel vision in symptom recognition and intervention.

## 4283

**CONVERTING CLINICAL TRIALS FROM PAPER TO ELECTRONIC TREATMENT PLANS: ONE TREATMENT CENTER'S PLAN TO REDUCE DEVIATIONS AND ERRORS.** Katherine Becker, RN, BSN, OCN®, Duke University Health Systems, Durham, NC; Karen Stroud, RN, BSN, Duke Health Technology Solutions, Durham, NC; Sherri Haley, RN, OCN®, Duke Health System, Durham, NC; Anthony Amara, BA, MSW, Duke Health System, Durham, NC; Heidi Cozart, RPh, Duke Health Technology Solutions, Durham, NC

Clinical trial studies are an important and complicated part of patient care in an ambulatory oncology setting. Internal Review Board (IRB) monitors recently identified an increase in ambulatory clinical trial deviations for studies occurring at the Duke Oncology Treatment Center (OTC). A major factor was the use of the computerized chemotherapy order entry system for medication orders while trial-specific information (i.e., blood draws, vital signs and monitoring) remained on paper. The paper documents were often missing during IRB monitoring sessions.

Most deviations were a result of inconsistent communication between clinical trial personnel and treatment center nurses. Our objective was to find an electronic means to communicate trial-specific information to treatment nurses that would link medication orders with trial-specific nursing activities.

One possible solution was to build clinical trial protocols as specific treatment plans with specific dosing and scheduling information built into the nursing drug administration module of the electronic chemotherapy order entry system. A pilot group, identified as having multiple protocol discrepancies, was selected. The clinical trial with the most discrepancies was built as an electronic treatment plan that included both medication specific infusion information and all trial-specific nursing activities.

The number of deviations for this specific trial decreased to zero after the electronic clinical trial treatment plan was put in place. Given this success, a policy change requiring all oncology clinical trial protocols to be built as electronic treatment plans for all disease groups.

Treatment plan building is a design feature of the electronic chemotherapy ordering application used by oncologists at the Duke Oncology Treatment Center. This feature permits assignment of study drug sequencing within the orders as well as the ability to build in adjunct procedures (e.g., research-related blood draws or vital signs) in the appropriate sequence with the study drugs. Making all trial-specific communication between clinical trial personnel and treatment center nurses electronic has led to reduced errors, improved patient safety, and increased compliance with IRB protocols. As a result all oncology clinical trial protocols are built as electronic treatment plans for all disease groups.

## 4284

**ESTABLISHING AN EVIDENCE-BASED INPATIENT ADULT MEDICAL ONCOLOGY FLUID BALANCE MEASUREMENT POLICY.** Lindsey Alexander, RN, BSN, OCN®, Duke University Medical Center, Durham, NC; Kim Cleary, RN, BA, ADN, CNIII, OCN®, Duke University Medical Center, Durham, NC; Giselle Boward, RN, BSN, CNIV, OCN®, Duke University Medical Center, Durham, NC; Michelle Kasprzak, RN, BSN, OCN®, Duke University Medical Center, Durham, NC; Deborah Allen, RN, MSN, CNS, FNP-BC, AOCNP®, Duke University Medical Center, Durham, NC

Intake and output (I&O) are practice standards for evaluating fluid balance. However there are issues regarding accuracy, com-

pliance in performing and documenting I&O. Therefore establishing an evidence-based policy for fluid balance measurements (FBM) may benefit staff compliance and medical care. Thus an oncology unit Nursing Clinical Practice Committee decided to establish an evidence-based FBM policy.

Through a comprehensive review of the literature, the goal was to propose evidence-based FBM recommendations for the unit, with a specific focus on the standard use of I&O. Following the review, the committee's recommendation would be presented to the nursing and medical leadership. If changes were recommended, nursing and medical staff satisfaction, as well as any patient complications related to FBM would be monitored over six months.

A representative sample of nurses reported on barriers of I&O adherence and documentation that included the use of estimations, questions of medical necessity for patients, and patients not reporting I&O when off the unit. Using the search terms intake and output, fluid balance measurements, fluid measurement, weights, patient indicators, chemotherapy, cancer patients, and oncology, four relevant articles were found in Pubmed, MEDLINE, and CINAHL databases. No specific articles pertaining to oncology were found; general medicine was included in the search as well as increasing the search to 15 years instead of 10. The review yielded no evidence supporting the use of I&O but supported daily weights for patients with fluid retention issues (e.g., ascites or renal failure) or those receiving chemotherapy. The recommendation to discontinue standard I&O and incorporate daily weights for specified patients was approved by nursing and medical leadership. Education for nursing and medical staff is ongoing with computerized-order sets changed.

Six-month evaluations are ongoing related to the FBM policy. Nurse and physician satisfaction will be monitored as well as complications related to FBM.

Following a thorough literature review, this oncology unit has successfully incorporated evidence-based policy on FBM by eliminating standard I&O monitoring and performing daily weights on specified patients. It is anticipated that nurse and physician satisfaction will be high, documentation of weights at 100% compliance, and minimal complications.

## 4288

**ACTIVATION STRATEGY OF ELECTRONIC CHEMOTHERAPY ORDERS FOR INPATIENT AND INTENSIVE AMBULATORY CLINIC.** Barbara Van De Castle, RN, MSN, OCN®, Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, MD; Tracy Douglas, MSN, CNS, OCN®, Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, MD; Katherina Violette, BSN, RN, Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, MD; Wendy Warrell, BSN, OCN®, Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, MD; Sherry Thorpe, BSN, RN, Vitalize Consulting Solutions, Inc., Kennett Square, PA; Amy H. Seung, PharmD, BCOP, Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, MD

In this NCI-designated comprehensive cancer center, a computerized provider order entry system (CPOE) was implemented on five inpatient units with chemotherapy orders that cross-over into a unique intensive inpatient/outpatient clinic (IPOP). A multidisciplinary project team worked for 18 months planning implementation. A rolling activation occurred over three days to provide time to handle issues and questions that occurred.

Electronic documentation, including an eMAR with an interface to the pharmacy system, was already in existence in the cancer center, but electronic order entry had not been implemented. The hospital connected to the cancer center had been using electronic orders since 2004. The adult oncology department was last to implement due to the complexity of chemotherapy orders. The cancer center treats patients with solid tumors, hematologic

malignancies, non-malignant hematologic diseases, patients' undergoing BMT, and those receiving critical care.

Multidisciplinary teams were developed that included representatives from pharmacy, nursing, medicine, and informatics. These teams prepared orders for each unit two days prior to activation. IPOP and the BMT unit were activated first. Same day activation allowed for the expected movement of patients between the BMT unit and the ambulatory IPOP unit. This was followed by hematology and solid tumor units on Monday. This smaller volume of patients allowed time for evaluation. The combined Hematology-Oncology and Leukemia units activated on Tuesday. Seventy inpatients and sixty outpatients were converted over three days. Multiple mock activations were held the month before so that all were familiar with the process. Approximately 225 individuals from various disciplines were trained for activation. Nursing utilized a competency and super user model for education.

The teams successfully implemented the CPOE system in just three days. A total of 142 standard and research chemotherapy orders were entered within three weeks. A central support pool unfamiliar with chemotherapy, limited availability of expert oncology users, and outpatient order entry were challenges for implementation.

Lessons learned included the need for mandatory training for all users, follow up training as assessed through competencies and observation, involving all levels of staff in planning, and establishment of a robust command center during implementation.

## 4293

**STATEWIDE CANCER SURVIVOR WEB SURVEY: A TRANSLATIONAL RESEARCH METHOD.** Karen Skalla, MSN, ARNP, AOCN®, Dartmouth Hitchcock Medical Center/Norris Cotton Cancer Center, Lebanon, NH; Ellen Smith, PhD, APRN-BC, AOCN®, University of Michigan School of Nursing, Ann Arbor, MI; June Rhoda, FNP-BC, ARNP, Dartmouth Hitchcock Medical Center/Norris Cotton Cancer Center, Lebanon, NH; Kristen Anton, MS, Dartmouth College, Hanover, NH; Susan Gallagher, MS, Dartmouth College, Hanover, NH; Tracy One-ga, PhD, Dartmouth College, Lebanon, NH; Allen Dietrich, MD, Dartmouth Medical School/Norris Cotton Cancer Center, Lebanon, NH

Cancer survivors have unique needs that may go unmet due to insufficient research-based interventions. One factor which has constrained our ability to develop targeted resources for survivors has been limited regional collaboration between scientists and clinicians. This abstract describes the translational nature of a collaborative research process.

The purpose of this pilot study was to develop a state-wide collaborative infrastructure to facilitate data collection via a web-based Cancer Survivor Needs Assessment Survey to describe survivor-reported outcomes of cancer care. A main objective of the project was to expedite research translation via rapid dissemination of survey results to rural and urban communities throughout New Hampshire (NH) in order to guide development of community-specific survivor resources, and facilitate future community research initiatives.

Survivorship care was conceptualized using a modified Quality of Life model (Ferrell) which incorporates critical components of: physical, psychological, social, economic and spiritual well-being.

This was a descriptive population-based pilot study conducted at a NCI-designated Comprehensive Cancer Center in collaboration with NH's Coalition of Cancer Survivors, the American Cancer Society, the NH Comprehensive Cancer Collaboration, and ten smaller community-based cancer clinics serving NH rural and urban populations. Recruitment strategies were site specific, developed during bi-monthly conference calls with collaborating partners. Survey results were analyzed using descriptive statistics while outcomes of the translational process were evaluated through site visits, bi-monthly conference calls, and solicitation

of direct feedback from study sites. Long-term program development outcomes will be assessed at 6 months and one year post project completion.

Nine out of ten collaborating sites participated fully in the project. Successful recruitment was dependent on several factors including engagement of the site in the research process and conference calls, availability of computers at each site, if the site coordinator was a clinician or administrator, and institutional culture. Web based technology facilitated the translational nature of this project via real-time dissemination of accrual data and rapid accessibility to final results. The project facilitated new collaborative relationships between scientists and clinicians and 3/10 collaborating partners expressed interest in mentored, collaborative, publication efforts.

## 4294

**DIET AND EXERCISE FOLLOWING CANCER: THE RIGHT COMBINATION.** Patricia Cox, MS, RN, ANP, AOCNP®, Thomas Johns Cancer Hospital, Richmond, VA

As cancer survival rates improve and the number of survivors grows, it is more important than ever to provide education and tools to assist people in living "well" after treatment. According to multiple sources, the combination of diet and exercise may have a positive benefit on overall survival. Can the efforts of a nurse sponsored diet and exercise program improve compliance with lifestyle modifications, sense of well-being and fatigue?

The purpose of this study was to educate cancer survivors regarding diet and exercise and their importance to overall quality of life. Through survivorship programs, patients are educated about side effects, late effects and healthy monitoring for disease and recurrences. By adding specific information on the combination of diet and exercise and the benefits derived from the combination; patients are able to actively participate in their recovery post-treatment and in improvement of their quality of life. This intervention may also positively impact overall survival.

Participants receive specific care plans for their post treatment care and follow up. In addition, they are encouraged to participate in a 2 hour diet and exercise class offered bi-monthly. During the class, a hands-on dish preparation is guided by a dietician followed by athletic trainers leading an exercise class, offering light aerobics and strength training that can be duplicated at home. Patients were provided with diet and activity logs with data evaluated at monthly intervals by the survivorship clinic staff.

Thirty-six percent of clinic patients have participated. Patients were asked to record the numbers of hours spent exercising and the average number of fruits and vegetables per week. The subjects were also asked to rate their overall mood and fatigue level. Participants agreed to increase their exercise two-fold and increase the average number of fruits and vegetables consumed by at least one serving per day.

Although the sample size was small, the participants were pleased with the attention to their individual habits and the ability to control a portion of their cancer journey. Larger and longer studies are needed to further evaluate the effectiveness and effects of these interventions on overall survival.

## 4295

**AN APN COORDINATED CANCER WELLNESS PROGRAM: STRUCTURE AND OUTCOMES.** Jean Ellsworth-Wolk, RN, MS, AOCNS®, Cleveland Clinic Cancer Center at Fairview Hospital, Cleveland, OH; Susan Dunson, RN, MSN, OCN®, Cleveland Clinic Cancer Center at Fairview Hospital, Cleveland, OH

Cancer survivorship is on the forefront of cancer care due to the 12 million Americans surviving beyond treatment. Recent studies have documented the importance of wellness education and guidance with lifestyle changes as key factors impacting cancer

survivorship. Advanced practice nurses (APN) have the skill set to develop, implement and evaluate cancer survivorship programs to address these important patient needs. This abstract will present the structure and outcome data of an APN Coordinated Cancer Wellness program implemented in a community hospital.

Our Cancer Wellness Program consists of rehabilitation therapy, home based or facility fitness activity, yoga class, and education in managing smoking cessation, lymphedema, weight loss, and survivorship. Each patient is individually assessed and counseled by the APN on the importance of exercise and nutrition, lymphedema precautions if indicated, and BMI data. All patients are encouraged to participate in the Wellness Program opportunities.

Evaluation has been formalized by conducting a research study that looked at the effects of the program on women with early stage breast cancer. This target population was chosen to evaluate due to the prevalence of breast cancer and research studies indicating a relationship between the recurrence of breast cancer and exercise, diet and weight.

If a patient chose to participate in the program and the study, there was ongoing contact with the APN throughout the six months of the research study. Such contact involved monitoring fitness activities, encouraging other wellness programs and remaining available for education and support. Those who chose not to participate were contacted to be control subjects. At 6 months following the start of the wellness program, both control and intervention patients completed the following questionnaires: the Piper Fatigue Scale, McCorkle symptom distress scale and the MOS-36. In addition, their pre/post BMI scores were compared and anecdotal comments were encouraged.

The study's outcomes will be presented including: weight gain/loss, comparisons of the research tools scores, participation in other wellness programs, and anecdotal comments. Implications for revising the role of the APN and program will be discussed, as well as recommendations for establishing cancer survivorship wellness programs in Oncology practice settings

## 4296

**STANDARDIZATION OF ELECTRONIC HEALTH RECORD (EHR) TOOLS RELATED TO TELEPHONE TRIAGE FOR PATIENT SYMPTOM MANAGEMENT WITH EMPHASIS ON GASTROINTESTINAL TOXICITIES (GIT) AND ORAL CHEMOTHERAPY.** Kathryn Schaefer, RN, BSN, OCN®, Providence Oncology and Hematology Care, Portland, OR; Stephanie Boyer, CAPM, Providence Physician Division, Portland, OR

In order to provide optimal care in the oncology outpatient setting within the scope of nursing practice, standardized algorithms for assessment and symptom management promote a consistent and evidence-based methodology. With the ever-increasing use of oral agents for the treatment of cancer, this area of need has grown significantly. In addition, as more clinics adopt EHRs, a blend of clinical and technical expertise is required to promote best practices.

The purpose was two-fold: A) Improve patient compliance with prescribed therapy as well as therapy-related side effect management, B) Develop standardized, evidence-based assessments, grading guidelines, symptom management recommendations, and documentation tools within the EHR.

Initially, we focused on GIT that arise from highly emetogenic chemotherapy. The EHR phone note was modified to include assessment tools and algorithms for appropriate response including reinforcement teaching and medical practice according to ASCO guidelines. This ensured that whoever was completing the assessment would ask the same questions and utilize the algorithm to determine the outcome. Subsequently, we expanded the tools available to include other treatment-related symptoms, while simultaneously developing a robust solution for support of patients on oral chemotherapy.

We examined a small sample size of patients following implementation of our GIT-related EHR tools. Data suggest patients

reported better control of GIT post-implementation. Providers reported improved satisfaction with the comprehensive and direct documentation resulting from the standardized electronic form. Use of the assessment tools reduced nurse time required without compromising patient care. After implementation of oral therapy algorithms, preliminary data suggest improvement in patient satisfaction and compliance with therapy.

Implementing our new evaluation and management tools had a twofold effect. Primarily, we improved the education of our patients, promoting adherence and empowering them to better manage side effects related to their cancer care. Secondly, our EHR has been customized to improve efficiency and consistency of documentation. With the increasing implementation of EHR within oncology practices, the need to blend clinical needs with technical tools will grow.

### 4301

**NURSE PRACTITIONER FELLOWSHIP IN PAIN AND PALLIATIVE CARE PREPARES FUTURE LEADERS.** Kathy Plakovic, APRN, AOCNP®, AHCPCN, Memorial Sloan-Kettering Cancer Center, New York, NY; Nessa Coyle, APRN, PhD, FAAN, Memorial Sloan-Kettering Cancer Center, New York, NY

Palliative Care is a growing specialty in the United States. The Oncology Nursing Society and other oncology professional organizations support the integration of palliative care to improve the quality of life of cancer patients and their families. Few programs exist that provide advanced training and education for nurse practitioners (NPs) in palliative care. Memorial Sloan-Kettering Cancer Center in Manhattan offers a one year NP fellowship with the Pain and Palliative Care (PPC) Service.

The fellowship is designed to train qualified NPs to function as clinical experts in pain management and palliative care. Training focuses on gaining expertise in assessment and management of pain syndromes, non-pain symptoms, and psychosocial complications of cancer in collaboration with an interdisciplinary team.

During the program the NP rotates through the inpatient consultation service, the inpatient unit, and the ambulatory clinics. The NP gains expertise not only in symptom management but also goals of care discussions and caring for patients at the end-of-life. Observerships with Psychiatry, Integrative Medicine, and Rehabilitation provide a well-rounded clinical experience. External rotations with the hospice program of Visiting Nurse Service of New York and palliative care departments of different hospitals allow the fellow to work with varied patient populations. Attendance at weekly teaching and conference activities including PPC Grand Rounds enhances knowledge in a variety of topics. The participant also presents a journal club topic and grand rounds lecture.

The NP fellowship in Pain and Palliative Care is an excellent opportunity for NPs to gain advanced training in pain and symptom management. It effectively prepares the participant to assume a leadership role caring for patients with life-limiting disease both as an independent practitioner and a member of an interdisciplinary palliative care team.

Nurse practitioners involved in palliative and end-of-life care play a pivotal role in the care of terminally ill patients. A nurse practitioner fellowship provides advanced training and education which allows the NP to seek a leadership role in the field of palliative care. Increased funding and opportunities are necessary in order to prepare advanced practice nurses for this emerging field.

### 4303

**"WHAT SHOULD I TELL MY CHILDREN?" EVALUATION OF A PATIENT EDUCATION PROGRAM.** Fran Spiro, RN, BA, BS, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY

At Memorial Sloan-Kettering Cancer Center (MSKCC), a large number of breast cancer patients are parents of school-aged children. In Grief Counseling and Grief Therapy, Dr. James William

Worden describes 3 tasks facing children when responding to a cancer diagnosis in a parent. Children want to understand what is happening, they want to express their feelings about the situation and they want to know that their own lives will continue in the present and in the future.

An education program to assist these parents in discussing their diagnosis and treatment with their children had been developed and implemented in one surgical breast practice. Parents were provided with a variety of age-appropriate literature to share with their children prior to surgery. The purpose of this study was to revisit program participants and ask if they had found the MSKCC-provided literature useful and to learn what, if anything, they had done with it.

A questionnaire was developed that focused on patients' use of the literature with their children, thoughts on its age-appropriateness and the timing of its presentation. These anonymous and voluntary surveys were mailed in April 2007 to 121 patients who had received the literature in 2002-2006. The survey responses were coded and entered into a database for analysis.

A 36% response rate was achieved. The majority of respondents read the literature provided (93.2%), shared the information with their partners and children (56.8%), found the literature suitable for the developmental age of their children (79.1%) and felt the timing of its presentation, during pre-operative teaching, was appropriate (86.8%).

The results suggest that this patient education program has been an effective starting point for assisting parents to discuss their cancer diagnosis and treatment with their minor children. Surveys will now be mailed to additional patients accrued between 2007 to present; their responses will be coded and analyzed. Over the past 18 months, the author has co-written "Talking to Your Children about Cancer." This brochure, produced by the Department of Social Work, explains our Kids Express Program and is distributed throughout MSKCC.

### 4304

**INCORPORATING INTEGRATIVE MEDICINE INTO NURSING CARE: A MODEL FOR RADIATION ONCOLOGY.** Karen Ingwersen, RN, MSN, Mount Auburn Hospital, Cambridge, MA; Gretchen Dunoyer, RN, MSN, OCN®, Mount Auburn Hospital, Cambridge, MA; Janice Maienza, RN, MSN, AOCN®, Mount Auburn Hospital, Cambridge, MA

Oncology patients use complementary therapies like massage, mind-body techniques, energy medicine, acupuncture, and visualization at unprecedented rates during all phases of their cancer journey. The benefits of using such therapies are well documented, and include reduced levels of pain and anxiety and increased relaxation, all of which improve a patient's feeling of well-being, overall health, and quality of life (QOL). In most treatment centers where complementary therapies are offered, practitioners other than nurses deliver the therapy. However, complementary therapies can be incorporated into nursing care, creating an integrative medicine (IM) approach to the care of patients in radiation oncology settings.

Our purpose is to explore ways to incorporate complementary therapies into radiation oncology nursing care, and to measure and evaluate their impact on patients. The project includes devising and implementing systems that maintain an uninterrupted flow of patient care while adding IM services.

At the first treatment visit, patients are guided through a "mini" relaxation exercise. While on treatment, radiation oncologists, radiation therapists and nurses refer patients for other IM modalities, which include massage therapy, guided imagery/visualization, mind-body techniques, and Reiki. After checking schedule considerations, patients are assessed and treated in a department exam room. We measure intervention effectiveness by vital signs, patient reports, practitioner observations, and common assessment scales. Patients receive instruction to continue IM between visits.

Patients often report improvement in symptoms after IM treatment. The change translates into improved QOL. Changes in vital signs, pain, anxiety, and fatigue levels were evaluated and will be presented.

Incorporating IM therapies into the nursing care of radiation oncology patients can improve a patient's QOL and experience of radiation therapy, both during and after therapy. For some patients, IM modalities and self-care activities were described as "life-changing". Practicing these modalities with patients adds interesting and fulfilling dimensions to radiation oncology nursing practice. Results will be discussed in case-study and data evaluation formats. Some form of integrative medicine can be practiced in any radiation oncology department dedicated to enhanced patient care. We will describe simple ways to accomplish this.

## 4308

**PRE-MEDICATION REGIMEN VARIATION AND HYPERSENSITIVITY REACTIONS [PMV-HSR].** Linda Mahler, OB-GNP, ANP-C, Stony Brook University Medical Center Cancer Center, Stony Brook, NY; Rose Cardin, MSN, RN, Stony Brook University Medical Center, Stony Brook, NY; Jeannie Gaspard, RN, ANP, OCN®, NEA-BC, Stony Brook University Medical Center, Stony Brook, NY; Keri Mahoney, RN, BSN, CPON®, Stony Brook University Medical Center, Stony Brook, NY; Wm. Dan Roberts, ACNP-BC, DNSc, Stony Brook University Medical Center, Stony Brook, NY

Hypersensitivity Reactions [HSRs] cause patients emotional/physical discomfort, treatment interruption, and life threatening situations. Early recognition and grading of HSRs, as well as Desensitization protocols for reducing HSRs, reveal beneficial gains. However, no studies were found examining pre-medication regimen [PMR] variation, as a correlate to HSRs. This study supports one research goal of the HARPT-RP which is a scientific methodology for examining all infusion practices to understand nursing processes and improving patient safety.

The purpose of this study was to assess practice variations of PMR [e.g., medications prescribed, administration routes, time of infusion, time before starting Paclitaxel] and the occurrence or absence of HSRs. This study is aligned with the ONS Nursing Sensitive Outcome: Patient Focused Preventable Adverse Events: HSR. The PMV-HSR study is framed by Holzemer's Outcomes Model for Healthcare Research and focuses on the "processes" components associated with client, provider, and setting. From this framework, practice variation is examined in PMR for patients of similar diagnoses.

This retrospective chart audit included all charts of patients receiving Paclitaxel [n=88] for one year. Descriptive and analytic statistics examined possible PMR groups, frequencies, and correlations between PMR variance and HSRs. Analytic statistics revealed ~1.6 million possible combinations of the PMR independent variables. Unfortunately, the sample of HSRs was too small to support cluster analysis for determining best practice associated with PMR variation. However, the frequency data for the PMR drugs revealed practice variation with 74% receiving Decadron, while 100% of the patients received an antiemetic, H2RA, and Diphenhydramine. Time of PMR prior to Paclitaxel varied from 0 – 105 minutes. These practices vary from clinical trials Paclitaxel recommendations. Therefore, a multi-center study is desired to achieve a larger sample size in order to further understand other PMR groupings, practice associated frequencies, and cluster analysis of PMR groups. Ultimately, predictive models are sought to find best-practice prescribing of PMRs.

## 4310

**TRANSFORMING THE FOCUS OF NURSING CARE FROM MANAGING MULTIPLE CANCER DIAGNOSES TO A DISEASE-BASED NURSING MODEL IN THE OUTPATIENT ONCOLOGY SETTING.** Rita Steinbauer, RN, BSN, OCN®,

Duke University, Durham, NC; Susan Schneider, PhD, RN, AOCN®, FAAN, Duke University School of Nursing, Durham, NC; Caryl Fulcher, MSN, CNS-BC, Duke University, Durham, NC; Mark Waters, RN, MPH, ANP, OCN®, Duke University, Durham, NC

The Oncology Treatment Center (OTC) provides infusion services to an average of 105 patients daily with varied cancer diagnoses from over 40 clinical providers. As a result, nurses administered chemotherapy to individuals with a variety of different cancer diagnoses during their shift; patients were cared for by a different nurse at each appointment; and there was a lack of coordination between the oncology clinics and the OTC.

The goal of developing a disease-based nursing model is to implement a unified approach to patient care; ensure continuity of patient care; and incorporate an interdisciplinary team approach to facilitate coordination of care between the oncology clinics and the OTC.

Four Disease-Based Groups (DBG): 1) lung/sarcoma/melanoma; 2) GI/GU/Brain; 3: breast/GYN and 4) medical oncology are being created with designated nursing staff. Each DBG consists of a team leader to help facilitate communication and coordination of patient care between the oncology clinics and the OTC. Nurse staffing of each DBG will be based upon daily patient volumes. Each group will focus on their patient's OTC schedule, infusion, side effect management, and communication to their physician and extenders while offering continuity of care by the same OTC nurses.

DBG's are being phased in and implemented with one group at a time. To date the model has provided improved patient care by providing patients with a consistent team of caregivers and allowing nurses to become more familiar with treatment regimens. The model enhances common side effect management and facilitates the assessment of individual responses to treatment. The DBG nursing model is being evaluated through ongoing patient and staff satisfaction instruments. Results will be presented.

This presentation will discuss how a new model of patient care delivery was implemented. The model has the potential to improve the quality of care and enhance nurse/patient satisfaction.

## 4313

**REIKI MASTER TO REIKI MASTER/TEACHER MENTORSHIP PROGRAM (RM-RMTP) FOR ONCOLOGY NURSES IN CLINICAL PRACTICE.** Mary Jane Ott, MN, MA, APRNBC, Dana-Farber Cancer Institute, Boston, MA; Suzanne Oliver, BSN, ONC, Dana-Farber Cancer Institute, Boston, MA; Michele Mittelman, MPH, RN, Alternative Therapies in Health and Healing, Boulder, CO

Research has identified Reiki as a safe intervention for oncology patients and effective for anxiety and stress management. Reiki can be done in busy clinical environments without additional equipment or disruption of workflow. In a recent needs assessment, our staff specifically requested education about Reiki both for their own self-care and as a symptom management intervention for their patients. Additionally, our oncology patients are requesting Reiki during chemotherapy to reduce anxiety. Fiscal constraints do not allow adding staff to provide Reiki.

The RM-RMTP provides individualized mentoring to Reiki Master level nursing staff. Program participants commit to teach and mentor colleagues in Reiki for self-care and symptom management with their patients. RM-RMTP is intended to embed holistic praxis fundamental to creating and sustaining a healing environment for both nurses and their patients/families.

The RM-RMTP is open to all nursing staff in our ambulatory, in-patient, and four satellite facilities. Key to the program is a strong mentor/nurse relationship that supports personal self care and professional practice. The application process includes recommendations from peers and endorsement by the nurse manager. Based on Benner's model, individual learning needs, goals, and

objectives are identified for each participant. Students participate in evidence-based, didactic and experiential learning/teaching in classrooms and clinical practice, working with individuals and groups. Each student designs and completes a clinical project.

Reiki Master students will evaluate RM-RMTP's effectiveness in preparing them for the role of Master/Teacher. Clinical staff will provide feedback about the classes and mentoring experiences they have with RM-RMTP students. Nurse managers will also provide feedback. The number of staff who utilize Reiki for self care and/or patient intervention will be monitored compared to past levels.

Staff response has been enthusiastic. Both staff and patients report benefits as staff at all levels of ability are supported and grow in their Reiki practice. Using Reiki, nurses can practice self-care in stressful clinical environments while at the same time offering expert nursing care and symptom relief to the patients they serve. Future plans include possible further development of RM-RMTP and research focusing on nurse and patient outcomes.

## 4316

**VALIDATION OF THE KOREAN VERSION OF THE SYMPTOM EXPERIENCE INDEX.** Mei Fu (Qiu), RN, PhD, ACNS-BC, New York University, New York, NY; Eunjung Ryu, PhD, RN, Konkuk University, Seoul, Korea

Symptom assessment and management are vital aspects of patients care through the entire illness trajectory. Accurate measurement of multiple symptoms for obtaining definitive data, understanding, planning, and implementing quality patient care is needed for Korean healthcare providers and patients. One effective way for instrument development is to translate well-established, accurate, efficient, and research-based instruments developed in another country and conduct a study on evaluating the reliability and validity of the translated version in the target country. The Symptom Experience Index (SEI) is a valid, reliable, research-based instrument developed in the US. SEI consists of 41 Likert scale items assessing 20 symptom occurrence and the distress (emotional response) to the symptom occurrence.

To assess reliability and validity of a Korean version of the SEI (SEI-K).

The study was based on an integrative conceptual model that emphasizes the difference between symptom occurrence and the distress response to symptom occurrence. It is the distress from symptom occurrence that promotes a person to take action and use known coping strategies to prevent the symptom occurrence or alleviate the distress from the symptom.

An integrative translation method was used to translate SEI from English to Korean language. A contrasted-group and test-retest method was employed to assess validity and reliability with a sample of 230 Korean adult participants in Seoul, Korea in 2009. Descriptive statistics, Cronbach's coefficient alpha, intra-class correlation coefficients, and a multitrait scaling analysis, chi-square, and t-tests were performed.

The SEI-K demonstrated adequate internal consistency with a Cronbach's alpha of 0.924 for symptom experience, 0.911 for symptom occurrence, and 0.90 for symptom distress. Test-retest reliability was supported by high significant intra-class correlation coefficients. Construct validity was supported by statistically significant differences between patient and well adult groups. Discriminant validity was confirmed by comparing the SEI-K scores in participants having different function status.

The SEI-K is a reliable and valid instrument for assessing multiple symptom experience in Korean population. Findings of the study have the potential for the development of a scientific database for international collaborative research that may improve patients' quality of life.

## 4317

**COMPARISON OF PALLIATIVE TOUCH THERAPIES ON BIOSOCIAL MEASURES OF STRESS IN NURSING HOME**

**RESIDENTS WITH SOLID TUMORS.** Nancy Hodgson, PhD, RN, Thomas Jefferson University, Philadelphia, PA

Older cancer survivors often suffer long-term side effects of cancer and its treatment which threaten quality of life. Complementary and alternative medicine (CAM) therapies offer oncology nurses great promise in palliating distressing symptoms without the side effects of pharmaceuticals. Touch therapies are examples of sensory integration techniques that can reduce symptom distress through their influence on the activity of the hypothalamic pituitary adrenal (HPA) system. However, further scientific study needs to be done in order to assess their clinical efficacy in high risk populations.

The proposed study investigated the effectiveness of two complementary touch therapies for relief of distress in a target population of medically frail nursing home residents with solid tumor diagnoses using neuroendocrinological and observational outcomes.

The framework for this study was based on Kolcaba's theory of comfort and the conceptual model of intentional comfort touch.

Using experimental, repeated measures, cross-over design two types of commonly used touch therapies (reflexology and relaxation massage) were compared in a sample of 18 nursing home residents with incident diagnoses of solid tumors drawn from three skilled nursing facilities in the southeast Pennsylvania region. Four types of data were collected over the 8 week study period: 1) saliva samples from which salivary cortisol (HPA marker) was assayed; 2) 5-minute observations of mood using the Apparent Affect Rating Scale; 3) pain using the Checklist of Nonverbal Pain Indicators; and 4) other demographic measures. Measures were collected 4 times a day: on awakening, mid-morning, early afternoon and late afternoon, to allow for longitudinal assessment and capture the diurnal variation in HPA markers. Differences between reflexology, massage and no treatment were analyzed using repeated measures ANOVA.

There was a significant reduction in cortisol ( $F=7.5, P=.008$ ), and agitation ( $F=3.6, P=.031$ ) following both reflexology and massage treatments compared to no treatment. No statistical differences existed between reflexology and massage conditions. No negative effects were reported, and participants and interventionists reported satisfaction with the treatments. Findings suggest that touch therapies appear to reduce distress and can be used as a foundation for understanding the neuroendocrinological and palliative effects of CAM therapies in nursing home residents with cancer.

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## 4319

**OUT OF THE SHADOWS AND INTO THE SPOTLIGHT: DESIGNING A RADIOLOGY AND IMAGING NURSING ORIENTATION IN A COMPREHENSIVE CANCER CENTER.**

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The utilization of Diagnostic Imaging technologies is crucial in cancer diagnosis and treatment. Diagnostic Imaging (DI) provides a full range of diagnostic imaging and therapeutic services that includes: Magnetic Resonance Imaging (MRI); Computerized Tomography (CT); Breast Diagnostic; Nuclear medicine; Positron Emission Tomography (PET); Ultrasound; Routine Radiology and Vascular/Interventional Radiology. Nurses in these areas are part of the Radiology and Imaging Nursing specialty area of practice that requires a broad base of knowledge to care for patients before, during and post procedure. The senior nursing instructor, manage-



ment team, and staff identified a need to evaluate and standardize the current nursing orientation process in Diagnostic Imaging.

The purpose of this project was to increase the consistency of nursing orientation in the Division of Diagnostic Imaging.

An orientation committee with representation from each area was formed. A survey of the nursing staff and management team was conducted to evaluate the current orientation process. Feedback from the survey was utilized to make changes in the process that included:

- Determining average length of orientation for each level of staff in each area
- Developing standard orientation calendars for each level of staff in each area
- Developing standardized orientation plans, scavenger hunts, area specific competencies, and developing an orientation binder for each area

It took two years to complete the process. All new employees oriented using the new process will be surveyed in March 2010. Verbal feedback from coaches and new employees has been positive thus far.

Although the focus was new employee orientation, the survey identified a need to address gaps in knowledge of current staff. Phase two of this project will be the development of a Radiology and Imaging nursing core curriculum course.

Radiology and Imaging nurses play a vital role in the management of care of the oncology patient. The acuity of the patient undergoing procedures ranges from ambulatory to the critically ill and come from all age groups. Standardization of the orientation process provides consistency in preparing the nurse with the essential skills required to provide care.

## 4322

**MID-LEVEL PROVIDER (MLP) EDUCATOR: AN UNMET EDUCATIONAL NEED.** Hollie Devine, MSN, RN, ANP-BC, James Cancer Hospital at OSUMC, Columbus, OH

NPs, CNS, and PAs are commonly referred to as MLPs. Demonstrated to be cost-effective and provide quality care, their knowledge is grounded in medicine and/or nursing.

There has been a two-fold increase in the number of MLPs recruited into our medical center over the last few years. There is no formal orientation for MLPs; this is not uncommon, as the focus of orientation is predominantly for the graduate or new nurse to the organization. Literature describing improving the orientation efficiency and effectiveness of MLPs into a healthcare organization is scarce.

To address the unique needs of on-boarding, orientation, training, and continuing education of MLPs at our organization, the MLP educator was developed. This position is responsible for providing personalized orientation by designing, developing, implementing, and evaluating activities. In addition to supporting ongoing educational needs and professional development of MLPs, the MLP educator has dedicated hours to provide patient care, to preserve credibility in clinical practice.

MLP evaluations (of those who went through basic hospital/nursing orientation) demonstrated orientation content to be nursing focused, hospital driven, and overall did not meet the unique needs of MLPs. Prior to developing and implementing a separate MLP orientation, an educational needs assessment was distributed to over 100 MLPs at our medical center. The overall response rate to this survey was 70%, and 98% concurred that a separate MLP orientation would be beneficial. This data confirmed the support and development of a MLP orientation.

Evaluations via Surkey Monkey at six months and one year post employment will assist in determining if the addition of the MLP role has contributed to the improvement of orientation efficiency and effectiveness and if this furthermore translates into an increase in job satisfaction and retention. Additionally, this data may support funding for additional MLP educators, orientation programs and continuing education endeavours.

The development and integration of this role has been well received. This position is charged with the facilitation of on-boarding, orientation, training, and continuing education of MLPs. Initial MLP orientation activities include (1) administrative/start-up activities, (2) identification of a mentor/preceptor, (3) clinical knowledge and skill development, (4) networking with other MLPs, and (5) application of system resources.

## 4328

**STRENGTHENING THE CANCER KNOWLEDGE AND SKILLS OF THE NON-ONCOLOGY WORKFORCE USING A COMPETENCY-BASED APPROACH.** Alison Smith, BA, BSN, RN, C-Change, Washington, DC; Maureen Lichtveld, MD, MPH, Tulane University School of Public Health and Tropical Medicine, New Orleans, LA; Kathleen Miner, PhD, MPH, Rollins School of Public Health, Emory University, Atlanta, GA; Sabrina Tyus, MPH, C-Change (formerly), Washington, DC; Lauren Gase, MPH, Rollins School of Public Health, Emory University (formerly), Atlanta, GA

The Nation's ability to fight cancer depends upon the health of the cancer workforce. Nearly all of the professional disciplines involved in the delivery of comprehensive cancer services are experiencing a shortage (nurses, physicians, social workers, pharmacists, public health workers, researchers, technologists, and cancer registrars). Ultimately, the Cancer Core Competency Initiative promotes professional educational programs that lead to earlier and broader patient access to health professionals with basic cancer knowledge; leverages the time and expertise of the cancer specialist; and potentially encourages professionals to pursue specialization in cancer.

In an effort to complement the work of other cancer organizations like ONS, C-Change developed the Cancer Core Competency Initiative to strengthen the cancer knowledge and skills of non-oncology health professionals. A multi-disciplinary expert panel defined competency standards spanning the continuum of care, cancer science, and aspects of care coordination. Logic model and curriculum development tools were also created to promote use of recognized national cancer resources and incorporate adult learning principles.

Four pilot sites applied the cancer competency standards and tools to address challenges specific to their organizations. Programs focused on different topics (from prevention to survivorship), disciplines (MD, RN, MSW), and settings (academic, public health, clinics, and hospitals). CancerCoreCompetency.org offers a free toolkit and in-depth planning, implementation, and evaluation reports from each site. Four additional organizations are currently implementing programs focused on pain and palliative care competencies (results due by 4/1/10).

Sites achieved measurable improvements in knowledge, skills, and attitudes among learners. Similarly, they reported qualitative benefits to the faculties, institutions, and surrounding communities. Results were derived from pre- and post-test score comparisons, skill demonstrations, standardized patient interactions, participant focus groups, and stakeholder interviews.

The Cancer Core Competency Initiative is an innovative approach to strengthening the knowledge, skills, and attitudes of non-oncology health professionals. The standards and tools have proven useful and flexible with different topics, disciplines, and settings. ONS members have played an important role in the development and implementation of this collaborative effort. Broad dissemination and adoption of these methods and tools has the potential to quickly and exponentially expand the capacity of the cancer workforce.

## 4329

**CONTINUED EVALUATION OF A PUBLIC CITY HOSPITAL ONCOLOGY CLINICAL TRIAL PROGRAM.** Nicholas

Shuman, MSN, RN, New York University School of Medicine, New York, NY; Donna Catamero, BSN, RN, OCN®, CCRC, New York University School of Medicine, New York, NY

A specialized research team is integral to the successful implementation of a clinical trial (CT) program. A cancer institute that is partnered with a public institution provides the opportunity to offer innovative scientific and disease focused research programs to a patient population that is underrepresented in clinical trials. Increasingly complex CTs are presenting difficult challenges that are coupled with increasing regulatory requirements, economic instability, physical capacity of the clinic and staffing constraints. Collaboration with all members of the interdisciplinary team is key to achieving a successful CT program in a public hospital setting.

An evaluation of instituted changes, defined by an initial needs assessment of a public hospital based CT program, in order to increase productivity and efficiency in CTs.

Initially, focus groups and forums were conducted over a 5 month period to determine variables affecting CT enrollment and staff productivity- complexity of the CT, language barriers, staff educational needs, consenting process, treatment regimens, investigational drug orders, regulatory requirements, and physical space. After indentifying the variables, changes were implemented.

Patient Navigators are utilized to assist with the language barriers and consenting process. Investigational drug orders became electronic. CTs undergo a review to determine complexity and feasibility. Infusion staff, pharmacists, and physicians are provided with CT specific education prior patient enrollment.

Interdisciplinary members' roles were identified to promote utilization of essential skills and knowledge. Physicians were identified as resources for subspecialties. A full-time clinical trial nurse (CTN) was appointed to the clinic. CT infusions fell under the scope of the clinic infusion nurse. The CTN is responsible for identifying and enrolling eligible patients, monitoring compliance and providing supportive care to the staff and patient.

Since the CT program was intergraded into the outpatient clinic, the number of full time employees was decreased by 50% while maintaining accrual numbers consistent with previous years.

Including stakeholders in the development and implementation of a CT program successfully fostered partnerships among members and growth of the CT program. Future goals include increased accrual and development and incorporation of a hematology CT program.

### 4330

**STOP, LOOK, AND LISTEN: USING MULTIMEDIA EDUCATION FOR HIGH-RISK, LOW-VOLUME POLICIES AND PROCEDURES.** Leah Scaramuzzo, MSN, RN-BC, AOCN®, The Cancer Institute of New Jersey, New Brunswick, NJ; Joyce Plaza, BSN, RN, OCN®, The Cancer Institute of New Jersey, New Brunswick, NJ

At an NCI-designated Comprehensive Cancer Center, patients with hepatic arterial infusion (HAI) pumps are infrequently cared for in our outpatient treatment area. This past year, nurses were in-serviced and assessed for competency in the management of HAI pumps. Nurses had one or two patient HAI pump assignments every four-to-six months. The infrequency of performing nursing-related procedures is often linked to decreased familiarity and expertise, and increased anxiety for the nurse as well as the patient. Although nurses referenced a written HAI policy/procedure prior to patient care, they verbalized little increase in comfort level with managing the pump. Oncology nurses surmised that developing audio-visuals to accompany the written policy/procedure may result in better outcomes.

The purpose of developing the HAI pump video was to enhance education through efficient/cost effective instruction, promote technology centered education, and endorse a creative delivery of information. Educational objectives include provid-

ing convenient/self-paced learning opportunities, decreasing nurses' anxiety, improving clinical performance, and increasing patient comfort. Literature suggests that people retain 90% of what they see, hear, say and do. Therefore using multimedia resources for the education of high-risk, low-volume procedures can enhance the learning process.

Oncology nurses sought organizational support and buy-in, met with the technology department, and developed a timeline and budget. The plan includes: identifying and consenting a patient, video taping the procedure, recording audio of each step, and uploading it to the Center's policy/procedure section of the intranet. This multimedia method would then allow the nurse to not only read the policy/procedure, but hear and view the necessary equipment and detailed steps at any time.

The project has been well received by multidisciplinary team and is expected to be piloted this Spring. Further verbal and written feedback will be obtained from staff and patients. Based on successful implementation and positive feedback, use of this technology will be adapted for other high-risk, low -olume nursing procedures.

Oncology nurses should consider developing a similar policy/procedure video library to accompany written policies/procedures that are preformed infrequently. Not only does this multimedia education method use adult learning principles, but it has the ability to detail institution-specific equipment and technique.

### 4331

**ASPIRE: A HOSPITAL-BASED PROGRAM TO INSPIRE AND ASSIST NON-CLINICAL STAFF TO PURSUE A FUTURE IN NURSING.** Rose Ali, RN, MSN, ANP-BC, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY; Dyana Sumner, RN, MSN, ANP-C, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY; Kerri Zaino, RN, Memorial Sloan Kettering Cancer Center, New York, NY; Adriana Olivo, RN, BSN, Memorial Sloan Kettering Cancer Center, New York, NY; Stephanie Ochman, RN, BSN, Memorial Sloan Kettering Cancer Center, New York, NY; Kristin Cawley, RN, MSN, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY

As we prepare for a projected increase in the nursing shortage over the next decade, pursuit of alternative efforts to recruit and retain staff is essential. At this NCI-designated cancer center, the Ambulatory Nursing Recruitment, Retention, and Recognition Council explored innovative nurse recruitment strategies, centering on non-clinical staff. A comprehensive literature search did not reveal any nursing education or mentoring programs specifically targeting this population. Focus groups were held to identify the needs of eligible non-clinical staff and the "ASPIRE" (Assist Staff and Promote Interest in RN Education) program was implemented.

The purpose of the ASPIRE program is to attract, educate, and support non-clinical staff currently employed at the center to the nursing profession and to retain them as employees.

In April, 2009, a three hour inaugural ASPIRE symposium was held for sixty-five employees and a second symposium was held in September 2009 for eighty employees. Program content has also been disseminated at career fairs and hospital newsletters and publications. Symposium content was based on focus group feedback and includes presentations on financial resources, employment opportunities work/life/school balance, use of ASPIRE program resources and a panel discussion. An internal website of resources was created, and the program was marketed to eligible staff and their managers. ASPIRE program consists of ongoing support including resources and mentorship.

Attendees completed evaluations using an anonymous online survey. Similar evaluations were used to assess mentorship experiences and use of online resources. Responses on all levels were positive. Participant progress is tracked on a quarterly basis. Preliminary results for 2009 demonstrated a 51% increase of

non-clinical staff enrolled in nursing school and receiving tuition reimbursement as compared to 2008. This presentation will include a description of the program, survey responses and ongoing participant data.

With the growing nursing shortage, the ASPIRE program is one example of an innovative strategy for recruiting hospital employees to the nursing profession and retaining them through provision of ongoing resources. This presentation can guide other institutions in similar initiatives.

### 4333

#### OVARIAN CANCER SCREENING: WHO SHOULD GET IT?

Danielle Escaleira, RN, MA, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY; Danielle Ferrer, RN, BSN, Memorial Sloan Kettering, New York, NY

In 2009 there were approximately 21,550 new cases of ovarian cancer diagnosed in the US and 14,600 deaths from the disease. Of newly diagnosed cases, 8% to 13% of those women have an inherited mutation in BRCA1 or BRCA2. BRCA1 and BRCA2 are two known genes associated with an increased risk of breast and ovarian cancer. Women with a BRCA1 mutation have a 39% - 46% lifetime risk of developing ovarian cancer, and those with a BRCA2 mutation have a 12% - 20% lifetime risk. The average lifetime risk in the general population is 1.8%. One current risk-reducing strategy in women with a BRCA1 or 2 mutation is screening. Due to the increased risk of ovarian cancer in these women, it is important for the oncology nurse to be well-versed in the role and limitations of ovarian cancer screening and its effect on those being screened.

This presentation will describe what ovarian cancer screening entails, who it is recommended for, its effectiveness and the implications for oncology nursing practice.

Ovarian cancer screening includes a gynecologic exam, a transvaginal ultrasound and a CA-125 two times per year. Screening should commence either at age 30-35 or 5-10 years earlier than the youngest age at which a family member was diagnosed with ovarian cancer. Unfortunately, this surveillance method is limited in its ability to detect early stage ovarian cancer and has not been shown to reduce mortality or improve survival in high-risk populations. Nevertheless it is still recommended that mutation carriers undergo screening, as this is the best option currently available. Upon reaching the age of 40, or after childbearing is complete, these women are advised to discuss the role of risk-reducing surgery with their physicians.

Identifying the appropriate women for ovarian cancer screening, through genetics evaluation, is very important since the benefits of screening are not yet fully known.

Ovarian cancer is the deadliest gynecologic cancer. It is important to identify those women at greatest risk. Oncology nurses are at the forefront to educate and care for these women, potentially resulting in more positive patient outcomes.

### 4334

#### A RANDOMIZED TRIAL COMPARING GELCLAIR TO STANDARD CARE FOR RADIATION THERAPY RELATED ORAL MUCOSITIS AND ASSOCIATED ORAL PAIN: PROGRESS AND CHALLENGES.

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Oral mucositis (OM) is the most common complication of radiation therapy for head and neck cancer with reported incidences of grade III (25%) and grade IV (45%). OM is related to oropharyngeal pain and decreased health-related quality of life. Dose reductions and therapy discontinuations may be necessary which can affect patient survivorship. No optimal treatment exists for OM and related oropharyngeal pain in this setting.

The purpose of this randomized controlled clinical trial is to compare efficacy of standard practice of baking soda and wa-

ter to Gelclair® as treatment for grade III and grade IV OM and related oral pain in head and neck radiotherapy patients. It is hypothesized that Gelclair® will show greater efficacy than the standard care regimen. This study fits the ONS research priority of development and evaluation of nursing symptom management interventions.

Orem's Self Care Model was used to guide the study design using a self care intervention.

Subjects are recruited at the Department of Radiation Oncology, Maine Medical Center. Data is collected twice weekly while on treatment, and 7-10 days post radiotherapy. Data includes weight, oral pain intensity (0-10 verbal pain scale), and oral mucositis severity (NCI Common Toxicity Criteria, Version 2). Investigational agents: A: Rinse 4-6 times per day with one tablespoon baking soda per one quart water B: Rinse 3 times per day with Gelclair 15 mL packet diluted in 15 mL-45 mL water. Descriptive and multivariate statistics will be used to analyze data with the Statistical Package for the Social Sciences software. All statistical tests will be two-sided, and statistical significance is set at  $p < .05$ . Sample size of 23 yielded 80% power to detect a 20% difference in mean reduction of OM,  $\alpha = .05$  using a two-sided test.

The study opened in June 2008 and has enrolled 23 subjects. Five subjects left the study due to: randomization arm, non-adherence, hospitalization, and unable to tolerate agent. Enrollment challenges included change in combination radiotherapy and chemotherapy regimens. Utility of using this self care intervention was shown in this sample.

**Funding Source:** EKR Pharmaceuticals provided Gelclair.

### 4340

#### CAREGIVER CLASSES FOR BONE MARROW TRANSPLANT (BMT) PATIENTS AND THEIR FAMILIES PRIOR TO STARTING TREATMENT.

Katharina Ganapathi, RN, Roswell Park Cancer Institute, Buffalo, NY; Lise Hernandez, RN, Roswell Park Cancer Institute, Buffalo, NY

Patients undergoing a bone marrow or stem cell transplant face a daunting proposition in getting educated about their impending treatment in a relatively short period of time. The nursing team at our institution decided that patient education sessions did not comprehensively address various aspects of transplant-specific nursing care. This is vital in preparing our patients for the unique challenges they would encounter during the immediate and long term period of a transplant process. The purpose of these sessions was to improve our transplant patients understanding of the treatment. We felt that this would help increase their compliance and reduce anxiety. Additionally, this would empower and encourage patients and their caregivers to play an active part in their treatment.

Our nursing team reviewed the previously used powerpoint presentation and implemented changes which included more detailed information relevant to the specific nursing care. We also separated the classes for autologous and allogeneic stem cell recipients, as they were previously combined. The nursing team has been conducting these transplant sessions six times per month since September 2009. They are mandatory for patients and their caregivers before they get medical clearance for the transplant. Each class lasts three hours and includes dedicated time for questions.

In this short period, we have observed that many of our patients are better informed about the treatment and its potential side effects. They are less anxious and more compliant as they have a better understanding of their role in the treatment process. We also feel that these sessions would improve the relationship between nursing team and patient caregivers. We are presently formulating an official feedback method, based on a quiz and questionnaire that will allow us to evaluate patient baseline knowledge and the effectiveness of our sessions.

We encourage other BMT nurses to take an active role in educating their patients before commencing treatment. This allows nurses to give a broad overview of the principles of bone

marrow transplant therapy as well as address specific details pertaining to the transplant program. It is an important step in ensuring better patient education and subsequent comfort during a stressful period.

#### 4343

**TIMELINESS IN LUNG CANCER CARE VA CONNECTICUT.** Laura Hunnibell, DNP, APRN, AOCN®, VA Connecticut Healthcare System, West Haven, CT; Kathy Onze, VA Connecticut Healthcare System, West Haven, CT; Mary Flanagan, APRN, VA Connecticut Healthcare System, West Haven, CT; Donna Connery, CTR, VA Connecticut Healthcare System, West Haven, CT; Michal Rose, MD, VA Connecticut Healthcare System, West Haven, CT; Judith Hampel, RN, VA Connecticut Healthcare System, West Haven, CT; Kathryn Lerz, APRN, VA Connecticut Healthcare System, West Haven, CT

Timeliness in lung cancer care has not been well-studied in the United States. Lung cancer is second only to prostate cancer as the most frequent cancer diagnosed in the Veterans Administration Connecticut Healthcare System (VACT). Lung cancer is most often diagnosed in late-stage disease and has a high morbidity and mortality rate. In 2007, the VACT hired an advanced-practice registered nurse (APRN) as the Cancer Care Coordinator. This change resulted in a marked improvement in overall timeliness and earlier-stage detection of lung cancer.

VACT sought to improve lung cancer care timeliness with the new position of Cancer Care Coordinator and filling the position with an APRN with responsibilities including patient navigation. Oncology-certified APRNs have the education and experience necessary to provide in-depth analysis, map processes, track, coordinate care, and improve access to timely cancer care by identifying and removing barriers and offering assistance to patients and their families throughout the cancer care continuum.

Since 2007, VACT created and modified several processes to improve timeliness and quality of cancer care including establishing a Pulmonary Tumor Board, prioritizing cancer staging tests, implementing web-based lung cancer tracking, and improving lung biopsy procedures. In addition, a Cancer Care Coordinator Consult was created to enable the Cancer Care Coordinator to intervene and accelerate care.

The Cancer Care Coordinator effected a measurable improvement in timeliness. In 2003, the average was 179 days from abnormality to treatment. Now it is 52 days for all stages of lung cancer. VACT now seeks to reduce delays from abnormal finding to surgery. In 2008, the average was 89 days to surgery. VACT seeks no more than 60 days for 80% of surgical patients. VACT has also documented success in earlier-stage diagnosis and treatment of lung cancer.

It has been crucial to have an oncology-certified APRN acting as a Patient Navigator and aggregator of data for care and performance analysis. In addition to directly intervening to assist patients, the APRN analyzes current practices, engages multiple disciplines to bring about process changes, develops and monitors evidence-based standards of practice to identify barriers, and improves access and timeliness of cancer care.

#### 4344

**A TRANSLATIONAL INTERDISCIPLINARY APPROACH TO PREVENT AND DECREASE MUCOSITIS IN THE ONCOLOGY UNIT USING THE IOWA MODEL TO PROMOTE QUALITY CARE.** Shirley Harvey, BSN, RN, OCN®, Texas Health Resources Arlington Memorial Hospital, Arlington, TX; May Dean, MSN, RN, CCRN, Texas Health Resources Arlington Memorial Hospital, Arlington, TX; Kathy Baker, PhD, RN, ACNS-BC, CGRN, Texas Health Resources Arlington Memorial Hospital, Arlington, TX; Ashley Netting, RD, LD, Texas Health Resources Arlington Memorial Hospital, Arling-

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Mucositis is a common toxicity associated with chemotherapy and radiation therapy. It is a complex process that begins with the initiation of chemotherapy and/or radiation and may last for weeks until healing is completed. At Texas Health Resources Arlington Memorial Hospital there was no structured protocol for preventing or treating mucositis. This led to confusion and inconsistency for the staff and patients.

The goal was to develop a policy and protocol by an interdisciplinary team based on the Oncology Nursing Society's PEP guidelines on mucositis. Team members were representative of nursing, research, education, nutrition, pharmacy and medicine.

Using the Iowa Model to Promote Quality care we validated ONS's information and developed a policy, protocol and algorithm to prevent and treat mucositis. We now use a bland salt and soda rinse and have eliminated products such as magic mouth wash from our hospital formulary which are ineffective.

Some nursing and medical staff were reluctant to change their practice and were content with using products which were not effective. Including an oncology physician and using both medical and nursing research help to solidify our position. We monitored patient comfort and knowledge before and after implementation and found a decrease in oral discomfort post interventions.

Our policy was originally designed for the oncology patients on our unit. However due to our success the mucositis policy has been revised and will be combined with the existing oral care and water protocol for the general hospitalized population. Our goal is to make this a system wide policy. The process that we followed using the Iowa Model was successful. We hope to follow this model again as we develop more policies for implementing additional ONS PEP guidelines.

#### 4346

**STREAMLINING CHEMOTHERAPY ADMINISTRATION ON NON-ONCOLOGY UNITS BY ONCOLOGY UNIT-BASED STAFF.** Kelly Keane, RN, BSN, OCN®, Duke University Medical Center, Durham, NC; Nikki Brooksbank, RN, BSN, OCN®, Duke University Medical Center, Durham, NC; Deborah H. Allen, RN, MSN, CNS, FNP-BC, AOCNP®, Duke University Medical Center, Durham, NC

In our academic medical center, chemotherapy is only administered by chemotherapy-competent nurses (CC-RNs) working on oncology-based units. As life expectancies increase due to improved treatments, and chemotherapy agents are being used in non-oncology populations, patients receiving chemotherapy may be located on non-oncology units without CC-RNs. Thus, two CC-RNs must leave their oncology unit to administer chemotherapy. As non-oncology nurses and pharmacists are unfamiliar with chemotherapy orders and administration processes, delays may occur during administration. This impacts the CC-RNs ability to provide safe and timely care, making it imperative to redesign the chemotherapy administration process (CAP) on non-oncology units.

This clinical intervention streamlines CAP on non-oncology units by designating specific responsibilities for patient-care nurses and CC-RNs. It is intended to decrease CC-RN time off their unit, increase nursing and patient satisfaction, and maintain patient safety.

An oncology staff survey was conducted to identify problems in administering chemotherapy on non-oncology units. In response, a Chemotherapy Checklist and Chemotherapy Information Tool were developed. The checklist is completed by the patient-care nurse and sent with a copy of the chemotherapy orders to the oncology nursing unit. The checklist verifies patient

information, diagnosis, height, weight, venous access, and physician and pharmacy contacts. The Chemotherapy Information Tool provides basic information on CAP and care for patients receiving chemotherapy. This tool is kept on non-oncology units for review by staff prior to chemotherapy administration. CAP interventions were presented to the Nurse Manager Business Team prior to staff dissemination.

A six-month post-survey of oncology staff determined that the process was more time and energy efficient. Three month pre and post intervention records revealed there were decreases in calls between units (19%), fewer reports of administration problems (18% change), and more nursing and patient education being performed without increasing average time off the oncology unit.

Streamlining CAP for patients on non-oncology units requires good communication between nursing staff. While the intervention tools have improved communication, we plan to initiate non-oncology unit education sessions to increase CAP understanding and compliance. Other centers may find this intervention beneficial in order to maintain nurse and patient satisfaction, as well as patient safety.

### 4349

#### NEUTROPENIC RISK PATIENTS: A PATHWAY FOR CARE.

Robin Herman, RN, BSN, MN, OCN®, CNS, LAC /USC Medical Center, Los Angeles, CA; Gerry Gorospe III, RN, BSN, MSN, OCN®, CNS, LAC /USC Medical Center, Los Angeles, CA

Evidence demonstrates that utilization of proactive interventions for neutropenic risk patients saves lives, saves costs, and improves quality of life. A large Los Angeles teaching hospital relocated, downsized inpatient and infusion center beds, and day hospital services. The cancer patients at risk for neutropenia had no alternative but to seek help through the ER for symptom management.

The goal was to develop guidelines and interventions for the neutropenic risk patient in avoiding ER visits and hospital admissions. A secondary goal was to expedite patient care on patient arrival. Utilizing evidence based practice, we developed a pathway to assist the ER, Medicine and Oncology MD's to facilitate patient care.

Taking a proactive approach, we updated our chemotherapy ordering process, adding an area for ordering growth factors. This provided a reminder for utilization of growth factors according to NCCN guidelines. Evidence clearly demonstrates prophylactic use of growth factors is the first step in decreasing neutropenia episodes and subsequent hospital admissions. Nursing developed a clinical pathway for all areas, including risk factors guidelines. These guidelines identify those at risk and when to activate the action plan. In addition, we developed Neutropenic fever orders to assist the ER and general medical teams in treating patients. All areas were inserviced on clinical pathway and order forms. The intervention took approximately 2 months to educate staff on the new process.

All disciplines found the pathway helpful and extremely effective in managing neutropenia patient care. The ER and general medicine wards were able to expedite care of at risk patients in their departments. This resulted in less admissions and early discharges. Those patients started on Growth factors prophylactically also evidenced less visits to the hospital. Neutropenia admissions were decreased.

In this new age of health care, decreasing cost and improving quality of life are major goals of health care providers. Our pathway proved effective for our facility and could be very useful for hospitals elsewhere. Utilizing evidence base practice guidelines to facilitate multidisciplinary involvement in improving outcome of patient care was the reason for this project's success.

### 4350

#### THE CROSSROADS OF CROSSTRaining: DEVELOPING AN EDUCATED AND COHESIVE NURSING TEAM.

Robin Herman, RN, BSN, MN, OCN®, CNS, LAC/USC Medical Center, Los Angeles, CA

The Los Angeles County USC Medical Center relocated to a new facility, down-sizing and merging the units of the GYN, Hematology, and General oncology. This resulted in three sets of nursing staff with varied educational backgrounds, practices, and personalities uniting to provide care for the spectrum of all cancer diagnoses. A cross training program was developed to assist staff in team building as well as providing optimum patient care for the variety of oncology patients.

The goal was to develop consistency in the quality of nursing care, and development of a cohesive nursing team. A program was implemented to provide staff education and team building strategies. A total of three 16 hour programs were offered to nursing staff from each unit. The goal was to encourage staff to share their knowledge regarding patient care practices as well as develop team relationships.

ONS Oncology program guidelines were utilized as the structure for this program. A needs assessment was implemented for RN staff to identify their learning needs. Program content was based on an analysis of the RN needs assessment, trends in inpatient and outpatient areas for cancer diagnoses, and chemotherapy treatments. Three mandatory 16 hour programs were provided. Sessions included staff from all three units. Program content included disease site review, chemotherapy overview, case presentations, psycho/social group interaction, and team building

Evaluation of the program yielded high marks for the educational program provided as well as enhanced team cohesiveness. Implementing a needs assessment proved to be a valuable tool. Excellent job performance and team building one year later also indicated the program was a success. The goal of building a nursing team with a similar knowledge base and cohesive work spirit was met.

We created a cross training program focused on developing cohesiveness and consistency in the nursing care administered on the combined cancer unit. The transition from three units to one unit was smooth for all due to the program. We have added this program for all new staff orienting to the cancer unit as well as the Chemotherapy Certification Program.

### 4353

#### THE IMPLEMENTATION OF A POST-FALLS DATA COLLECTION TOOL ON A LEUKEMIA INPATIENT UNIT.

Janette Nazareno, RN, BSN, OCN®, UT MD Anderson Cancer Center, Houston, TX; Alison Gardner, RN, AOCNS®, PhD, UT MD Anderson Cancer Center, Houston, TX

Falls are the most commonly documented adverse event in the hospital settings. It is estimated that 30% of inpatient falls result in injury. Reducing falls and harm from falls has been an institutional area of focus and a new falls program/policy, including a falls risk assessment tool and a revised incident reporting system, was implemented in September 2006. Fall rates on a leukemia unit averaged 2.4 per month and were identified as an area of concern by staff.

To examine the causes of falls on our leukemia unit and evaluate the implementation of our new fall risk assessment tool.

A project, led by a clinical nurse on the leukemia unit, was developed to examine falls on the unit in greater detail as a means of learning about the specific characteristics and circumstances associated with patients who fell on the unit. Staff believed that the available incident report data did not consistently provide sufficient information to "drill down" on the unit's falls. To supplement the incident report data, staff developed a unit-specific post-fall data collection tool and implemented it in April 2008. After any fall on the unit, the nurse caring for the patient completes the tool and interviews the patient, family, or witnesses to the fall.

The data are tracked over time and specific categories and factors are identified and analyzed. Most common reasons for falls included weakness, use of diuretics and sedatives. Findings from the data also led to implementation of random audits to evalu-

ate staff compliance with required program components. Results were shared with staff and led to a re-education effort to assure that program components were understood and practiced. The process has continued and data recently collected from January through October 2009, indicates that the units now averages 1.9 falls per month, an approximately 20% decrease in falls per month from the original data collection period.

Data from incident reports and the unit's post-fall data collection tool continue to be shared regularly with staff. Work continues to develop interventions to reduce patient falls and harm, and assure falls reduction program compliance.

### 4354

**EVALUATING PATIENT ADVOCACY CONTINUING EDUCATION OUTCOMES.** Jane Shivnan, RN, MScN, AOCN®, The Institute for Johns Hopkins Nursing, Baltimore, MD; Anne Belcher, PhD, RN, AOCN®, CNE, FAAN, Johns Hopkins University School of Nursing, Baltimore, MD; Lillie Shockney, MAS, BS, RN, Johns Hopkins Avon Foundation Breast Center, Baltimore, MD

Patients with life-threatening diseases have unique needs for expert advocacy as they make care decisions and navigate complex health care systems to access and receive care. The 2-day continuing education (CE) activity, Patient Advocacy Seminar (PAS), uses the role of nurse patient advocate in our multidisciplinary breast center as the model to teach attendees effective advocacy. However, there are limited published data regarding the impact of continuing education (CE) such as PAS on nurses' knowledge, attitudes, and skills.

The purpose of this study is to describe the longitudinal impact of a CE activity, the Patient Advocacy Seminar (PAS), on nurses' knowledge, attitudes, confidence, commitment to change practice, and perceived skill competencies in advocating for patients with life-threatening disease.

The study uses Menix' Learning and Program Effectiveness Model which describes program effectiveness as determination of the program's worth made after evaluating its outcomes against its pre-established goals.

PAS attendees were invited to participate in this IRB-approved study and complete instruments immediately pre-, post-, and on-line 6 months after CE activity. Motivation, self-assessment of ability to perform skills, and confidence were assessed using 5-point Likert scale. Data were analyzed using descriptive statistics (SPSS 17.0).

The study had high participation (72/88; 81.8%) with 56/72 (77.8%) RNs; this analysis focuses on their experience. Pre-PAS they were highly motivated and confident in ability to assist patients and families in navigating the health care system (mean 4.07) and act as Patient Advocate (mean 4.52). Confidence in ability to assist patients in navigating the health care system increased after PAS (post mean 4.32,  $p < 0.05$ ). Self-assessment of skills increased significantly ( $p < 0.01$ ) after PAS. Four items assessed ability to assess patients' educational needs (pre mean 3.93; post mean 4.37), provide information about clinical trials to patients and families (pre 3.02, post 3.52), create a patient-specific bill of rights (pre 3.68, post 4.21), and assess for appropriate emotional responses of patients with life-threatening conditions (pre 4.09, post 4.37). This research suggests that CE can impart valuable skills to nurses working with patients with life-threatening diseases and support their motivation and confidence to be effective patient advocates.

### 4358

**MEXICAN AMERICAN FAMILY CANCER CAREGIVER'S STRATEGIES TO MOVE BEYOND HOPELESSNESS AND ADVOCATE FOR THE PATIENT.** Jo Wells, RN, PhD, OCN®, Texas Christian University, Fort Worth, TX; Carolyn Spence Cagle, PhD, RNC, Texas Christian University, Fort Worth, TX

Members of the Hispanic ethnic group (including Mexican Americans [MA]) are expected to experience a 142% increase

in cancer activity by 2030 and continue to reflect high mortality rates, particularly for cervical and gastrointestinal cancers. A cultural value that only family members care for an ill family member and not an outsider places demands on the family caregiver to support the ill family member.

The purpose of this study was to seek the family caregiver self-description of the cancer caregiving experience in the understudied MA population.

Grounded theory methodology provided the qualitative framework for this study to describe the social-psychological process of MA family caregiving.

Thirty-four MA female family caregivers responded to open-ended questions, and participant words, phrases and sentences provided units of analysis. Team members performed open, axial, and selective coding to determine formulated meanings, concepts, categories, and themes throughout the data analysis process. A methodology expert informed the ongoing analysis, and bicultural and bilingual members of the research team verified the cultural relevancy of the identified categories.

Caregivers described role-related strategies to prioritize patient care for their loved one with cancer. Strategies ensuring priority of the patient include "learning more", "being there", "being patient", and "looking to God." These strategies include themes of "hopelessness" yet "believing in the treatment" that prompted the caregiver to advocate for the patient. Research Implications: This study provides a framework to develop culturally sensitive interventions to support MA female family cancer caregivers. Additionally, insights for development of a quantitative measure to target caregiver strategies and gauge effectiveness of interventions resulted from this study. Clinical Implications: Health care workers must provide ongoing systematic assessment of family caregiver strategies and seek ways to provide caregiver support. These interventions may promote continued caregiver support of the patient with cancer. Conclusion: The MA family caregiver directly influences the cancer patient's receipt of cancer care. Caregivers' data unanimously revealed caregiver strategies connected to providing quality cancer care for their family member. Caregivers, when supported in these strategies, may benefit in ways that facilitate continued patient care.

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### 4360

**UNIT-BASED NURSING GRAND ROUNDS TO PROMOTE PROFESSIONAL DEVELOPMENT OF CLINICAL BEDSIDE NURSES.** Hyacinth Gordon, RN, MSN, OCN®, University of Texas M. D. Anderson Cancer Center, Houston, TX; Silvestina Decoteau, RN, MSN, NEA-BC, University of Texas M. D. Anderson Cancer Center, Houston, TX; Payne Lorene, RN, EdD, University of Texas M. D. Anderson Cancer Center, Houston, TX

The drive to achieve excellence in nursing care and attain desirable patient care outcomes is foremost in Magnet designated environments. The idea of monthly nursing grand rounds was introduced to the nursing staff by the unit's nursing leadership team and interest level ascertained through an informal survey. The nursing grand rounds project was implemented on a 32-bed surgical oncology urology and orthopedic unit to help promote excellence in clinical bedside nurses and foster advancement in nursing practice.

The purpose of this on-going project is to improve patient care outcomes and promote professional growth, development and excellence of clinical bedside nurses.

A sign-up sheet with various topics relevant to our patient population was shared with staff who readily volunteered to present topics of interest to them. Specific guidelines were created that included teaming novice and maturation level nurses to work together to prepare and present a topic, timeline and ac-

tivities leading up to presentation date, and a scheduled preparation time with unit educator. The unit educator serves as the expert mentor and is available to coach nurses to conduct literature searches and develop presentation objectives. Presenters are offered help to develop power point presentations and the opportunity to "perform dress rehearsals." Continuing education hours are awarded for each session.

There has been an overwhelming spirit of enthusiasm and volunteerism from the nurses to lead a grand rounds session. Survey feedback indicates that over 90% of clinical bedside nurses find the grand rounds useful. Nurses speak proudly of their role in developing and leading grand rounds. Since its implementation in 2008, 24 nurses have presented over 10 topics including nursing care of penile cancer, factor v leiden, sepsis, pulmonary embolism, nephrectomy, atrial fibrillation, pain management, and hemipelvectomy.

Nursing grand rounds can provide an excellent forum for clinical bedside nurses to grow professionally, and showcase their knowledge and expertise. Oncology nurses in any setting can be supported to participate in such activities to help promote excellence in nursing and improve patient care outcomes.

### 4361

**PROJECT "BREAST CANCER CARE PATHWAY A7": DEVELOPING A UNIFORM ONCOLOGICAL BREAST CANCER PATHWAY IN 3 DIFFERENT HOSPITALS.** Jantien Sluis, RN, Antonius Ziekenhuis Sneek, Sneek, Netherlands; Henk Hummel, Comprehensive Care Centre North East, Groningen/Enschede, Netherlands; Sjouke Rijpma, Comprehensive Care Centre North East, Groningen, Netherlands; Ida Paulusma, RN, Hospital Nij Smellinghe, Drachten, Netherlands; Ria Nauta, RN, Hospital De Tjongerschans, Heerenveen, Netherlands

In an attempt to improve quality of breast cancer care, physicians and nurses in 3 hospitals in the north of the Netherlands decided to develop one uniform oncological care pathway for women with breast cancer. This project, called "Breast Cancer Care Pathway A7", started in November 2007.

The aim of the project was to achieve equal quality of care for women with breast cancer in 3 hospitals, by developing one uniform oncological care pathway for these patients.

Within each hospital, a project group was formed to describe the breast cancer care pathway. Each project group comprised all relevant disciplines involved in breast cancer care, both within and outside the hospital, along with a representative of the Breast Cancer Association.

We organized patient focus group meetings to discuss patient satisfaction with current care.

The care pathway was divided into three phases: (pre)diagnostic, treatment and follow-up. For each phase, we compared the current pathway in each hospital to the desired care pathway, as defined by the most recent national guidelines and quality of care indicators.

The differences between the current and desired pathways led to an improvement plan for each of the hospitals involved. Each phase ended with a working conference, in which all stakeholders discussed bottlenecks and points for improvement for each individual hospital. These bottlenecks and points for improvement were converted into solutions and actions.

The result of the project, which was presented in April 2009, was a uniform and up to date care pathway for patients with breast cancer containing identical procedures in all three hospitals. During the project many improvements already have been achieved.

By describing a single desired care pathway for women with breast cancer across 3 hospitals, and by working towards achieving such a uniform and optimal care pathway with all stakeholders, we believe we improved the quality for these patients. In addition, collaboration between representatives from all relevant disciplines in the three hospital created an inspiring multidisciplinary transparency. We also know what we still have to improve. Our experience may help nurses from other hospitals to initiate similar projects.

### 4364

**TRAINING COMMUNITY HEALTH WORKERS TO NAVIGATE RURAL AFRICAN AMERICAN ELDERS: TRAINEE PERSPECTIVES.** Rachel Klimmek, RN, BA, Johns Hopkins University School of Nursing, Baltimore, MD; Elizabeth Noyes, BA, BSN, Johns Hopkins Hospital, Baltimore, MD; Kristen Edington Saunders, BS, Johns Hopkins University Bloomberg School of Public Health, Baltimore, MD; Claire Maylor, BA, Johns Hopkins University Bloomberg School of Public Health, Baltimore, MD; Randy Jones, PhD, RN, University of Virginia School of Nursing, Charlottesville, VA; Jennifer Wenzel, PhD, RN, CCM, Johns Hopkins University School of Nursing, Baltimore, MD

Rural-dwelling African American elders with cancer may experience significant challenges that can lead to health disparities. There is a need for sustainable, culturally-appropriate support for these seniors and their support persons. Prior research has shown cancer patient navigation, delivered by community health workers (CHWs), may improve cancer-related outcomes, although this has never been tested among rural-dwelling African American elders. Development and evaluation of such an intervention should incorporate perspectives of CHW interventionists.

The purpose of this study was to evaluate, from the perspectives of the CHWs involved, a nurse-led patient navigation training to support rural-dwelling African American elders being treated for cancer. This study addresses the Oncology Nursing Society's research priority to evaluate supportive interventions for groups at higher risk for poorer outcomes.

The PROCEED model guided development of the CHW training. Researchers began with desired outcomes for the intervention and followed the model backwards to identify strategies for achieving them, which included fostering CHWs' competence and self-efficacy to provide navigation support and inform intervention development.

African American CHWs (n=6) from rural communities in Central Virginia were recruited through volunteer networks and received training materials and access to online cancer navigation training resources developed by nurse researchers and experienced patient navigators. CHWs participated in two days of self-study training and one classroom training day conducted via video-link with the nurse-led study team in November 2009. Immediately following the training, a focus group with all six trainees was held to elicit trainee perspectives regarding the effectiveness and appropriateness of the training and to identify areas for improvement. The focus group was audio-taped and transcribed verbatim. Content and thematic analysis methods will be applied in order to elucidate CHW-participants' perspectives and refine future training. These findings will also be compared to satisfaction ratings and training pre- and post-tests.

In spite of technology the training involved, CHW trainees reported satisfaction with the training and high levels of enthusiasm about their participation and the intervention as presented. Findings from the final analysis will be applied to refine training and guide implementation of the navigation support intervention to assist rural-dwelling African American elders with cancer.

### 4368

**NURSES' USE OF HAZARDOUS DRUG SAFE HANDLING PRECAUTIONS.** Martha Polovich, MN, RN, AOCN®, Duke Oncology Network, Durham, NC; Patricia C. Clark, PhD, RN, FAHA, FAAN, Byrdine F. Lewis School of Nursing, Georgia State University, Atlanta, GA; Cecelia G. Grindel, RN, FAAN, PhD, Byrdine F. Lewis School of Nursing, Georgia State University, Atlanta, GA

Nurses are potentially exposed to hazardous drugs (HDs) in their daily practice. Occupational HD exposure has been associated with adverse outcomes (e.g., reproductive problems, learning disabilities in offspring of nurses exposed during pregnancy,

cancer occurrence). Safe handling precautions (use of safety equipment and personal protective equipment, [PPE]) minimize exposure to HDs and decrease the potential for adverse outcomes. Despite existing OSHA recommendations, recent studies found that 25-40% of nurses use non-protective gloves for HD handling, and up to 69% of nurses fail to wear gowns.

The purpose of the study was to examine relationships among factors affecting nurses' use of HD safe handling precautions and to identify factors that promote or interfere with HD precaution use.

This study used the Factors Predicting Use of HD Safe Handling Precautions conceptual model, which proposes that both individual and organizational factors influence precaution use.

A cross-sectional, correlational design was used. Oncology nurses (N = 165; 46% response rate) from oncology centers across the US who reported handling chemotherapy completed a mailed survey. Instruments measured HD precaution use, knowledge, self efficacy, barriers, perceived risk, conflict of interest, interpersonal influences and workplace safety climate. Hierarchical regression was used.

Nurses were experienced in oncology (M = 15.8 ± 7.6) yrs., well-educated (62.5% ≥BSN), certified in oncology nursing (85%), worked in outpatient settings (69%), and on average treated 6.8 ± 5.2 patients per day. Chemotherapy exposure knowledge was high (M = 10.9, ± 1, 0-12 scale), as was self efficacy for using PPE (M = 20.8 ± 3, 7-24 scale), and perceived risk (M = 3.14 ± .6, 0-4 scale). Total precaution use was low (M = 1.9, SD = 1.1, 0= never to 5 = 100%). Nurse characteristics did not predict overall HD precaution use. In the full model (R<sup>2</sup> = .29, F(2, 155) = 24.6, p < .000), fewer patients per day, fewer barriers and better safety climate were independent predictors of higher precaution use. Results support the importance of organizational influence on nurses' HD safe handling precaution use and point to fostering a positive workplace safety climate and reducing barriers as possible interventions.

### 4374

**THE EFFECT OF AN ORAL CARE PROTOCOL ON THE INCIDENCE AND SEVERITY OF CHEMO-INDUCED ORAL MUCOSITIS.** Jennifer Hester, RN, DNP, AOCNS®, ACHPN, The Christ Hospital, Cincinnati, OH; Kyra Whitmer, RN, PhD, University of Cincinnati College of Nursing, Cincinnati, OH; Colleen Bass, RN, BSN, University of Cincinnati College of Nursing, Cincinnati, OH

Oral mucositis is a dangerous and painful complication of cancer therapy. Patients who develop oral mucositis experience higher infection rates and chemotherapy dose reductions or delays. Oral mucositis also adversely affects patients' quality of life due to pain, nutritional compromise, and difficulty communicating. Although clinical practice guidelines recommend the implementation of systematic basic oral care, a critical need exists for studies to test the effectiveness of specific standards for oral care, including the use of an appropriate rinsing agent, frequency of brushing and rinsing, and escalation of care.

The purpose of this study was to evaluate the effectiveness of an evidence-based oral care protocol for patients receiving chemotherapy, which addresses the ONS Research Priorities of quality of life and evidence-based practice.

The conceptual framework that guides this study is the Iowa Model of Evidence-Based Practice to Promote Quality Care.

The effectiveness of an oral care protocol was evaluated by comparing data collected before (n=24) and after (n=25) the protocol was implemented. Patients receiving standard dose chemotherapy were followed over a period of eight weeks; demographic and disease-related data was collected, physical assessments (including oral assessment) were conducted, and patients completed surveys to evaluate oral care practices, mouth pain, and nutritional issues.

Demographic data between the two groups were not statistically different. Both groups believed in the importance of oral

care and that they were capable of caring for their mouths during chemotherapy, indicating the appropriateness of this self-care intervention. The intervention group was significantly more likely than the group receiving usual care to follow evidence-based guidelines, including to brush their teeth twice daily, rinse at least two to three times a day, and use saline rinse rather than harsh commercial mouthwashes. The intervention group was found to be significantly less likely to develop oral mucositis (intervention=4%; usual care=38%) and mouth pain (intervention=12%; usual care=46%). Those following the protocol were also less likely to report that mouth sores kept them from eating adequately (intervention=8%; usual care=30%). Patients receiving standard dose chemotherapy benefited from the implementation of the proposed oral care protocol.

### 4375

**THE GROWTH CURVE AND RELATED FACTORS OF ORAL MUCOSITIS AMONG PATIENTS UNDERGOING ALLOGENEIC HEMATOPOIETIC STEM-CELL TRANSPLANTATION (ALLO-HSCT).** Lih-Mih Chen, RN, PhD, School of Nursing, Kaohsiung Medical University, Kaohsiung, Taiwan; Ching-I Yang, RN, NP, BSN, Kaohsiung Medical University Chuan-Ho Memorial Hospital, Kaohsiung City, Taiwan; Hui-Chen Tseng, RN, MSN, School of Nursing, Kaohsiung Medical University, Kaohsiung City, Taiwan; Shu-Yuan Jian, RN, MSN, School of Nursing, Kaohsiung Medical University, Kaohsiung City, Taiwan

Oral mucositis is the common complications of HSCT in excess of 60% incidence rate. Especially for the patients received allo-HSCT causing by the conditional regimen and total body irradiation (TBI) have higher incidence of oral mucositis. Oral mucositis may result in lesions which cause pain, impaired chewing and swallowing, and subsequently have an impact on the nutritional status, quality of life and may develop life-threatening sepsis. The lack of database of oral mucositis undergoing allo-HSCT in Taiwan has been an impediment to understand the importance of this problem and to set clinical practice standard.

The purposes of this study are: 1) to describe the growth curve of oral mucositis during allo-HSCT; 2) to find the relationships between patient's characteristics/medical records and oral mucositis; and 3) to identify significant related factors of oral mucositis of patients undergoing allo-HSCT.

Retrospective and longitudinal study designs are tried to use existing demographic/medical information and oral mucositis scores that have been recorded and to repeatedly observe of the oral mucositis during allo-HSCT.

50 patients received allo-HSCT were selected by reviewing charts at a medical center of southern Taiwan. Patients' documents were retrospectively collected including a demographic information, a medical records, and an Oral Assessment Guide(OAG) records from -5 to +14 day of allo-HSCT. Generalized estimating equations (GEE) had been used to estimate the growth curve of oral mucositis, the associations among oral mucositis and demographic information/ medical records, and the significant related factors of oral mucositis during allo-HSCT.

The results indicated 1) the growth curve of oral mucositis can be significantly changes over time (p<.0001) with the peak on 10th day after allo-HSCT; 2)oral mucositis may be associated with age, educational status, medical diagnosis, alcohol usage, TBI, conditional regimen, body weight, body mass index, absolute neutrophil count, and platelet count; 3) the significant related factors of oral mucositis during allo-HSCT can be age, body weight and platelet count. The findings from this study would contribute significantly to the knowledge of growth curve of oral mucositis and provide the guidelines for setting the criteria for detecting patients at high risk for having oral mucositis in Taiwan.



### **BREAKING THE MOLD: TRANSITIONING CARE FOR PATIENTS RECEIVING HIGH-DOSE BOLUS INTERLEUKIN-2 FROM THE CRITICAL CARE UNIT TO AN INTERMEDIATE-CARE AREA.** Yvette Ong, MS, BSN, RN, OCN®, NE-BC, University of Texas M.D. Anderson Cancer Center, Houston, TX

At our institution, patients with metastatic melanoma and renal cell carcinoma receiving high-dose bolus interleukin-2 (IL-2) regimens were admitted to the Critical Care Unit (CCU) for cardiac monitoring and nursing evaluation of life-threatening side effects. As hospital census and patient acuity increased, the CCU was frequently challenged with overcrowding. Patients requiring IL-2 therapy, who were not considered critically ill and unstable, were often rescheduled or admitted to a floor overnight and experienced delays in therapy initiation.

The purpose of this poster is to describe the evolution, challenges, development, and implementation of a new intermediate-care area.

Four rooms of a 32-bed medical unit specializing in the care of melanoma and sarcoma patients were equipped to provide intermediate-level care for patients receiving high-dose bolus IL-2. Staffed with nurses experienced in caring for patients receiving standard biochemotherapy, the unit provided an ideal setting in which to transfer the care of patients receiving high-dose bolus biotherapy. An interdisciplinary care team prepared for the transition to higher-level care by procuring equipment, hardware, and network services; establishing patient-care nursing standards, admission criteria, and operations criteria; creating staffing and education plans; revising institutional policy regarding administration of phenylephrine hydrochloride, a potent vasopressor given for IL-2-induced hypotension; and identifying acuity indicators to capture nursing care hours using a patient classification tool. All these measures were in place before the go-live date.

The proportion of patients with delayed high-dose bolus IL-2 initiation decreased from approximately 30% to 0% during the 8 months after the intermediate-care area was established. The average length of stay on the 32-bed unit remained at 6.5 days despite the addition of this high-acuity population. Patients, families, and the medical team have verbalized satisfaction with the quality of care on the unit. Nurses have expressed a sense of accomplishment as they have learned new concepts, enhanced their competencies, and delivered comparable care with no adverse incidents.

This information will encourage nurse leaders in meeting future patient care demands through innovative delivery of care while increasing efficiency, enhancing patient care, and empowering nurses with the skills and knowledge to make a difference in advancing oncology care.

## 4377

### **TRENDS IN CERVICAL CANCER SCREENING AMONG CALIFORNIA'S LATINAS: IS PROGRESS BEING MADE?** Geri Schmotzer, RN, MSN, MPH, PhD, New Mexico State University, School of Nursing, Las Cruces, NM

Despite a 67% decline in the incidence and mortality of cervical cancer for all women over the past three decades, cervical cancer is still one of the most commonly diagnosed cancer and leading cause of death among Latinas. The incidence rate of cervical cancer for Hispanic women is 1.8 times higher and the mortality rate is 50% higher than for non-Hispanic whites. Latinas are less likely than other minorities to participate in cervical cancer prevention screenings, thus, they face an unequal burden cancer disparities.

The purpose of this cross-sectional study was to examine the trends in cervical cancer screening among Latinas in California in order to develop and test culturally sensitive interventions to increase cervical cancer screening among this population.

This study applied a well-known theoretical framework for health service usage, the Behavioral Model for Vulnerable Popu-

lations, to examine Pap testing practices among Latinas who were native-born, recently immigrated or established immigrants.

Data from the combined 2001, 2003, and 2005 California Health Interview Survey (CHIS) for self-identified Latinas was explored to determine Pap testing rates. To explore the rate of change in cervical cancer screening rates for native Latinas, recent immigrant, and established immigrants from 2001 to 2005, weighted data for 13,889 Latinas were analyzed, percentages were calculated and the statistical significance was tested using a logistic regression model with an interaction between nativity and survey year at an alpha = 0.05.

This study determined there was an overall decline of 3% between 2001 and 2005 by Latinas reporting a Pap test in their lifetime. It was found among the three groups lifetime use of Pap testing was lowest among the recently immigrated Latinas. Although not statistically significant, both native Latinas and established immigrants rate of pap testing declined 2% and 3% respectively.

The findings suggest efforts to increase cervical cancer screening among recent Latina immigrants need intensifying. Additionally, declining trends for both native Latinas and established immigrants in Pap testing rates suggests health professionals target all Latinas to increase the rate of Pap testing among this vulnerable group.

## 4380

### **DEPRESSIVE SYMPTOMS DURING THE FIRST CHEMOTHERAPY CYCLE PREDICT MORTALITY IN PATIENTS WITH ADVANCED NON-SMALL CELL LUNG CANCER.** Mei-Ling Chen, RN, PhD, Chang Gung University, Tao-Yuan, Taiwan; Chih-Teng Yu, MD, Department of Thoracic Medicine, Chang Gung Memorial Hospital, Lin-Ko, Taiwan; Min-Chi Chen, PhD, Chang Gung University, Tao-Yuan, Taiwan

Lung cancer is the leading cause of cancer death in Taiwan. Depressive symptoms are commonly experienced by cancer patients, especially for cancer patients with advanced disease. The link between depression and survival outcome in cancer patients has received increasing attention.

The purpose of this study was to determine, after adjusting the known covariates, whether the depressive symptoms during the first cycle chemotherapy can predict the mortality of patients with advanced non-small cell lung cancer.

It has been hypothesized that depression might affect the survival of cancer patients through endocrinological and /or Immunological pathways or poor treatment compliance.

Patients with stage III or IV NSCLS were recruited from a large teaching hospital located in northern Taiwan. Depressive symptoms were assessed during the first cycle of chemotherapy using the Hospital Anxiety and Depression Scale-Depression subscale. A cut-off of 7/8 was used to categorize patients into depressed and non-depressed groups. All patients were followed up until the end of the study. The follow-up time ranged from 10 to 30 months. Kaplan-Meier survival analysis and Cox proportional-hazards regression were used to analyze the data.

The study sample consists of 90 NSCLC patients with a mean age of 58.67(+1.25) and a female ratio of 38%. Twenty patients (22.2%) were categorized as depressed. One patient was lost to follow-up. Among the rest 89 patients 43 died, resulting in an overall censored rate of 51.7%. The unadjusted mean survival time in depressed group (15.10 months) was significantly shorter ( $p = 0.014$ ) than that of non-depressed group (22.11 months). After controlling for functional performance status, disease stage, and smoking history, depressive symptoms still significantly ( $p = 0.036$ ) associated with shorter survival time. Compared to non-depressed group, depressed group had 2.06 (95% CI = 1.05 to 4.04) times risk to die early. The findings of this study can help oncology nurses and physicians to recognize the importance of depression problem. Early intervention for depressive symptoms should be developed to prevent the potential negative effect on survival.

## 4381

### PILOT TESTING OF A NURSE-LED INTERVENTION TO SUPPORT ADULT SURVIVORS OF COLORECTAL CANCER.

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Bowel cancer is the most common cancer affecting both men and women in Australia. Bowel cancer survivors represent the third largest group of long-term cancer survivors in the Western world. Many survivors suffer persisting physical, emotional, psychological and practical consequences of their disease and treatment. Current models of follow up focus on detection of disease recurrence, but do not adequately address survivors' concerns and distress.

To develop a nurse-led intervention to better support survivors, specifically aimed to reduce psychological distress, unmet needs and improve quality of life.

The study was informed by the Transtheoretical Model of Behavior change that has been successfully used in diet, exercise, and smoking cessations interventions. It proposes people pass through five stages of readiness in a circular fashion; precontemplation, contemplation, preparation, action and maintenance.

The intervention, known as SurvivorCare, was initially informed by three key principles: (1) promoting patient involvement and engagement; (2) addressing the specific needs of individual patients, and (3) using evidence-based strategies to promote well-being and reduce treatment sequelae as well as the four essential components of survivorship planning, defined by the US Institute of Medicine. To ensure applicability within an Australian context the content was developed following focus groups and questionnaire surveys with survivors of bowel cancer, as well as nurses, GPs and oncologists caring for people with bowel cancer.

The SurvivorCare intervention consists of educational materials (booklet, DVD and question prompt list), a tailored survivorship care plan (SCP), an individually tailored nurse-led end of treatment consultation and three follow up telephone calls.

The intervention was pilot tested with ten people. SurvivorCare was well received, all survivors considered it appropriate, relevant and useful. Survivors and staff found the intervention to be highly acceptable. It will now be evaluated in a randomised controlled trial. If SurvivorCare is shown to reduce distress and unmet needs, it will be possible to quickly and broadly disseminate this model of care.

## 4385

### TAKING DISCHARGE INSTRUCTIONS TO THE NEXT LEVEL FOR ONCOLOGY PATIENTS.

Mary Ann Long, MS, RN, OCN®, Roswell Park Cancer Institute, Buffalo, NY; Maureen Kelly, RN, MS, OCN®, NEA-BC, Roswell Park Cancer Institute, Buffalo, NY; Ronald Groth, BS/MS, Roswell Park Cancer Institute, Buffalo, NY

Cancer is a chronic disease that often requires complex treatment and follow-up care. Continuity of care is a critical component in the discharge planning process for cancer patients who are going home and patients must be engaged in this process. Some of the issues that we discovered that had an impact on patient satisfaction with the discharge process included: 1. patients do not feel prepared to go home. 2. patients do not want to provide care for themselves. 3. family members are not ready to assume the role of caregiver for the patient upon discharge from the hospital.

Because cancer patients are discharged to home and expected to participate in their own care at home, it is necessary for nurses to develop a discharge plan that ensures continuity of care with the active participation of the patient and the family. Acknowledging that a cancer diagnosis and the subsequent treatment are anxiety producing, it is imperative that nurses engage the oncology patient and his/her family in the discharge process to ensure that the patient receives adequate care at home and that the patient and family are comfortable providing that care.

A Discharge Instruction and Patient Satisfaction Taskforce was formed in 2008 and the goal of the group was to improve patient satisfaction specific to the discharge process and discharge instructions. A pilot project was initiated with two groups of patients where nurses placed a telephone call to the patients 24-48 hours after discharge to ascertain how patients were doing.

This presentation will provide information on the positive impact that post discharge telephone calls made by staff nurses have on patient satisfaction with discharge instructions.

Treatment options for cancer continue to evolve and include new surgical procedures, new chemotherapeutic agents and innovative combination therapy providing patients with more treatment options. Nurses must fully engage patients in the discharge process to ensure continuity of care. Patient satisfaction with the discharge instructions ensures better compliance with the plan of care at home. Oncology nurses in other settings will be interested in how this simple process helps to improve patient satisfaction with the discharge process.

## 4386

### USING CLINICAL SIMULATION AS A MODEL FOR TEACHING END-OF-LIFE CARE TO BACCALAUREATE STUDENTS.

Cheryl Lacasse, RN, MS, OCN®, University of Arizona College of Nursing, Tucson, AZ; Cindy Rishel, RN, BSN, OCN®, University Medical Center, Tucson, AZ; Virginia LeBaron, MS, ACNP-BC, AOCN®, ACHPN, University of Arizona College of Nursing, Tucson, AZ

End-of-life (EOL) care in oncology requires a unique skill set that many new oncology nurses feel inadequately prepared to provide. The opportunity to learn about the complexities of EOL care will help prepare novice nurses to delivery quality care for cancer patients at the end-of-life.

This educational activity is designed to provide junior-level nursing students with an opportunity to participate in clinical assessment, critical thinking, and decision-making related to end-of-life care of a terminally ill adult with cancer. In addition, this comprehensive clinical education activity uses the information processing model which includes receiving information, analyzing the information, and an application of the knowledge gained about the information.

A standardized patient approach is used to illustrate an EOL cancer patient case scenario through the use of high-fidelity simulation. The simulation activity is divided into several different sections. The activity begins with a discussion of the students' EOL experiences and defining comprehensive palliative and EOL care. Students receive a patient case which includes past medical and current admission histories, medications, and laboratory data. Also, student pairs conduct a focused assessment. A faculty-facilitated discussion is used to assist students to integrate patient care information with current best practices in EOL care using a quality of life framework. Finally, the students experience the last several minutes of life using a high fidelity human simulator. Students are debriefed about the experience and encouraged to discuss any thoughts or feelings about EOL care.

Student behaviors during interaction with the simulated EOL patient are visibly different in comparison to other types of simulated patients. Most students verbalize a deeper understanding of holistic care at the end of life during the debriefing session. Also, students demonstrate stronger clinical practice behaviors

with oncology patients requiring EOL care as measured on a standardized clinical evaluation tool.

The development of a comprehensive, integrative EOL curriculum combined with the use of high fidelity clinical simulation is an effective teaching modality for EOL care. This type of clinical education can also be used to educate novice nurses in a complex area of oncology nursing.

### 4387

**H1N1 PANDEMIC PREPAREDNESS IN A LARGE COMPREHENSIVE CANCER CENTER.** Gay Bailey, RN, MBA, OCN®, Memorial Sloan-Kettering Cancer Center, New York, NY; Kevin Browne, RN, MS, CCRN, Memorial Sloan-Kettering Cancer Center, New York, NY; Mary Dowling, RN, MS, Memorial Sloan-Kettering Cancer Center, New York, NY; Jennifer Tota, BS, Memorial Sloan-Kettering Cancer Center, New York, NY

In the spring and early summer of 2009 the greater New York City area experienced a severe outbreak of H1N1 influenza. At this 535 bed NCI designated comprehensive cancer center based in Manhattan we see approximately 500,000 patients per year across multiple outpatient sites. Nursing leadership became concerned about the effect that a full blown pandemic would have on patient throughput and resources needed to care for our vulnerable patient population.

Nursing lead a collaborative effort with administration & others to develop and implement a plan to decrease the spread of infection among staff and patients and to address patient care, throughput and resource concerns in the event of an outbreak of H1N1 as projected by the Public Health Department.

The first phase included an organization wide staff immunization program for seasonal influenza, a enhanced patient education program regarding Influenza Like Illness (ILI) for all outpatients and inpatients and the appropriate precautions to take and screening of patients prior to their outpatient appointment and discouraged symptomatic patients from attending their appointment unless medically necessary.

In the second phase we planned front door screening for patients arriving with flu like symptoms including a booth outside the Urgent Care Center (UCC), posters in all lobby areas and masks for patients who arrived with ILI symptoms. We also monitored daily triggers for ramping up to the next phase.

The third phase included more intensive front door screening to include nasal swabbing and provision of Tamiflu prescriptions for symptomatic patients.

By early October we had vaccinated 90% of our staff for seasonal influenza. We expanded capacity for pediatric patients who needed isolation during treatment and we improved our overall preparedness for coping with an outbreak of a highly communicable disease.

In addition we received two grants from outside agencies in recognition of our early efforts and overall success in preparing for this event.

Oncology nursing's leadership role in planning for an infectious disease pandemic is instrumental in preventing disastrous consequences for immunocompromised patients, triage issues and ethical dilemmas due to constrained resources.

### 4389

**BONE MARROW TRANSPLANT (BMT) NURSES COMPLETE "BOOT CAMP."** Donna Huffer, MA, BSN, RN, OCN®, University of Maryland Medical Systems, Baltimore, MD

What started out as an orientation program for new staff on a BMT unit ended up as a unique, cost-conscious, safety-conscious framework to update both senior and new transplant staff. BMT Boot Camp was a home-grown, fun, competitive seminar presented by the staff themselves.

Clinical topics were selected for the seminar by reviewing complications common to BMT patients from shift report sum-

maries over the past year. Many BMT patients experienced more than one of these complications, if not all. Examples included: Acute graft vs. host disease (GVHD), BK virus, renal failure, liver failure, sepsis. Each topic was prepared by a team of two RN's and based on the best available evidence.

Boot Camp presentation guidelines prohibited power point presentations. Teachers were instructed to tell their topic as they would tell a story, encouraging audience discussion and relating patient examples. Topic presentations could be no longer than 30 minutes in length. Teachers were required to prepare a one page bulleted summary of their topic using the best and most current articles available. Two fishbowl questions were created to summarize the take home messages for each subject.

The "fishbowl" game was enjoyed by the competitive members of the staff. The staff members with the most questions correct won fish shaped cracker prizes. All participants went home with a souvenir dog tag from BMT Boot Camp.

Boot camp evaluations were very positive regarding content and education style of the seminar. Continuing education tuition and travel costs were minimized. The camp presented a relaxed and friendly setting for staff to develop and practice their teaching skills. Patient safety initiatives were supported by educating the entire staff with the newest information on common clinical topics. Many smiles were seen on the faces of the presenters and participants reflecting pride in their individual and team accomplishments.

Valuable secondary gains of Boot Camp included the creation of an up to date reference binder on common complications that affect stem cell transplant patients and an education method that could be applied to any clinical setting.

### 4391

**NURSE PRACTITIONER'S CHARACTERISTICS AND JOB SATISFACTION IN A CANCER CENTER OF NORTHERN TAIWAN.** Su-Ying Yu, RN, Sun Yat-Sen Cancer Center, Taipei, Taiwan

Job satisfaction is a complex affective reaction to the job performed. NPs provide patient education, acute care, and prevention services at lower cost to the public thanks to the lower training cost and lower pay than that of physicians. Patient and physician evaluations of NP's have shown satisfaction with the care that NP's provide. However, while high level stress associated with Nurse practitioner's work is well known, little is known about job satisfaction issues concerning nurse practitioners in Taiwan. There are many factors to consider when determining the level of satisfaction. Work content, age, educational level, working conditions, location, co-workers, salary and working hours are some of the elements tied to job satisfaction.

The purpose of this study is to explore the levels of job satisfaction and demographics of active nurse practitioners at cancer center in Northern Taiwan.

The Mueller McCloskey Satisfaction Scale (MMSS) was the instrument used to attain descriptive data for this study. SPSS was used to analyze the data. Descriptive statistics were used for characterizing the job satisfaction of oncologist nurses practitioner. Two instruments were used to gather data for this study. The first instrument, coded and analyzed using descriptive (means and standard deviations) and correlational (Pearson's r Correlation Co-efficient) statistics, was a demographic questionnaire designed by the researchers.

The finding showed the primary focus of NPs role is acute care nurse practitioners employed by cancer centers for patients receiving initial treatment or palliative care. NPs are satisfied with structural aspects of the position, i.e. regular office hours, flexible working hours, high level responsibility and good work control. Dissatisfaction was expressed regarding remuneration and recognition, compensation for weekend work, salary package, career advancement opportunities, and childcare facilities.

In this field, job satisfaction is directly linked to a health care provider's desire to work and contribute in the provision of quality health care. Low job satisfaction could contribute to low

morale, poor, and perhaps reduced quality of care. The findings may be used to guide NP recruitment and retention strategies, influence practice issues.

### 4393

**THE EFFECTS OF A PATIENT EDUCATION STRATEGY IN RELIEVING ANXIETY FOR WOMEN UNDERGOING BREAST BRACHYTHERAPY USING STRUT ASSISTED VOLUME IMPLANT (SAVI) AT THE UNIVERSITY OF CALIFORNIA SAN DIEGO MOORES CANCER CENTER.** Eva Bariuan, MPH, RN, BC, OCN®, UCSD Moores Cancer Center, La Jolla, CA; Kay Murphy, RN, BSN, OCN®, UCSD Moores Cancer Center, La Jolla, CA; Imelda Juguilon, RN, BSN, CMSRN, UCSD Moores Cancer Center, La Jolla, CA

The diagnosis and treatment of breast cancer are stressful to patients. In addition to the emotional impact of the diagnosis, the treatment leads to increased anxiety, sadness, and sometimes depression in patients, affecting their quality of life. Breast brachytherapy using the Strut Assisted Volume Implant (SAVI) is an alternative to external beam radiation treatment for early-stage breast cancer. The device is inserted into the lumpectomy cavity through a small incision in the breast and the radiation oncologist expands the catheters to conform to the surgical cavity. The treatment schedule is 34 Gy delivered in 10 fractions twice daily for 5 days, with a minimum of six hours between fractions. The treatment targets where the cancer is most likely to recur reducing exposure to the skin, heart, and lungs. After each treatment, the radiation source is completely removed but the SAVI device remains until after the 5-day treatment. Despite the benefit of fewer side effects and shorter treatment period, some women perceive this treatment as uncomfortable potentially increasing their anxiety level.

This project determined the effectiveness of a nurse-designed patient education strategy in relieving anxiety in women undergoing brachytherapy using the SAVI. The strategy included educational materials, methods, and patient feedback.

The strategy included information in written format, DVD, demonstration with the SAVI model, and a tour of the procedure suite. Time was provided for questions and answers. Contact persons and phone numbers were also provided.

Ten patients were randomly selected to evaluate components of the patient education using a post-patient education evaluation tool. Based on their responses, each patient gained better understanding of the treatment, potential side effects, and symptom management—thus alleviating anxiety. Responders also indicated that they were reassured when allowed to verbalize their concerns and when they received contact information.

Based on evaluation responses, this patient education strategy proved invaluable in relieving anxiety for women undergoing radiation therapy with SAVI, thereby maintaining quality of life and providing continuity of care within a cancer center practice. The strategy can be easily adopted by other cancer care facilities.

### 4394

**NURSING PERFORMANCE IMPROVEMENT COUNCIL: CONTENTION WITH VAST AMOUNT OF DATA—IMPROVING PATIENT OUTCOMES THROUGH THE EXAMINATION OF NURSING SENSITIVE QUALITY INDICATORS AND DETERMINING WHAT IS MEANINGFUL THROUGH HARDWIRING, DELEGATION, TECHNOLOGY, A.** Therese Innamarato, RN, BSN, OCN®, Fox Chase Cancer Center, Philadelphia, PA; Lisa Roman-Fischetti, RN, MSN, AOCN®, Fox Chase Cancer Center, Philadelphia, PA; Catherine MacFarland, RN, BSN, OCN®, Fox Chase Cancer Center, Philadelphia, PA; Anne Jadwin, RN, MSN, AOCN®, NE-BC, Fox Chase Cancer Center, Philadelphia, PA

The Performance Improvement (PI) Council of Fox Chase Cancer Center struggled with having access to vast amounts of data

pertaining to nursing sensitive quality indicators (NSQI) and experienced difficulty interpreting them for declining trends. Recognition of declining trends was not timely to create effective action plans. Much of the information was linked to any violation of categories, instead of an absolute connection to root causes. The meetings were spent shuffling through papers and reading narratives of occurrences.

The Council's goal was to improve patient outcomes by reorganizing the reporting methods of the data to maximize meeting time, hardwiring NSQI, presenting relevant and meaningful data that could lead to recognition of problems and declining trends, and then begin corrective action plans.

(1)The agenda was created around NSQI. In March, 2009 (2)the administrative liaison stopped printing paper packets of the documents for the council membership. (3)The council utilized e-mail to provide documents of upcoming meeting. (4)Documents were presented at the council meeting via slide presentation program. (5)Taskforces were formed to take ownership of narrative reports and reorganize them into spreadsheets and graphs. They were then responsible for uncovering declining trends and report this at the meeting. (6)After the meeting, unit specific data was pulled and forwarded to the membership via e-mail. (7)The council adopted the FOCUS PDCA model of process improvement.

In December 2009, the administrative liaison spent less time preparing for the meeting. The moratorium on paper packets decreased the council's paper consumption by 75%, and was promoted as an eco-friendly initiative for the council. The changing of narrative data to spreadsheets has enabled the council taskforces to recognize otherwise inconspicuous trends, and to create corrective action plans. Our evaluation process is ongoing.

Ownership and hardwiring of NSQI is an "excellent opportunity for nursing to demonstrate their value in patient care outcomes and support financial performance of their institution." The hope of the PI Council is to empower our "staff nurses to not view quality as another task, but rather as a continuous process that requires critical thinking about how care is delivered."

### 4397

**THE INFLUENCE OF A BELIEF SYSTEM ON PSYCHOLOGICAL WELL-BEING AMONG WOMEN UNDERGOING A DIAGNOSTIC MAMMOGRAM.** Dorothy Brockopp, RN, PhD, University of Kentucky, Lexington, KY; Jean Abner, MSN, Central Baptist Hospital, Lexington, KY; Judy Hatch, BSN, Central Baptist Hospital, Lexington, KY; Krista Moe, MEd, University of Kentucky, KY; Judy Schreiber, PhD, University of Louisville, Louisville, KY; Susan Yackzan, MSN, Central Baptist Hospital, Lexington, KY

Nurses' ability to work with differences in patients' spiritual/religious beliefs is increasingly important as diversity of all kinds is emphasized within the profession. Although approximately 92% of Americans report a belief in God, healthcare professionals are rarely educated regarding the influence of individuals' belief systems on their psychological well-being. Recent research has affirmed the notion that religiousness and/or spirituality is related to self-reported health and psychological adjustment.

To develop a better understanding of the role of spirituality in overall psychological well-being during a stressful situation for women undergoing a diagnostic mammogram.

Ryff's theoretical framework regarding the psychological well-being of women forms the foundation for this study. This data comes from a study of 2000 women regarding those factors that contribute to well-being at the time of returning for a diagnostic mammogram.

A quantitative prospective descriptive study was conducted.

Data on 630 women retrieved from a larger study showed significant differences between women undergoing a diagnostic mammogram who do not have a belief system and those who do in relation to overall well-being, self-acceptance, purpose in life,

positive relations, personal growth and environmental mastery. Ryff's psychometrically sound instrument measuring Psychological Well-Being was used to assess that construct. Participants' presence and reliance on a belief system was measured using investigator designed questions and a 5 point likert scale. Open ended comments were also requested.

All differences were in a positive direction. Modest significant relationships were found between the extent (strength) of a belief system and overall well-being ( $r=.17$ ,  $p<.000$ ), social support ( $r=.22$ ,  $p<.000$ ), depression ( $r=-.11$ ,  $p<.02$ ), personal growth ( $r=.15$ ,  $p<.001$ ), self acceptance ( $r=.16$ ,  $p<.000$ ), positive relations ( $r=.14$ ,  $p<.002$ ), and stress ( $r=-.11$ ,  $p<.02$ ). The following themes emerged from an analysis of comments on spirituality among the first 315 participants: a powerful belief in God (regardless of religious preference), the importance of prayer, living fully, and respect for the earth and others. Findings from this study suggest that attending to the importance of a woman's belief system in a stressful situation such as undergoing a diagnostic mammogram may be important to their overall well-being.

#### 4400

**ENGAGING ONS CHAPTER MEMBERS: HOW ONE CHAPTER REKINDLED THE FLAME.** Jennifer Graff, RN, OCN®, CHPN, Thomas Johns Cancer Hospital, Richmond, VA

The Oncology Nursing Society (ONS) encourages its members to join a local chapter to network with other oncology nurses and to advance the mission and vision of National ONS on a local basis. Over the past 5 years, the local chapter of the Richmond Area has become known for "eating meetings", which are well attended but little more than a dinner out provided by an industry representative. All sub-committees had died off and National meetings such as Congress were not well attended.

The newly elected president sought to get the chapter back to the true goals and mission of ONS. Specific goals were developed including a scholarship program to send someone to Congress, fundraising for various community events, having organized business meetings, improving members' accountability, increasing chapter participation, creation of a local chapter website, and involving members of the local chapter in National ONS interests.

With direction provided through the ONS Leadership Development Institute and the ONS Mentorship Weekend, the president and the board delineated and refined the goals for the chapter. At the president's first meeting, those goals were outlined in a PowerPoint presentation to the membership and were well received. The next month specific ideas were put in motion and volunteers began helping.

By presenting ideas in a logical format and with much enthusiasm, the president was able to garner excitement in the chapter to get several projects started. A volunteer member established the chapter website. Social networking through Facebook evolved. The website was set up to register meeting participants and is updated regularly to keep members informed. A volunteer member is now the chair of the scholarship committee. An Oncology Certification Review Course now includes members from multiple sites. Meetings now consist of multiple sub-committee reports, with a very engaged membership who participates in the business meetings.

Having an energetic and enthusiastic chapter invigorates all of Oncology Nursing in the Richmond Area. Through improved chapter networking, more community outreach programs are planned to better serve our patients needs and fundraising has allowed the scholarship committee to send one or two people to Congress this year.

#### 4401

**THE IMPERATIVE OF ADHERENCE TO NOVEL ORAL AGENTS: WHERE DOES YOUR PRACTICE STAND?** Sandra

Siehl, BA, RN, MSN, OCN®, OSI Pharmaceuticals, Inc., Melville, NY; Laura Benson, RN, MS, ANP, AOCN®, OSI Pharmaceuticals, Inc., Melville, NY; Linda Cuaron, RN, MN, AOCN®, OSI Pharmaceuticals, Inc., Melville, NY; Lucianna DiMeglio, AORN, BC, AOCN®, OSI Pharmaceuticals, Inc., Melville, NY; Karen Hamilton-Sandles, RN, BSN, MA, OSI Pharmaceuticals, Inc., Melville, NY; Melissa Shackelford, RN, BSN, MPPM, OSI Pharmaceuticals, Inc., Melville, NY

Today's cancer therapies contribute to making the promise of personalized medicine a reality. However, many patients do not follow-through with their prescribed plans of care, and it is not unusual to note that adherence rates may be as low as 20%. This is a dilemma for oncology nurses, but provides an opportunity to address a new imperative to ensure patient adherence to novel oral agents.

The goal of this poster is to emphasize the value of patient adherence to novel oral agents. We address the issue of whose responsibility it is to ensure adherence to oral therapies. This is without question a multidisciplinary effort. We offer three major focus points of knowledge, process and responsibilities for healthcare providers and identify ways these may be translated into practice, potentially enhancing patient outcome.

A comprehensive review of the literature was accomplished, including results from an international survey by MASCC. In addition, a 2009 online survey by ONS Edge, commissioned by OSI Pharmaceuticals, Inc., addressed oncology nursing's role in adherence to oral agents. Survey results are presented in the context of the three focal points.

To best construct and support a matrix for managing patients on novel oral agents, there is a recognized need for such things as shared professional knowledge base, a systematic process to employ for individual patients, and the need for clarity and consensus for roles and responsibilities. These are confirmed in the scientific literature review and documented in the 2009 online ONS Edge survey.

Patient outcomes are linked to adherence. All professionals must develop and sustain an interdisciplinary synergy and address these concerns together. When oncology nurses have the required knowledge base, when the right processes are employed, with responsibilities clearly defined, then the value of adherence is realized by both patient and provider. This poster information can be used by oncology nurses to identify just where their practice stands, and to discover ways of enhancing the means by which they provide personalized nursing care to improve patient adherence to novel oral agents. This represents a call to action.

#### 4403

**IMPROVING THE RELATIONSHIP BETWEEN STUDENT NURSES AND AN ONCOLOGY FLOOR.** Eleanor Miller, RN, BSN, BS, OCN®, Thomas Jefferson University Hospital, Philadelphia, PA; Anne Delengowski, RN, MSN, AOCN®, Thomas Jefferson University Hospital, Philadelphia, PA

Nursing students have varied clinical experiences during a formative, vulnerable point of their education. With nurses having a reputation for eating their young, it was important to establish an environment conducive to learning and fostering a fundamental nursing and oncology education in the nursing students. Oncology can be an intimidating field to enter and our unit decided to draft a welcome packet for nursing students with a personal welcome from an RN to build a bridge between students and staff RN's.

According to the literature, many students have experienced some sort of lateral violence during clinical rotations. Our oncology unit wanted to improve the transition of having students enter the floor to ensure a smooth flow of the unit during clinical and provide a meaningful oncology rotation which may help inspire students to enter the oncology field upon graduation by reaching out to students with personally.

A Welcome Packet was drafted by two RN's on the unit with specific information about our unit and the oncology population. An RN from the unit also welcomes the students to the floor and giving them information to peak their enthusiasm. The staff personally reaches out to students who are assigned to their patients to ensure appropriate communication and patient care. A survey was completed by students pre and post clinical evaluating our interventions.

The survey results were compiled and indicated positive results, most importantly in comfort level with oncology patients and interest in oncology. 93% of students surveyed rated their comfort level with oncology patients a 7/10 or below prior to clinical, and 100% of students rated their comfort level 8 or above post clinical. There was also a 20% increase in interest in oncology between the pre and post surveys. Verbal feedback from the staff also indicated a positive experience throughout the semesters with students.

With the demand for registered nurses increasing, it is important for us to foster nursing students' education, especially in the rapidly evolving field of oncology. These interventions have helped to mold future nurses by treating them with respect, reaching out to them, and setting a positive example in oncology nursing.

#### 4404

##### **ENSURING THE CANCER CARE OF TOMORROW: BRIDGING THE GAP BETWEEN EDUCATION AND PRACTICE FOR THE ONCOLOGY CLINICAL NURSE SPECIALIST.**

Julie Carlson, RN, MSN, AOCNS<sup>®</sup>, OSF Saint Anthony Medical Center, Rockford, IL; Diana Wortham, MSN, RN, OCN<sup>®</sup>, CNS, Mission Health, Asheville, NC; Tammy Baltic, RN, MS, AOCN<sup>®</sup>, Stanford Hospital & Clinics Cancer Center, Palo Alto, CA; Denice Gibson, Banner Good Samaritan Medical Center, Phoenix, AZ; Mary Pat Johnston, RN, MS, AOCN<sup>®</sup>, Waukesha Memorial Hospital, Waukesha, WI; Ruth Van Gerven, RN, MS, CNS, AOCNS<sup>®</sup>, Bryan LGH Medical Center West, Lincoln, NE

The Oncology Clinical Nurse Specialist (OCNS) promotes clinical excellence, provides leadership to improve patient outcomes and ensures cost-effective, quality care for oncology patients. Despite many CNS programs in the United States, academic preparation varies. There is strong anecdotal evidence that a gap exists between the academic preparation of CNSs and the knowledge and skills needed on entering cancer care. Recent efforts to address gaps include new regulatory standards and OCNS competencies. However, the actual incidence, specific clinical and professional knowledge deficits and patient outcomes from this gap are unknown.

The purpose of this study was to compare and contrast academic experience to current practice by identifying degrees of preparation and confidence related to topics including education, skills, knowledge and role delivery by the OCNS. Variables such as years of experience, certification, preceptorship and practice environment were given statistical consideration.

The ONS CNS "Bridging the Gap" Project Team developed a survey to assess educational needs of practicing OCNSs. The self-reported survey consisted of 35 questions- 25 demographic and 10 assessing clinical and professional educational preparedness and knowledge related to OCNS core competencies. The electronic survey was randomly distributed to ONS CNS SIG members and an invitation to participate was posted on the CNS SIG Virtual Community.

610 surveys were distributed, 137 returned, resulting in a 22.4% response rate. Survey results identified significant gaps between CNS education (^a) and practice confidence (^p) or both (^b) revealing specific role development opportunities in each practice domain:

- Diagnoses of health status and plan of care: differential diagnosis<sup>b</sup>, CAM<sup>b</sup>, clinical trials<sup>a</sup>, late side effects management<sup>a</sup>, EBP tools<sup>a</sup>

- Implementing change: project management<sup>b</sup>, quality improvement<sup>b</sup>, conflict management<sup>b</sup>
- Organizational culture: operation management tools<sup>b</sup>, accreditation<sup>b</sup>
- CNS professional development: fiscal planning<sup>b</sup>, meeting facilitation<sup>a</sup>, writing/publication/presentation<sup>b</sup>, being an expert<sup>a</sup>
- Applying evidence: Implementing evidence<sup>b</sup>, research participation<sup>p</sup>.

Identifying learning needs from educational and practice deficits will assist in developing OCNS curriculum, orientation programs and continuing education offerings. A collaborative approach between academia and ONS to fill this educational need would enhance the success of CNSs entering into cancer care.

#### 4405

##### **BEATING THE CLOCK TO ATTAIN THE GOLDEN HOUR**

**IN FEBRILE NEUTROPENIA.** Mary Rutter, RN, MS, OCN<sup>®</sup>, University of Maryland Medical Center, Baltimore, MD; Peggy Torr, BSN, OCN<sup>®</sup>, University of Maryland Medical Center, Baltimore, MD; Nancy Kennedy, RN, BS, University of Maryland Medical Center, Baltimore, MD; Renee Kwok, RN, AA, University of Maryland Medical Center, Baltimore, MD; Vicky Sipes, RN, University of Maryland Medical Center, Baltimore, MD; Laura White, RN, OCN<sup>®</sup>, University of Maryland Medical Center, Baltimore, MD; Karen Kaiser, PhD, RN-BC, AOCN<sup>®</sup>, CHPN, University of Maryland Medical Center, Baltimore, MD

An hour turn around time from initial onset of fever to antibiotic administration (the Golden Hour) is an oncology standard because neutropenic patients are at risk for sepsis. Delays in antibiotic treatment of septic patients increase the potential for death. In complex health care environments where patients interact with multiple providers, there is a risk for delay. Multidisciplinary teams using retrospective audits have improved delays. Prospective auditing and data driven interventions led by a cancer center wide nurse-driven performance improvement team may decrease time to antibiotic administration after initial fever.

The purpose of this performance improvement project was to improve time from onset of potential neutropenic fever to initiation of the antibiotic to one hour or less, reducing the potential for sepsis.

Nurses were surveyed to determine their understanding of the Golden Hour's importance. A journal club presentation highlighted this issue. An audit tool was developed and used prospectively to identify reasons for delay. Based on results, a neutropenia patient education flyer was revised. The stat antibiotic process was reviewed and modified to efficiently manage the Golden Hour. A wallet sized Emergency Alert card with scripted patient education was developed to empower patients to obtain urgent treatment for fever. A Febrile Neutropenic "Safety Flash" was developed and distributed to providers. "Huddles" were used to educate Emergency Department staff. "On Your Watch" performance improvement bulletins were issued quarterly.

Nursing staff had few knowledge deficits. The audit tool identified interdisciplinary system processes and patient issues contributing to delay. Delays were multifactorial and classified into the following categories: lack of knowledge, communication and response. Pilot results demonstrate improvement over time.

Prospective assessment and multifaceted interventions led by a nursing performance improvement team improved time to antibiotic administration in neutropenic fever. The audit tool and interdisciplinary interventions can assist other oncology nurses to successfully identify barriers and manage the Golden Hour in a complex environment.

## 4409

**LESSONS LEARNED IN FALL PREVENTION PRACTICES.** Michelle Kasprzak, RN, BSN, OCN®, Duke University Hospital, Durham, NC; Kim Slusser, RN, MSN, CHPN, Duke University Hospital, Durham, NC; Deborah Allen, MSN, RN, CNS, FNP-BC, AOCNP®, Duke University Hospital, Durham, NC; Giselle Boward, RN, BSN, OCN®, Duke University Hospital, Durham, NC; Steve Power, MBA, Duke University Hospital, Durham, NC; Darlene Wilkins, RN, BSN, OCN®, Duke University Hospital, Durham, NC

Oncology patients are at high risk for falls due to complex treatments and symptoms. Falls impact length of stay, discharge planning, and nurse-patient relationships. Financial burden from treating injuries from falls threatens the ability to continue to deliver quality care. Thus when an inpatient medical oncology unit's fall rates, with and without injury, consistently exceeded target goals it was essential to develop strategies to decrease total falls and fall with injury (FWI).

A Falls Reduction Task Force formed to identify and implement strategies by incorporating the Six Sigma Define Measure Analyze Improve and Control (DMAIC) process.

Twelve months of fall data identifying root causes was analyzed along with audits that measured policy compliance. Findings showed staff not performing safety checks (32%), patient rooms had obstructed bathroom paths (32%), staff performed safety checks with significant variance, and absence of shared team responsibilities and patient engagement in safety checks. Literature was reviewed; 160 practices in fall prevention and reduction were ranked on feasibility and effectiveness. An evidence-based campaign was developed: slogan pins to increase staff and patient awareness, scripting and shared team responsibilities based on work flow, improved patient call and bed exit alarm systems, and patient engagement. Staff completed an interactive education program. Scripting cards on name badges promote consistency in addressing the five elements of safety checks. A chart of accrued falls is updated and displayed on the unit daily.

Fall data was reviewed at 1 and 4 months post-implementation. While fall rate per 1000 patient days has shown moderate improvement the unit has experienced 0 FWI since implementation. A focused-intervention involving leadership and staff review for causative risk and prevention of falls was initiated to bolster the education intervention. Additionally, 1:1 conversations to review lessons learned after each fall has begun. Specific interventions to incorporate into practice include: leaving no patient unattended in the bathroom and increasing patient engagement.

Despite efforts to eliminate variance in practice and engage in safety checks, practice changes for falls reduction is difficult. While the initial education campaign sparked change, focused-interventions throughout the year are required to sustain practice changes for successful falls reduction.

## 4410

**IN THEIR OWN WORDS; CONCERNS AND SOURCES OF STRENGTH: RESULTS FROM A SURVEY IN CANCER SURVIVORS.** Janine Kokal, RN, MS, OCN®, Mayo Clinic Cancer Center, Rochester, MN; Kelliann Fee-Schroeder, RN, OCN®, Mayo Clinic Cancer Center, Rochester, MN; Sheryl Ness, RN, MA, OCN®, Mayo Clinic Cancer Center, Rochester, MN; Debra Barton, RN, PhD, AOCN®, FAAN, Mayo Clinic, Rochester, MN

As more people are surviving cancer, increased attention has been placed on assessment of survivor's needs, understanding their quality-of-life, and learning how survivors adapt to effects of disease and treatment.

A survey was developed to evaluate concerns of a broad group of cancer survivors in the catchment area of Mayo Clinic Rochester, Florida and Arizona. This poster describes the qualitative data obtained in response to two open-ended questions. The first question

asked about the primary source of strength and the second was to identify the major concern upon finishing cancer treatment.

The framework for this thematic text analysis is based on Krippendorff's conceptual framework for content analysis.

Individual responses to the two open-ended questions were reviewed and coded to identify common themes independently by a team of three oncology nurses and a nurse research scientist. The team discussed areas of agreement and disagreement and came to consensus about the major themes identified.

337 cancer survivors completed the survey and 315 provided data for the open ended questions. Five major themes became evident in regards to the survivor's stated primary source of strength. These included: family, spiritual support/faith, friends, self-care, and support from members of the healthcare team. Less common areas included gathering information and other cancer survivors. The top four primary concerns near the end of treatment were: fear of recurrence, apprehension over losing contact with their health care team after treatment was completed, concerns related to the long-term and/or side effects of cancer treatment, and financial concerns. Understanding patients' primary concerns as they complete treatment will help cancer center's prioritize resources to address survivors immediate needs. Furthermore, the identified sources of strength can be mobilized and enhanced to help survivors feel more prepared and cope better with issues that arise during life after a cancer diagnosis.

## 4411

**REPRESENTATION OF GASTROINTESTINAL SYMPTOMS ON CANCER SYMPTOM INVENTORIES.** Catherine Cherwin, RN, University of Wisconsin-Madison School of Nursing, Madison, WI; Kristine Kwekkeboom, PhD, RN, University of Wisconsin-Madison School of Nursing, Madison, WI

**Significance & Background:** Recent studies indicate that patients with cancer experience symptoms that co-occur or "cluster" together. A number of studies have identified a gastrointestinal (GI) symptom cluster composed primarily of nausea and vomiting, but that cluster has been inconsistent among studies. This may be due, in part, to the small number of GI symptoms represented on the symptom inventories and the wide variety of symptom inventories used.

**Purpose:** The purpose of this project was to review item content of inventories used in symptom cluster research, to evaluate the GI symptoms queried, and to identify key GI symptoms missing from these inventories. This work addresses the ONS research priority area of symptom and side effect management.

**Conceptual Model:** This work was guided by the Theory of Unpleasant Symptoms, which proposes that cancer symptoms often occur together and may reinforce each other to amplify the overall symptom experience.

**Methods & Analysis:** Descriptive studies conducted between 1990 and 2009 were selected for review if they measured symptom clusters in patients with cancer and at least one GI symptom was measured. Inventories used in each study were then collected and their item content reviewed for GI symptoms. A master list of GI symptoms that oncology patients receiving treatment are likely to experience was generated from textbooks and journal articles and reviewed by a panel of oncology experts. Symptoms represented on the inventories were compared to the master list to identify missing GI symptoms.

**Findings & Implications:** The GI symptoms measured most frequently were nausea, vomiting, diarrhea, constipation, and lack of appetite. Less frequently measured symptoms included dry mouth, taste changes, bloating, dysphagia, dyspepsia, mouth sores, and belching. Important symptoms such as anticipatory nausea and vomiting, and retching were missing entirely. The symptoms measured varied significantly from study to study and often only intensity of the symptom was measured, not distress. Future research should assess the full range of potential GI symptoms to obtain a complete picture of the GI symptom cluster.

ter. A comprehensive GI symptom inventory which measures intensity and distress of all key symptoms would improve GI symptom cluster research.

#### 4412

**USING CHART REVIEWS TO DEVELOP RECOMMENDATIONS FOR MANAGEMENT OF CENTRAL VENOUS CATHETERS (CVC) WITHOUT BLOOD RETURN.** Diane Paolilli, RN, MSN, AOCN®, Memorial Sloan Kettering Cancer Center, New York, NY

Implanted Central Venous Catheters (CVC) are common in the oncology patient, especially those patients on chemotherapy treatment. CVC complications such as lack of blood return can impact the timely delivery of chemotherapy, may require costly interventions such as declotting agents, and require diagnostics such as a flow study. Given the impact of unscheduled delays related to catheters that do not give blood return, establishing an evidence based guideline was identified as a nursing sensitive outcome.

An evidence based approach was utilized to recommend and implement an algorithm for those patients receiving treatment who present with lack of blood return from the CVC. Recommendations were made in terms of troubleshooting, use of thrombolytic agents, and utilization of a flow study of the device.

A review of the evidence included: a review of published literature, national guidelines, manufacturers recommendations, and consultation with experts. A retrospective chart review was conducted assessing the need and outcomes of flow studies done during 2008. Data was also collected from a survey done to benchmark best practice of other comprehensive cancer centers. Based on this evidence, a multidisciplinary approach was utilized to develop an algorithm and implementation of a timeline for rollout and education?

Limited evidence existed regarding the management of a CVC that did not have a positive blood return. Recommendations were often based on expert opinion and no recommendations were supported by data generated from clinical trials. Results will be presented for 43 chart reviews, 33 survey results, as well as the algorithm developed. Ongoing data collection has been expanded to include flow studies done in 2009 and is to be completed spring 2010.

Developing an algorithm provides an evidence based guideline for the treating nurse. A recommendation for revision of nursing policy was rendered in collaboration with other health care providers to impact nursing sensitive patient outcomes. These outcomes include shortening or removing treatment delays, and in some cases removing the need for a flow study.

Based upon this evidence based methodology the current nursing policy is under revision and re-education of staff regarding algorithm is ongoing.

#### 4419

**DEVELOPMENT OF A DISTINCTIVE COMPREHENSIVE PATIENT EDUCATION BINDER FOR NEWLY DIAGNOSED ONCOLOGY HEMATOLOGY PATIENTS.** Jennifer Jindra, RN, PHN, OCN®, Mankato Clinic, Mankato, MN; Laurie Ofstedahl, Carlson Craft, Mankato, MN

New Oncology Hematology patients are inundated with a plethora of new information. Not only are they handed a life altering diagnosis, but they are also given multiple complex medications, appointments, and schedules to keep track of throughout treatment. Previously patients would receive handouts, a simple piece of paper, explaining medications or side effects as they occurred throughout treatment. The clinic did provide patients with a simple two pocket folder to keep information. The nurses observed these folders either thrown away, or forgotten at the clinic.

Patients were receiving disproportionate education materials through the Oncology Hematology Infusion center. Herein lays a project to address this issue and update the educational materi-

als. This poster describes a unique insight brought to the Oncology Hematology New patient education binder, so that the patient is supported throughout treatment on multiple levels, with this one remarkable tool.

After receiving input from the Oncology team, collaboration was sought from a cancer survivor that had recently been through treatment. This particular patient was also very involved with other patients who were currently undergoing therapy, their caregivers and other cancer survivors. In gaining the perspective of those whom it is our goal to educate and prepare to the best of our ability for their Oncology Hematology journey, we were able to surpass all other educational organizer mediums. We were able to give this binder the ability to be customizable to each patient.

The completed Oncology Hematology New patient education binder was reviewed and endorsed by the Director of Clinical Operations at Mankato Clinic, and the Oncology Hematology team with minimal changes. Elicited feedback from caregivers and cancer survivors prior to the large print order was overwhelming positive for those that this project would impact. Implementation data pending.

By including input from those who were involved with the patient, from diagnosis forward, we were able to capture not only medically important information, but information that was relevant to the patient on a personal level.

#### 4421

**A PILOT STUDY TO DETERMINE THE FEASIBILITY OF USING FAITH COMMUNITY NURSES TO RECRUIT AND COLLECT DATA FROM CHURCH-GOING AFRICAN AMERICANS.** Suzanne Devandry, MSN, RN, Merck & Co., Inc., North Wales, PA

Research demonstrated significant barriers to successful recruitment of African Americans (AAs) into cancer clinical trials. Lack of access to research is a common barrier to recruitment of AAs. The AA church is frequently used to reach AAs for participation in health promotion trials. Often, indigenous helpers are involved in the studies. There are fewer cancer clinical trials that use this model to reach AAs.

This pilot proposal will examine the feasibility of using Faith Community Nurses (FCNs) to recruit church-going AA volunteers into a research study and collect survey data. Findings will provide pilot data for a future study powered to demonstrate relationships between barriers and willingness of church going AAs to participate in cancer clinical trials.

Aim 1: Determine the feasibility of recruiting and training at least one FCN from 3 churches to recruit and collect survey data on a minimum of 10 AAs in their respective churches.

Aim 2: Determine if there is a relationship between barriers and willingness of church-going AA participants to participate in cancer clinical trials.

Social Cognitive Theory (SCT) is the foundation used to explore the use of indigenous FCNs to recruit AAs to participate in a research trial. SCT constructs of environment, situation, expectations, self-efficacy, behavioral capability, and reciprocal determinism will be considered.

The study sample will include at least FCNs from at least 3 churches and a minimum of 10 participants per church. Data for Aim 1 will be collected through investigator field notes, FCN journal entries, debriefing sessions, and key informant interviews. Content analysis will identify recurring themes and key statements that reflect on study design and implementation, as well as contribute to process evaluation. Descriptive statistics will be calculated for Aim 2 variables. Results for the outcome variable (relationship to Measure of Attitude Toward Participation scores) will be presented using pair-wise scatter plots.

This study, to be conducted over the next year, represents the first step in characterizing the feasibility of using FCNs to recruit for clinical trials and the relationship between barriers and willingness to participate in a clinical trial.



## 4427

**IMPLEMENTATION OF THE NCCN DISTRESS MANAGEMENT GUIDELINES IN A COMMUNITY HOSPITAL'S RADIATION ONCOLOGY AND OUTPATIENT INFUSION DEPARTMENTS.** Judith Hatch, RN, BSN, OCN®, CBCN, Central Baptist Hospital, Lexington, KY; Kay Ross, RN, MSN, AOCN®, Central Baptist Hospital, Lexington, KY; Kim Prather, RN, OCN®, Central Baptist Hospital, Lexington, KY; Angie Malone, RN, BSN, OCN®, Central Baptist Hospital, Lexington, KY

Surveys suggest that 5 to 48% of adults with cancer seen on an outpatient basis experience clinically significant levels of distress. Heightened distress has been shown to be associated with poor adherence to treatment recommendations, less satisfaction with care, and decreased quality of life across multiple domains. The National Comprehensive Cancer Network's (NCCN) Distress Management Guidelines states that all oncology patients should be screened for distress at their initial visit and at appropriate intervals thereafter.

The goal was to identify patients with heightened (4 or greater) distress levels at their initial visit in an outpatient treatment setting. This assessment of distress early in the treatment trajectory was hoped to provide an opportunity to intervene with supportive services and reduce the distress burden.

An Oncology Psychosocial Wellness Team was established comprised of integrated services involving nursing, pastoral care, social services, palliative care, and mental health. The team designed (2) three month pilot studies for implementation of the guidelines into practice. One trial was performed in Radiation Oncology and one in Outpatient Infusion. Patients with elevated distress levels were referred for supportive services based on their domain of distress. Patient's were then re-screened post interventions and throughout treatment.

Of the 221 Radiation Oncology patients screened for distress 5.4% scored four or greater triggering referrals to the team. Post intervention distress scores dropped below four.

Of the 69 Outpatient Infusion patients screened 40% scored four or greater and referrals were made accordingly. Of the 28 patients who scored four or greater, 20 reported improvement after interventions reducing scores below four. Six patients had unresolved distress and were monitored closely with continued supportive services. Two patients were unavailable for re-screening.

Based on the results of the two pilots the NCCN Distress Management guidelines were implemented into the culture of care for the outpatient oncology population in September 2009. Ongoing data is being collected to follow distress levels for each oncology patient. In January 2010 the inpatient oncology unit began preparations to screen for distress in their inpatient population.

## 4429

**A MULTIDISCIPLINARY APPROACH TO FALL RISK COMMUNICATION REDUCES FALLS WITH INJURIES ON AN ONCOLOGY INPATIENT UNIT.** Deborah O'Connor, MS, RN, Brigham and Women's Hospital, Boston, MA; Rebecca Spitz, BSN, Brigham and Womens Hospital, Boston, MA; Sara Close, PA-C, Brigham and Womens Hospital, Boston, MA; Daniel Voit, PharmD, Brigham and Womens Hospital, Boston, MA; Anne McDonnell, PharmD, BCOP, Brigham and Womens Hospital, Boston, MA; Escel Stanghellini, MSN, Brigham and Womens Hospital, Boston, MA

An established fall prevention program is a Joint Commission standard and is part of our hospital's patient safety initiative. Review of our falls data and communication of fall risk suggested that there is a gap in our communication process.

The purpose of this project is to reduce falls with injuries through using a reliable process for communicating fall risk.

A Hematopoietic stem cell transplant (HSCT) pod was selected as the pilot unit. Nurses assess for fall risk at least once a shift. Fall risk

is communicated during hand off report and written on the charge nurse board. Each nurse caring for a high risk HSCT patient is responsible for initiating the discussion of the safety interventions during the morning multidisciplinary rounds with the HSCT team. The physician assistant (PA) ensures that safety measures reviewed by the nursing staff are reinforced to the patient/family. The PA consults the pharmacist regarding high risk medications.

Since implementation, there has only been one fall with minor injury. There is a reported increased awareness of fall risk in this unit. The data around communication of fall risk is pending. Informal review of charts suggests that accurate assessment of fall risk is being communicated throughout the shifts to other clinicians, patients and their families. The documentation of patient teaching related to safety measures is improving. Although long term impact of this intervention on the FWI rate is yet to be determined, the preliminary data is promising.

Clinicians can apply this intervention in their unit to help with communication of fall risk and reinforcement of safety precautions with patients and families. The next step is to look into inclusion of other oncology teams and ensure that the process is sustained and embedded in practice.

## 4430

**PREDICTORS OF COLORECTAL CANCER SCREENING AMONG ARAB AMERICANS.** Amjad Khawaldeh, PhD, AOCNS®, Long Beach Memorial Medical Center/ Todd Cancer Institute, Long Beach, CA

Colorectal Cancer (CRC) screening remains underutilized contributing to unnecessary morbidity and mortality despite the documented evidence that regular screening reduced CRC related mortality rate by one third, and that early detection significantly reduced cancer death rates. CRC remains the third most commonly diagnosed cancer and cause of cancer deaths in the U.S. Epidemiological observations disclosed that CRC incidence increased in populations emigrating to the U.S. and construed that cancer-screening behaviors vary among people of different ethnic backgrounds.

The purpose of this study was to identify knowledge, beliefs, and attitudes toward CRC and CRC screening among Arab Americans. The long-range purpose is to develop culturally appropriate cancer screening programs.

The Health Belief Model (HBM) served as the conceptual framework that guided the study. The HBM proposes that individuals will follow a particular action only when they judge that this particular action will achieve a valued individual goal.

A descriptive correlational, cross-sectional design was used to collect data from 119 randomly selected Arab Americans  $\geq 50$  years of age living in Southern California. The CRC Knowledge, Perceptions, and Screening Survey (CRCKPSS) was modified and used to collect data on participants' perceived threat of the disease and the perceived benefits of screening and early detection. History of, and intentions to, utilizing CRC screening were also measured.

Positive attitudes about CRC and correct beliefs about the effectiveness of CRC screening tests (Beliefs), and being aware of CRC and CRC screening tests (Awareness) were strong predictors of screening. Low perceived benefits to screening, and being highly motivated towards one's health were significant predictors of having intentions to screen. Longer stay in the U.S., knowing someone diagnosed with CRC, having health insurance, and higher level of education were also found to be significant predictors of performing CRC screening.

As the health care is shifting to evidence-based practice, the study findings may be used as a platform step to better understand this unrecognized growing ethnic minority in the U.S., who have been facing unjust marginalization, criticism, and discrimination since the September 11 incident. Findings may be incorporated into culturally-sensitive educational programs on CRC screening and early detection.

## 4433

**“HAND OFF” COMMUNICATION—THERE’S NO PLACE LIKE THE BEDSIDE.** Laura Herbener, RN, OCN®, Lehigh Valley Health Network, Allentown, PA; Tiffany Huff, RN, BSN, Lehigh Valley Health Network, Allentown, PA; Nicole Reimer, RN, BSN, OCN®, Lehigh Valley Health Network, Allentown, PA

Since 1995, a magnet hospital’s care delivery model has been Patient Centered Care, defined by research conducted by the Picker Commonwealth Program for Patient Centered Care. Reflecting upon traditional end-of-shift report, nurses on the 20 bed inpatient oncology unit determined that report conducted in a conference room was not consistent with the care delivery model; in contrast, bedside shift report embraces patient centered care and family presence and, according to evidence, enhances patient safety and satisfaction.

This offering will review the evidence associated with patient centered care, family presence and bedside shift report, and detail processes, tools, staff and patient adaptations, and pragmatic insights associated with implementation of bedside nurse shift report on the oncology unit.

Beside shift report was instituted by the unlicensed support staff approximately one year prior to registered nurse (RN) initiation. From inception, oversight for both groups has been the responsibility of unit shared governance councils, with support and accountability fostered by the unit management team and educator. Action items included: strategies to address staff concerns and engage commitment; replacement of the traditional Kardex with a “Report Card,” which identifies patient and collaborative care team goals and provides a template for the bedside report; an electronic staff education module, inclusive of case scenarios; and, a patient education document which describes the rounding process, invites the patient and family to participate, and discusses their roles.

Metrics include: a pre-implementation RN staff attitude survey, repeated at 3 and 6 months, respectively; patient satisfaction scores, with emphasis on the question, “Staff worked together to care for you;” nurse sensitive clinical outcomes; and, incidental overtime dollars

Patient involvement and safety are key components in healthcare reform. “Hand off” communication is addressed in the 2010 Joint Commission National Patient Safety Goals and the Institute of Medicine has called for revision of shift report practices to improve patient safety and decrease medical errors. Attendees at this offering will gain knowledge to impact patient safety and family presence through bedside nurse shift report in any oncology practice setting, thereby taking a lead in viable healthcare transformation.

## 4434

**USE OF A VISUAL CUE FOR TEAM MEMBERS INVOLVED WITH PATIENTS RECEIVING END OF LIFE CARE AND INTERVENTIONS.** Robert Vos, MS, RN, NEA-BC, Torrance Memorial Medical Center, Torrance, CA; Carol Ecklund, MSN, RN, AOCN®, Torrance Memorial Medical Center, Torrance, CA; Mary Hersh, MSN, RN, CHPN, Torrance Memorial Medical Center, Torrance, CA; Jessilyn Martinez, BSN, RN, Torrance Memorial Medical Center, Torrance, CA

Caring for patients receiving end of life care is an important part of Oncology nursing practice. The effectiveness of this care provides comfort to patients, and has significant psychological effects on family members. On a busy oncology unit it is important to immediately communicate to all team members interacting with the patient and family. Many team members were inadvertently entering patient rooms and were sometimes confronted with difficult and awkward situations.

The goal was to provide an easy tool to immediately identify a patient receiving end of life care. The Oncology unit was the ideal place to implement this tool since Oncology nurses are skilled

at providing care during the entire illness trajectory, including end of life care.

The Oncology Unit Based Council decided to implement a test of change using a Butterfly sign, placed on the door of the patient rooms of those actively dying and on comfort care. The Butterfly was a readily identifiable cue to all team members in the medical center that this patient was receiving this level of care, without violating privacy regulations. It was important to train not only unit based team members, but to train other medical center departments who had patient contact on the Oncology unit. All staff entering the dying patient’s room; need to be able to support a peaceful, dignified, and respectful environment that fosters this important life transition.

The nursing team on Oncology immediately found the Butterfly an important symbol upon entering a patient’s room. The patient was readily identified that comfort was the only treatment for the patient, and the psychological support of family members. Tracking of family response and satisfaction scores shows an improvement in the care provided.

The Butterfly symbol, used as a cue, on the patient’s door is a minimal, inexpensive intervention that has major benefits for team members caring for dying patients and their families. Due to the success of this implementation on the medical center Oncology unit, the signage will be implemented throughout the medical center.

## 4435

**RADIATION ONCOLOGY LABOR STANDARDS: FRIEND OR FOE?** Mary Ann Robbins, RN, MSN, OCN®, Duke University Hospital, Durham, NC; Chad Seastrunk, MS, MHA, Duke University Health System, Durham, NC

Healthcare is rapidly changing and so is the field of radiation oncology. Decreased inpatients hospital stays and increased complexity in the outpatient setting often finds nurses trying to do more and more in less time. Expectation of nursing care has changed dramatically in our department in the past nine years. Treatment plans have become more complex, treatment times have increased and the introduction of electronic medical records can often make staff feel overwhelmed. Labor standards provide a mechanism to translate the practice of nursing into a clear and understandable plan that assist the nurse leader with validating current staffing levels and to manage patient and staffing requirements over time.

To establish a consistent model of building standards in radiation oncology that will define variable versus fixed positions, skill level groupings, and workload indicators to monitor productivity. The updating of variable and fixed labor budget standards will be tied to billable direct care activities, indirect care activities (quality assurance) and administrative allowances (continuing education, hospital competencies) and will also be used to analyze patient flow to identify opportunities for improvement.

The nurse manager and management engineer from Performance Services partnered to develop and pilot a data collection tool that reflected key areas of nursing practice as well as areas that could be written in. Clinical operations were observed and data was collected over one week by staff RNs.

A total of 228 patient encounters were recorded and analyzed over the one week time period. The data collected showed approximately 50 hours of nursing time spent not related to a traditional patient clinic visit. While some of the activities were related to direct patient care many non billable activities like phone calls, emails and daily quality assurance checks were also captured.

Careful analysis has to be performed to ensure that nurses are receiving credit for the direct and indirect work that they perform. From the results, target productivity and FTE’s can be established. Nurse managers and leaders will be able to develop appropriate standards base upon their unique practice setting.

## 4440

**BUILDING VIRTUAL CAPACITY: THE ROLE OF THE ADVANCED PRACTICE NURSE.** Cynthia Idell, RN, BA, MSN, AOCN®, City of Hope, Duarte, CA; Leticia Valdiviez, RN, MSN, CPON®, City of Hope, Duarte, CA; Mary Scott, RN, MSN, City of Hope, Duarte, CA

Hospitals face significant challenges from healthcare reform, declining reimbursement and increased patient volumes. Many institutions lack capital to fund new buildings; however, one strategy to remediate capacity deficit streamlines patient throughput to build virtual capacity. Appropriate resource utilization and reduction in average length of stay (LOS) generate virtual beds, i.e. additional average daily bed capacity. Advanced Practice Nurses (APNs) are well-positioned to enhance virtual capacity through unique understanding of complex care needs, interdisciplinary partnerships, and early identification and resolution of discharge barriers.

A comprehensive cancer center employed a Care Management Solutions® model based on Hoshin planning (e.g. vision, strategies, tactics, and action plans). The model ensures inpatient capacity supports hospital mission, growth and fiscal targets by examining complexity and care episodes. Workgroups review pre-admission processes, complex care needs, concurrent coding, and outcomes, e.g. LOS for Diagnostic Related Groups (DRGs). Interventions target outlier hematology DRGs greater than 2.5 times expected LOS. APN clinical expertise fosters throughput innovation. The project purpose leverages the APN role to reduce hematologic LOS to less than 8.4 days, to decrease readmissions within 3 days to less than 2%, and to 100% capture daily discharge goals.

After completing workgroup activities, APNs created and piloted an algorithm to assess / triage complex patients within 48 hours of admission in collaboration with case managers and charge nurses. Algorithm decision points trigger proactive steps, e.g. care goal conferences or ancillary referrals. Daily care goals promoting discharge progression are displayed in patient rooms.

Baseline hematology metrics included average LOS (8.9 days), re-admissions within 3 days (2.73%), and Press-Ganey satisfaction scores. Reducing hematology average LOS from 8.9 to 8.4 created 24 additional virtual beds. Monthly metrics validate algorithm value, with improvements noted in 3 months after model application. Quarterly measurements of APN role / model efficacy occur via the Health Service Utilization Inventory.

Building virtual capacity is a viable option to combat unprecedented growth and declining reimbursement. APNs increase virtual capacity by managing complex care for patients exceeding targeted LOS. Case manager partnerships and algorithm interventions serve to optimize key metrics, e.g. LOS and readmission, while enhancing throughput and creating virtual capacity.

## 4441

**IMPLEMENTING FOLLOW-UP CARE STANDARDS FOR LYMPHOMA SURVIVORS IN AN AMBULATORY ONCOLOGY CARE SETTING.** Stacie Corcoran, RN, MS, AOCNS®, Memorial Sloan-Kettering Cancer Center, New York, NY; Elisa Malek, RN, BSN, Memorial Sloan-Kettering Cancer Center, New York, NY; Nancy Houlihan, RN, MA, AOCN®, Memorial Sloan-Kettering Cancer Center, New York, NY

There are an estimated 11 million cancer survivors in the United States. While current oncology nursing practice dictates that patients are educated regarding diagnosis and treatment, little post treatment information is provided in a standardized manner. Educating patients about what to expect after treatment is becoming increasingly important as numbers of cancer survivors grow and more is known about potential impact on quality of life. Oncology nurses are in the unique position to educate patients throughout their care trajectory. Lymphoma nurses at this NCI-designated cancer center developed a program to standard-

ize post treatment information and resources, and implement a plan to expand nursing practice.

The purpose is to ensure that all lymphoma survivors at our center are educated about post treatment care and resources. This initiative was undertaken in response to a 2007 staff survey indicating 69% of nurses would change practice to incorporate survivorship education if they had knowledge and resources.

A task force reviewed current practice and post treatment care materials for lymphoma survivors. Follow-up care guidelines and patient education documents including a copy of patient's chemotherapy record were developed. Education and resource packets were assembled and stocked in all practice areas. Nurses were educated regarding new practice standards incorporating follow-up care information, education and documentation. A specific post treatment "RN follow-up visit" was implemented for routine scheduling of time with patients. Implementation began in November, 2009. This presentation will include a description of the program development process and materials, resources, and evaluation data.

Compliance with newly implemented practice standards is being monitored through nursing documentation review. Data review includes the number of RN follow-up visits completed and patient satisfaction survey results.

Our goal of providing continuity across the care continuum can only be met by providing education at time of diagnosis, treatment, and post treatment periods. The aim is to increase awareness of potential health issues and provide evidence-based care recommendations. This presentation demonstrates one cancer center's experience implementing a standardized approach to preparing lymphoma patients with information and resources needed for long term survival.

## 4450

**COMPREHENSIVE MANAGEMENT OF SEXUAL DYSFUNCTION IN BREAST CANCER SURVIVORS.** Kirsten D'Angelo, RN, BSN, Beaumont Hospital, Royal Oak, MI; Shannon Wills, PhD, Beaumont Hospital, Royal Oak, MI; Joyce Nancarrow-Tull, RN, BSN, CCRP, Beaumont Hospital, Royal Oak, MI; Vicky Thomas, BA, Beaumont Hospital, Royal Oak, MI; Veronica Decker, APRN, BC, MBA, Cancer Care Associates, Royal Oak, MI; David Decker, MD, Beaumont Hospital, Cancer Care Associates, Royal Oak, MI

Improved treatments for breast cancer have increased life expectancy, but sexual quality of life (QOL) declines over time. Female sexual dysfunction (FSD) is multi-factorial, involving physiologic, psychosocial, and emotional mechanisms. Chemotherapy and hormonal treatments may cause early, abrupt, and severe menopausal symptoms. FSD is often poorly managed by healthcare providers.

Interim analysis of a pilot study to identify causes of FSD in breast cancer survivors (BCSs), implement appropriate suggested nursing actions, and measure outcomes of management strategies.

Based on Peplau's interpersonal relations model, this study combines systematic knowledge with compassionate, sensitive nursing care. The study design is intended to facilitate outpatient oncology nurses in assisting BCSs to manage and ultimately improve sexual functioning, with a contributory approach to examination and intervention.

Patients complaining of FSD at least one year from diagnosis of breast cancer completed 6 questionnaires: Patient History Form, Female Sexual Function Index, Sexual QOL-Female, Abbreviated Dyadic Adjustment Scale (DAS-7), Body Image Scale, and Center for Epidemiologic Studies Short Depression Scale. Management strategies based on standards of care and National Comprehensive Cancer Network guidelines were relayed to patients accordingly. Questionnaires were administered 6 months later, evaluating impact of suggested strategies. Sexual partners were encouraged to participate by completing: Short History Form for Male Partners, Sexual QOL-Male, and the DAS-7.

Low sexual desire; diminished lubrication, arousal, and orgasm; sexual pain; fatigue; body image disturbance; depressive symptoms; relationship issues; and urinary incontinence were factors that contributed to FSD. Partner participation was 55.6%. Of the sample (n=9), improvement was demonstrated in 8 of 10 domains at the 6 month endpoint, as illustrated by the mean. Sexual desire improved by 14.4%, lubrication by 25.7%, arousal by 13.9%, orgasm by 6%, sexual pain by 24.5%, sexual satisfaction by 21.5%, relationship issues by 3.1%, and body image by 7.9%. These findings establish feasibility and effectiveness of implementation of targeted nurse clinician actions. Sexual QOL improved for BCSs when concerns were addressed and interventions relayed. Many studies have measured FSD in BCSs; few have attempted such a comprehensive intervention strategy, improving QOL. It is important to address FSD, offering solutions to manage survivor issues.

## 4452

### **SURVIVORSHIP CARE PLANNING: A SURVEY OF ONCOLOGY NURSES TO DETERMINE EDUCATIONAL NEEDS.**

Joanne Lester, PhD, ANPBC, AOCN®, James Cancer Hospital, Ohio State University, Columbus, OH; Yoosuh Jung, The Ohio State University, Department of Statistics, Columbus, OH; Andrew Wessels, BS, James Cancer Hospital, The Ohio State University, Columbus, OH

Educational needs of oncology nurses is relevant to the current and future care of cancer survivors. This survey was intended to identify gaps in knowledge that are inherent for implementation of cancer survivorship care planning.

The Institute of Medicine has challenged those involved in the care of cancer survivors to address cancer survivorship. While some cancer survivors recover with a renewed sense of life and purpose, many cancer survivors experience a toll on their health, function, security, and well-being. Long-lasting effects of treatment can be noticed shortly after completion of therapy, or may be detected years later, causing permanent alterations in the survivor's health. Upon completion of treatment, cancer survivors must be given knowledge of their risks with a follow-up plan of care.

The purpose of this study was to assess nurses' knowledge of issues related to cancer survivorship care planning.

The shared-care model was used to illustrate the relationships between the cancer patient, caregiver(s), oncology health care team, and primary care provider(s).

The survey data was obtained in 2009 via an online survey of nurses (n=273) working at a NCI-designated comprehensive cancer center; institutional IRB approval was obtained. The qualitative survey was comprised of items derived from the literature, including constructs from the ONS PEP cards.

The data was analyzed using SPSS (v 17.0) to determine descriptive data analyses and analysis of variance (ANOVA) that defined differences between and among groups of nurses.

This survey indicated many areas in which nurses felt confident in their ability to educate patients about survivorship care issues, and related knowledge deficits.

90% of the respondents indicated that they felt cancer survivorship care planning was a nursing responsibility, yet many nurses felt inadequate to appropriately address survivors' comprehensive needs.

This survey provides important baseline data from which others can gain knowledge about the oncology nurse's ability to provide comprehensive survivorship care planning, gaps in knowledge, and potential educational needs. Results from this survey may be useful to others as they identify barriers to implementation of this important endeavor.

## 4453

### **RISING TO THE CHALLENGE: IMPLEMENTING AND MANAGING TELEMETRY ON AN INPATIENT ONCOLOGY**

**UNIT.** Kathleen Schardien, RN, MSN, AOCN®, Memorial Sloan Kettering Cancer Center, New York, NY; Trish McTague Allen, MSN, RN, FNP-BC, Memorial Sloan Kettering Cancer Center, New York, NY

As defined by the American College of Cardiology telemetry monitoring is indicated for a variety of clinical conditions including rule out myocardial infarction, life-threatening and nonlife-threatening arrhythmias, electrolyte imbalances and chemotherapy related cardiac toxicity. As hospitalized oncology patients become more acutely ill and increasingly require telemetry monitoring, a need existed at our 450 bed NCI-Designated Comprehensive Cancer Center to add incremental telemetry beds for oncology patients.

Having identified a clinical need we sought to develop a staffing plan, educational strategy and implementation scenario. Following the go live of 16 telemetry beds on our 42 bed medical-surgical oncology floor we addressed several challenges that arose related to patient flow and management.

To accommodate the increase in acuity incremental RN positions were added. Partnering with Nursing Education all nurses attended an eight hour didactic training program, two hour hands on training session and passed a written exam. During implementation, staff from other inpatient units with expertise in cardiac monitoring provided mentorship and ensured a safe transition.

An evidence based review was conducted to determine admission and discharge criteria and define best practice guidelines for patients traveling to and from procedures. Using the evidence, an electronic order-set for appropriate ordering of telemetry based on admission/discharge criteria and clinical classifications is now being created.

Additional telemetry beds are now available for patient use by all medical and surgical oncology services at our institution. All RN staff on our unit have demonstrated competency with this new clinical skill. Challenges include providing appropriate medical coverage for patients from a variety of services as these patients are all not managed by the cardiology service. We are currently pursuing supplemental nurse practitioner coverage to facilitate the efficient and safe management of patients.

This program provides additional access to telemetry monitoring for our patients. Oncology nurses have mastered a broadened skill set and experience heightened morale after successfully implementing a valuable program. This clinical and evidence-based implementation project provides a model for other institutions managing acutely ill oncology patients on medical-surgical inpatient units.

## 4454

**HIGH DOSE IL-2 NURSING CARE CHANGE.** Susanne Suchy, RN, MSN, AOCNS®, Barbara Ann Karmanos Cancer Center, Detroit, MI; Daykee Bracy, BSN, RN, Barbara Ann Karmanos Cancer Center, Detroit, MI; Rhonda Spencer, RN, Barbara Ann Karmanos Cancer Center, Detroit, MI; Karen Walsh, BSN, RN, Barbara Ann Karmanos Cancer Center, Detroit, MI

Central Venous Pressure (CVP) measurement is one indicator physicians use to assist in decision making regarding administration of subsequent doses of Interleukin 2 (IL-2) to the patient. Unit registered nurses (RNs) had questioned the accuracy of the CVP measurement and the usefulness of the data in treatment decision making. A nurse researcher's unit visit and the need to do an evidence based practice project were the impetus to move forward.

The project objective was to evaluate the accuracy and necessity of CVP monitoring. A literature review would be conducted to seek scientific evidence to support CVP monitoring. The RNs would be tested for knowledge of accurate measurement of CVP. Significant data would be shared with the medical staff if practice change was suggested.

Review of literature found little scientific evidence to support the practice of CVP monitoring in patients receiving high dose IL-2 except in the ICU setting. Further, no control studies were

found discussing its importance. Product literature on Proleukin® had one mention of CVP monitoring.

A six question quiz to assess the CVP monitoring knowledge was designed. Thirteen unit RNs who care for patients receiving high dose IL-2 took the quiz. Lack of marking the zero reference point was the most significant finding. Scientific literature cites the importance of zero reference point marking to obtain consistent, accurate readings.

A meeting was scheduled with the oncologist who treats this patient population. Literature review findings, concern about the accuracy of CVP readings, and the variances in CVP monitoring were presented. He expressed the opinion that it was probably time to reexamine the practice of CVP monitoring. A follow up meeting was planned. CVP monitoring was discontinued in patients receiving high dose IL-2.

This change has allowed the use of peripherally inserted central catheters (PICC lines) with positive implications for patient comfort and possible decrease in central line infection rates. RNs report a time savings of approximately 15 minutes two times a shift which is used for patient interaction. Institutional costs have decreased related to line placement and CVP equipment. The greatest outcome was that unit RNs felt empowered and valued.

#### **4455** **INSTITUTING A CHEMOTHERAPY "TIME OUT" PROCESS TO ELIMINATE CHEMOTHERAPY ERRORS.** Sherry Greifzu, RN, MSN, AOCN®, Dartmouth Hitchcock Medical Center, Lebanon, NH

Chemotherapy administration can be challenging and demanding of resources. With increased volume of multidrug regimens, increased patient acuity and a dynamic environment, the need for safety and accuracy is paramount to prevent a negative patient outcome. We identified chemotherapy transcription and administration errors and struggled with the solution.

The Inpatient Hematology/Oncology and BMT units developed a Chemotherapy "Time Out" Process to change and improve practice and to provide safe administration of chemotherapy. This method utilized a newly created chemotherapy administration check list which reflects the guidelines of the hospital's chemotherapy administrative policy. The purpose of this "Time Out" process was to identify each step in the policy, improve compliance and eliminate transcription and administration errors.

All Chemo/Bio certified nurses were required to attend a two hour education session. Prior to this, nurses reviewed all chemotherapy related policies online and completed a chemotherapy exam. Chemotherapy errors, ONS Chemotherapy Standards and guidelines were also reviewed. A brain storming session was conducted to identify issues and make recommendations for improving practice. A post session evaluation was completed by each attendee.

This chemotherapy Time Out Process has decreased transcription and administration errors and improved compliance with the Hospital policy. Initial errors of timing, delayed or missed dosing have been eliminated. Nurses are satisfied that this system protects their practice as well as patient outcomes.

The data are presented monthly to the Shared Governance, Pharmacy and Therapeutics, and Quality and Safety Committees. A group of Chemotherapy Nurse Experts have emerged to assure accurate training and precepting for oncology nurses.

Nurses play an important role in safety and accuracy of chemotherapy administration. Providing the staff with a chemotherapy Time Out Process for each patient regimen assures this safety and accuracy for patients. The nursing and physician staff review the data and it has been included in the monthly Oncology Quality Improvement Plans.

#### **4457** **TREATING NUTRITIONAL INSUFFICIENCY IN PANCREATIC CANCER PATIENTS UNDERGOING CHEMORADIATION.** Gloria Wood, RN, BSN, H. Lee Moffitt Cancer Center

and Research Institute, Tampa, FL; Bonnie Sauder, BS, RN, CCRP, OCN®, H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL; Ann Spicocchi, RD, LD, N, H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL

Many patients with pancreatic cancer experience significant challenges in the area of diet and nutrition. Pancreatic cancer and its treatments can cause malnutrition which can negatively impact morbidity, survival, and quality of life. With a diagnosis of pancreatic cancer, it is essential to incorporate a healthy diet and nutritional plan, developed together with the physician, nurse or registered dietitian. Failure to address this important issue can result in interruption in treatment in patients with pancreatic cancer.

The purpose of this abstract is to identify common nutritional goals and review the corresponding nursing and pharmaceutical management in pancreatic cancer patients undergoing chemoradiation.

The primary nutritional goal is to prevent patients from losing greater than 3-5% of their baseline weight per treatment course. Several interventions are required to achieve this goal: an extensive initial nutritional assessment by the dietitian; weekly on-treatment visits with nurse and physician to monitor treatment side effects, weight, and nutritional intake along with performing a physical exam; encouragement of small frequent meals 5-6 times per day that are high in protein; symptom management, such as for anorexia, dysgeusia, nausea/vomiting, fluid and electrolyte imbalances, glucose intolerances, abdominal cramping, diarrhea, constipation, and fatigue; pancreatic enzymes; and evaluation for possible feeding tube placement. A table listing common symptom management strategies and criteria for feeding tube placement will be included.

Patient weight loss is closely monitored every week. Those patients whose weight declines significantly undergo radiation re-planning; in some cases, the weight loss will necessitate a dosage adjustment. Patients should be assessed weekly for any underlying pancreatic insufficiencies and supportive medications and therapies initiated as needed. These weekly evaluations help prevent the need for unscheduled treatment interruptions.

Adequate nutrition is pivotal for the pancreatic cancer patient to adequately tolerate chemoradiation treatments. Prompt assessment and intervention of nutritional status can improve their tolerance of treatments and quality of life. As an integral part of the healthcare team, nurses play a significant role in the management of nutritional insufficiency in patients with pancreatic cancer. Collaboration with the physicians and dietitians is paramount in preventing treatment interruptions for these patients.

#### **4458** **THE EVOLUTION OF AN ONCOLOGY NURSING FELLOWSHIP PROGRAM FOR NEW GRADUATE NURSES.** Catherine Limbaugh, RN, MSN, OCN®, CNS, Barnes Jewish Hospital, St. Louis, MO

The transitional practice gap that accompanies the new graduate nurse is widely acknowledged. When entering an oncology specialty, the gap is a little wider. To address this gap, a university based hospital with five oncology divisions developed an oncology nursing fellowship program which was implemented in January 2008. Fine-tuning has been done in response to feedback from the nursing fellows and the management team. The implementation of the University HealthSystem Consortium (UHC) Nurse Residency Program in the hospital also affected the program.

The purpose of the Oncology Nursing Fellowship Program is to establish firm roots from which excellent oncology nursing practice and professionalism can grow and flourish, Retention is important, but is secondary to professional oncology nursing development. It is very satisfying to see new nurses develop competence and engage in their careers, be it at the bedside or in another role.

A comprehensive program based on Benner's novice to expert theory is in place. The curriculum, based on Benner's domains,

includes skills boot camps, cancer basics, solid tumor classes, hematological malignancies, psycho-social issues, oncology emergencies, symptom management, community resources, spiritual assessment and simulation lab. When feasible, tours of relevant areas (such as radiation therapy) are incorporated.

Program evaluations and self assessment of confidence in selected competencies prior to and upon completion of fellowship are the driving forces of the evolution of the program. Since the inception of the UHC nurse residency program which now addresses some hospital based requirements, the fellowship program is able to sharpen its oncology focus even more. Anecdotally, it is observed that the nursing fellows contribute to an increased professional camaraderie amongst the oncology divisions.

To successfully address the practice gap for the new graduate nurse, a fellowship program must be adaptable to changes and trends in healthcare while remaining true to nursing values. The outcomes that are hard to measure have the most meaning. It is fascinating, enlightening and heartening to see young nurses discussing a practice issue, and because of their fresh eyes and opportunity for discussion, important issues are addressed.

## 4459

**EFFECTS OF EXERCISE AND PHYSICAL ACTIVITY IN THE BMT PATIENT.** Susanne Suchy, RN, MSN, AOCNS®, Barbara Ann Karmanos Cancer Center, Detroit, MI; Carmelite Dalma-cy, BSN, RN, Barbara Ann Karmanos Cancer Center, Detroit, MI; Sandy Randolph, RN, Barbara Ann Karmanos Cancer Center, Detroit, MI; Anne Stenseng, RN, Barbara Ann Karmanos Cancer Center, Detroit, MI; Daykee Bracy, BSN, RN, Barbara Ann Karmanos Cancer Center, Detroit, MI

A Grand Rounds presentation was given on the benefits of exercise for patients receiving allogeneic bone marrow transplants (BMT). Registered nurses (RNs) on the unit treating patients receiving autologous transplants questioned if this information translated to their patient population. They further questioned should exercise be a standard of care?

The goal was to ascertain if this patient population exercised while hospitalized would their recovery be improved? A literature review on exercise for the patient undergoing an autologous BMT was planned. Since it was hypothesized that the literature would confirm exercise was beneficial, education of the staff and patients would be necessary and exercise would become a standard of care.

Literature review revealed reduced physical performance and fatigue are universal problems after a BMT. Multiple studies demonstrated that physical activity can reduce fatigue and improve psychological distress. Physical activity helps most patients undergoing a BMT take an active role in their rehabilitation. While most studies had a small sample, the positive benefits of exercise in the autologous BMT patient were demonstrated.

A PowerPoint presentation was used to educate staff on the inclusion of exercise in patient care. As an ongoing reminder, an educational patient exercise poster was hung in the conference room. The minimal patient exercise goal was set at 10 laps per day. An exercise bike was purchased for patients desiring this type of exercise. A lap board was hung in the hall for patients to keep track of their daily laps. To reinforce patient education on exercise, a poster was developed and hung next to the lap board.

Exercise became a standard of care for the BMT patient population. On admission patient education is initiated on the benefits of exercise. Daily mutual goals set between patient and nurse includes exercise and the goal is documented on the White Board as number of laps per day or exercise time.

An unplanned outcome is patients often compete with one another and encourage each other to exercise when the treatment effects impede motivation. Further study is planned on the benefit of exercise in other malignant hematology patient populations receiving high dose chemotherapy.

## 4461

**AMYLOIDOSIS: WHAT NURSES NEED TO KNOW.** Noel Mendez, RN, BSN, BC-OCN, MD Anderson Cancer Center, Houston, TX; Ellen Mullen, RN, BSN, MSN, MD Anderson Cancer Center, Houston, TX

Primary amyloidosis refers to a rare disorder of approximately 3,000 cases each year primarily associated with multiple myeloma. The cause is believed to be an abnormal accumulation of protein that can affect multiple organ systems. Primary amyloidosis is a plasma disorder that originates within the bone marrow. Bone marrow produces proteins to create protective antibodies against infection. Normally, the protein antibodies are broken down and reabsorb in the body. In primary amyloidosis, the protein antibodies are not broken down and build up in the blood stream, migrating into multiple organs resulting in an amyloid build up. Although most amyloidosis is not a cancer, it can be a life threatening condition and is treated with chemotherapy. A need exists for oncology nurses to be able to recognize this rare disorder associated with multiple myeloma in order to provide the highest quality of nursing care to patients.

The purpose of this presentation is to provide a clinical overview of primary amyloidosis associated with multiple myeloma to oncology nurses. The overview will include the pathogenesis and common signs and symptoms that differentiate primary amyloidosis from other disorders, and treatment options. Also included, will be common nursing interventions specific to the nursing management of these patients.

Treatment for amyloidosis is based on the onset of symptoms and the aggressiveness of the disease and the organ involvement as well as the health and age of the patient. The primary goal of treatment of amyloidosis is elimination of amyloid production in the bone marrow and controlling of patient's symptoms which usually involve chemotherapy. In addition to chemotherapy, symptom management includes treatment of underlying illness such as infection and inflammation.

After this presentation, the audience will be able to differentiate primary amyloidosis with other types of amyloidosis. They will gain a better understanding of the origins and pathogenesis of this disorder and nurses will be able to promptly manage signs and symptoms associated with primary amyloidosis.

The goal of this presentation is to increase the oncology nurse's awareness of primary amyloidosis and be able to differentiate clinical signs and symptoms from other forms of amyloidosis. Nurses will have a better understanding of this rare disorder associated with multiple myeloma and be able to provide high quality nursing management to patients with amyloidosis.

## 4464

**SKIN PROTECTION FOR (SPF) KIDS PROGRAM: A DNP PROJECT.** Deborah Walker, DNP, FNP-BC, AOCN®, University of Alabama at Birmingham, Birmingham, AL

Skin cancer, with more than 1 million cases a year in the United States, is increasing faster than any other cancer. In reviewing the evidence, there has not been much research in the U.S. correlating education with decreasing incidence of skin cancer. However, evidence from Australia, where they have been educating and practicing sun safe behavior for a little more than two decades, has shown the incidence rates for melanoma and non-melanoma skin cancers is leveling out in young people and is actually dropping in some instances.

In an attempt to help reduce the significant impact of skin cancer a primary prevention program was proposed that shared information with parents and teachers about skin safety for their children. This program encouraged them to make policy change and sustain a school environment that is sun safe. It is also aimed at training the faculty and educating parents of ways to teach children about certain sun protection measures.

After reviewing and summarizing the evidence, this program aimed to combine the guidelines in the literature resulting in a unique program for teachers and informational guidelines for parents. These guidelines can be used in classrooms or at home and support intervention among school-age children, specifically those in kindergarten through fifth grade. By combining the various programs, this program resulted in providing the teachers and parents with a tool kit.

Data was collected before and after the program using a pre/post test method to test the participant's knowledge. Other methods of evaluation include teacher recognition of risk factors and sun-safe behavior during the program. Evaluation of the organization was performed through the organizational assessment tool. Further analysis was done on both the organizational information and the training program comparing the pretest and the posttest scores. Evaluation of whether the participant tool kit was helpful was done with a posttest design.

These evaluation tools along with the methods outlined above were useful in determining the success of the program. This project served as a guide for future development of the program and how best to implement in other schools.

## 4466

**REIKI EXPERIENTIAL EDUCATION PROGRAM FOR ONCOLOGY STAFF NURSES.** Suzanne Oliver, BSN, OCN®, Dana Farber Cancer Institute, Boston, MA; Mary Jane Ott, MN, MA, APRN, BC, Dana Farber Cancer Institute, Boston, MA; Michele Mittelman, MPH, RN, Alternative Therapies in Health and Healing, Boulder, CO

Oncology nurses work in stressful clinical environments with increasing patient census, acuity and compression complexity. Oncology patients experience their own set of unique stresses related to rigorous treatment protocols complicated by unpleasant and sometimes debilitating side effects. Research has shown that Reiki can provide an effective means of stress management. At our facility, we find there is an increasing interest in Reiki for stress and symptom management among both patients and staff. However, few staff are qualified to provide Reiki treatments; and those who have been through classes are often reluctant to use Reiki as a clinical intervention citing lack of confidence, lack of support, and lack of time.

The purpose of this program is to provide an opportunity for staff nurses to experience the relaxation and stress relief that result from Reiki and to compliment the Reiki educational program.

In collaboration with the Nurse Manager and the Clinical Nurse Specialist in Integrative Therapies, a nurse who is a Reiki Master, offers Reiki sessions to staff colleagues on a scheduled basis once or twice a month. A sign-up sheet is posted and interested staff sign up for the 10-20 minute session done on their unit during the clinical work day.

Staff feedback to date has been positive. After the treatment, staff described feeling a significant decrease in "stress," which often lasted through the rest of the day. They also expressed feeling more "relaxed," "calm," and "peaceful." Many expressed surprise at the level of relaxation experienced in a short period of time, generating an interest in attending Reiki classes to learn about the use of Reiki for self-care and for stress and symptom management for patients.

The success of the program has resulted in shifts of perspective about the usefulness of Reiki and its potential benefits in self care and in clinical practice. Staff requests the program be continued and expanded so they can further explore the possible uses and ongoing benefits of this integrative therapy for their own self-care and for the care of their patients. This is clearly an area that has further development and research potential.

## 4472

**DEVELOPMENT OF A CHEMOTHERAPY PATIENT EDUCATION PROGRAM: APPEALING TO PATIENTS' UNIQUE**

**LEARNING STYLES AND NEEDS.** Joy Lombardi, RN, BSN, OCN®, Huntsman Cancer Hospital, University of Utah, Salt Lake City, UT; William Dunson, MD, University of Utah, Salt Lake City, UT; Kathy Wilets, Community and Public Affairs, University of Utah, Salt Lake City, UT; Heather Harcourt, University of Utah, Salt Lake City, UT; Jill Poll, RN, Huntsman Cancer Hospital, University of Utah, Salt Lake City, UT

Education of patients about chemotherapy treatment is time-consuming for staff, frustrating to patients who feel that they are not prepared adequately, and sometimes ineffective in preventing side effects or avoidable complications. We felt that a new approach to chemotherapy education was necessary to increase patient satisfaction and outcomes.

Our Press-Ganey scores in the 3rd quarter of 2008 to the questions "what to expect during chemotherapy" and "management of chemotherapy side effects" were 87.2 and 88 respectively, putting us in the 21st and 38th percentiles. These 2 questions were also on our top-ten priority list, making them targets for increasing overall satisfaction while improving outcomes and quality of life.

After reviewing the teaching resources that we currently used we decided that we needed multiple approaches to this problem. We decided to start with a binder, which is presently in use and was presented at Congress last year. The other approaches consist of a chemotherapy class, video and website. The content of these is comprised of information from NCI and NCCN resources, staff and provider input, and was approved by our multidisciplinary Patient Education Steering Committee. The chemotherapy class was begun in June 2009, the video and website will be rolled out in January 2010.

The Chemo 101 class has been predictably under attended, but patients who have attended report on post-evaluation that they feel prepared, less anxious on the first day, and staff report similar results. Press-Ganey scores improved in 3rd quarter 2009 to 90 and 90.7, a statistically relevant improvement. With the addition of the video and website in January 2010, we feel that we'll get an additional increase in survey scores and will be providing a comprehensive and personalized education plan to our patients.

Creating a multiple modality approach to chemotherapy education meets the learning needs of our diverse and sometimes long-distance population and will help improve satisfaction and outcomes.

## 4473

**FEBRILE NEUTROPENIA: SPREAD THE WORD!** Inez Brandon, RN, BSN, OCN®, University Medical Center at Princeton, Princeton, NJ; Jordana LeBlanc, BS, RN, OCN®, University Medical Center at Princeton, Princeton, NJ; Melinda Welsler, BSN, RN, OCN®, University Medical Center at Princeton, Princeton, NJ; Monica Lyle, BSN, RN, OCN®, Princeton Healthcare Medical Associates, Princeton, NJ; Jennifer Neumann, BSN, RN, OCN®, University Medical Center at Princeton, Princeton, NJ;Carolynn Bitzer, MSN, RN, APN, BC, FNP, University Medical Center at Princeton, Princeton, NJ

Febrile Neutropenia (FN) is an oncological emergency yet nurses unfamiliar with oncology are unaware of the importance of prevention, early detection, and treatment. FN is a chemotherapeutic complication that results in treatment delays, increase length of stay, and decreased quality of life. Inspired by our Magnet journey, nurses from the oncology unit research committee chose to examine FN. The journey which began with a simple quest to find FN educational material, grew into a policy revision, standardized FN patient education sheet, and an institution-wide FN protocol.

To improve patient education, early assessment and treatment of FN by standardizing educational materials and increase access to evidence based FN care.

The council reviewed and updated the institution's policy on FN to reflect current evidence based practice. Chart audits were

performed to assess FN trends and patient education. Although FN is not a frequent diagnosis, the lack of formal or standardized education was apparent. Therefore, the council developed a FN patient education sheet which was incorporated into the institution's on-line patient education database which is accessible to all disciplines. The lack of guidelines to assist nurses, especially outside the oncology unit, with assessment, possible treatment options, and care for patients with FN was another concern. The council developed a FN protocol for nursing which addresses patient assessment, treatment options with time sensitive parameters, and patient education information. Education was provided to all nursing staff, with a special emphasis on points of entry (i.e. ER).

In an effort to improve patient care, the nurses from the oncology unit's research council revised a nursing policy, developed a standardized patient education sheet, and developed a FN protocol accessible to all nursing staff. As a result, nursing staff have begun to access and document FN patient education, and utilize the FN protocol for any patients with a history of chemotherapy or suspected FN. This project, which first began as a simple idea blossomed into a hospital wide initiative that significantly improved patient care.

The approach used by the council was successful for FN and could be applied towards other oncological emergencies.

**4474**  
**INCIDENCE AND REASONS FOR READMISSIONS POST PANCREATODUODENECTOMY (PD); BLUE PRINT FOR PATIENT EDUCATION.** Margaret Hari, RN, University of Pittsburgh Medical Center, Pittsburgh, PA; Margaret Rosenzweig, RN, PhD, FNP-BC, AOCNP®, University of Pittsburgh, Pittsburgh, PA

**Significance and Background:** Pancreaticoduodenectomy (PD or "whipple") is a complex surgical procedure performed for resectable pancreatic cancer. Poor prognosis of this tumor mandates that postoperative complication and readmission be minimized. At our large volume pancreatic cancer center, anecdotal data indicated that patients received inconsistent PD discharge education, usually at the time of discharge and that readmissions were often due to potential self care deficits, specifically infection or nutrition. In order to support selfcare abilities and reduce readmissions we aimed to better define PD patient education needs.

**Purpose:** The aims for this study were to determine:

- 1) the incidence and reason for readmission post PD (within 30 days of surgery.)
- 2) all documented post operative education delivered to patient and family

**Conceptual Framework:** Orem's Self Care Nursing Model is foundational to this work. Essential to Orem's model are the 8 self-care requisites that are essential to attain self-care. Illness creates demands on these self care abilities. Nursing can enhance self care through patient education.

**Method:** PD cohort from the Pancreatic Cancer Program of the University of Pittsburgh Cancer Center. Retrospective, descriptive study of established medical records of patients who have undergone PD from January, 2006 through December, 2008. Protocolized abstraction of all in patient and out patient electronic clinic notes and correspondence was utilized. Data were collected and entered into EXCEL.

**Results and Implications:** N= 64 charts, 62 with complete data for review. Mean age was 67.6 years. Gender: n=28, 45.1% (males); n=34, 54.8 % ( females). Sample was predominantly white (n=54.8 white, 1 African American). Patients discharged at mean 11.3 post-op day. 28% of all patients were readmitted. Top reasons for readmission were dehydration/malnutrition (n=10/28, 35.7%) and infection (n=7/28, 25%). Additionally, 6/62 (10%) had documented difficulties with dehydration/malnutrition and failure to thrive noted in clinic notes, but did not require readmission.

PD discharge teaching at time of discharge was documented for all patients by physicians and/or nurses. No standard curriculum was utilized.

High rates of readmission, specifically for dehydration and malnutrition mandate an assessment of PD patient education. Educational focus to enhance self care should be on prevention of dehydration/malnutrition.

**4476**  
**PROVIDING CONSISTENT QUALITY CARE: DEVELOPMENT OF A SKILLS DAY FOR THE REGIONAL NETWORK.**

Kristy Dunleavy, RN, Memorial Sloan-Kettering Cancer Center, New York, NY; Marjorie Mosley, RN, MS, OCN®, Memorial Sloan-Kettering Cancer Center, New York, NY

There are many skills that the registered nurse must competently demonstrate within the oncology ambulatory setting. Within a multi-site regional network, nurses did not have a structured way to learn and review skills. We felt a structured Skills Day would provide the nurse a non-threatening environment in which to practice skills and review policies. Through this nurses are able to provide consistent quality care and ultimately improve patient outcomes.

A literature review and needs assessment demonstrated the need for a Skills Day that would present information in a timely and creative way. This presentation describes an innovative educational program titled "Skills Day in the Regional Network". This Skills Day allowed nurses to learn and review hands on skills as well as review institutional policies so continuity of care is ensured for our oncology patients.

A needs assessment was completed through a review of institutional policies, JCAHO standards as well as staff interviews. Nine skills and read-only stations were chosen and storyboard posters were created. Nurses rotated through the stations, the majority in groups, and were able to read and discuss information and utilize their own equipment. Education was provided by the Nurse Educators and Nurse Managers and teaching strategies such as games, educational handouts, discussion, and questioning were used to deliver information.

Nurses voiced satisfaction during the Skills Day, especially with the addition of hands on skills and chemotherapy trivia game. A questionnaire was completed at the end of the program and greater than 90% were satisfied with the general overview of the program. Staff members voiced their concerns in regards to print of storyboards and layout of Skills Day at specific sites which will be addressed at the next annual Skills Day.

After completing this educational program it was evident that the station format was productive in delivering content to staff members. Nurses were able to retain information and this will allow them to provide consistent care across the regional sites. This program could be adapted and utilized in other settings such as the inpatient setting as well as other multi-site regional networks.

**4478**  
**IMPROVING KNOWLEDGE OF ONCOLOGIC EMERGENCIES.** Kathy Christian, RN, BSN, OCN®, CMSRN, Providence Holy Cross Medical Center, Mission Hills, CA; Tanya Haight, RN, OCN®, CMSRN, ONC, Providence Holy Cross Medical Center, Mission Hills, CA

Oncologic emergencies are complex problem areas that the oncology nurse encounters in daily practice. In order to deliver care based on the Standards of Oncology Practice, the oncology nurse needs solid understanding in order to identify, intervene, and educate to all ten oncologic emergencies. The oncology nurses at Providence Holy Cross Medical Center expressed a need for continuing education to serve as a guide for providing quality cancer care. With the collaboration of nursing management, education department and oncology staff nurses oncologic emergencies classes were instituted for mandatory participation.



The purpose of this project was quality improvement to increase the nurses' knowledge base regarding cancer care. When the quality of care increases, patient satisfaction increases. The class was also geared to provide insight, competence, and confidence for the oncology nurse.

A course was derived from the Oncology Nursing Society (ONS) Core Curriculum for Oncology Nursing. A knowledge assessment and survey, rating competencies regarding the Oncology Emergencies was administered. The class included lecture, case studies, discussion, and a game of Oncology Emergencies Jeopardy. A 22 question post test based of the Oncology Nursing Certification Corporation (ONCC) test blue print was taken at the completion of the class.

The knowledge and understanding of the oncologic emergencies were anonymously evaluated by the oncology nursing staff using a five point Likert Scale measuring 5 elements pre and post class. Response rate was 100% (N=31). Nurses report they felt more competent in recognizing, identifying, managing, and educating the oncologic emergencies. The mean score of the knowledge assessment was 66.9% (N=31). The mean score of the 22 question post test was 91% (N=31).

Survey and test results show that the mandatory education increased the nurses' knowledge regarding oncologic emergencies. Oncology nurses reported a positive impact in their nursing practice. Future evaluation on oncology patient satisfaction with nursing care might be correlated with the new knowledge acquisition.

#### 4479

**IMPLEMENTATION OF AN ONCOLOGY-SPECIFIC ELECTRONIC HEALTH RECORD IN AN INPATIENT HEMATOLOGY/ONCOLOGY UNIT.** Shirley Sampson, RN, BSN, MA, OCN®, NE-BC, Stanford Hospital and Clinics, Stanford, CA; Julie Latini, RN, BSN, MHA, NE-BC, Stanford Hospital and Clinics, Stanford, CA; Jessica Parsons, RN, BSN, OCN®, Stanford Hospital and Clinics, Stanford, CA; Yi-an (Anne) Chen, PharmD, BCOP, Stanford Hospital and Clinics, Stanford, CA; J. Blake Herring, RN, BSN, Stanford Hospital and Clinics, Stanford, CA

The implementation of an electronic health record (EHR) improves patient safety and practitioner communication. Our 611 bed teaching hospital adopted EPIC, an EHR system, in 4/2008. Starting in 3/2009, Beacon, an oncology specific application of EPIC, was rolled out in 2 phases for the inpatient hematology/oncology unit. We developed and rolled out the system by utilizing interdisciplinary workgroups which included oncology nurses, physicians, pharmacists, and information technologists. Using evidence based practice, these groups wrote, validated, and implemented chemotherapy protocols.

The objective of this project was to support and educate staff while evaluating and improving the workflow pertaining to Beacon.

All staff administering chemotherapy attended a 4 hour orientation class where they navigated a "playground" environment developed to simulate real time use of Beacon. 8 staff were selected to be Super users and received additional detailed training. Based on input from the implementation workgroup, the rollout was separated into 2 phases divided by diagnosis and physician. This controlled rollout allowed careful assessment of the workflow for the nurses and the functionality of the system.

During the first 2 – 4 weeks of each phase, the Super users were out of the count and assisted staff to navigate Beacon. They performed 1 on 1 education utilizing competency checklists, developed informational sheets and designed Beacon bulletin boards to ensure consistency of information dissemination. Super users developed a hand off communication form where they addressed work flow issues, discussed education of staff, and recommended system changes.

In a post Phase II survey, the nurses verbalized their increased comfort in using Beacon. The staff was able to navigate the new

system safely and identify areas that needed additional modification. The system continues to receive evaluation and an ongoing interdisciplinary group follows up on recommended changes.

The implementation of new EHR systems can be stressful for inpatient nursing staff. With peer support of Super users and a mechanism for evaluation and improvement of the system, the initiation of new oncology specific EHRs can be successful while institutionalizing best practices. This ultimately leads to improved patient safety in the oncology population.

#### 4482

**A GROUP APPROACH TO PATIENT EDUCATION IN A COMPREHENSIVE CANCER CENTER.** Valerie Stiner, RN, OCN®, UT MD Anderson Cancer Center, Houston, TX; Millie Toth, RN, MS, AOCN®, UT MD Anderson Cancer Center, Houston, TX; Nita Pyle, MSN, RN, UT MD Anderson Cancer Center, Houston, TX

Treatment modalities for cancer vary widely, increasing educational needs of patients and caregivers. It has been observed that patients tolerate treatments better if they are well prepared. This project was conceptualized by patient educators and nurses when need for additional patient educational support was apparent after initial teaching.

The purpose of this project was to develop a group patient/caregiver class focused on management of treatment side effects, to supplement initial patient teaching. Proactively providing consistent content in a group format meets the needs of patients and families, reflecting an effective use of nurse's time.

Using the results of patient/caregiver interviews, specific treatment side effects and related issues were identified as educational needs. Patients, who had completed therapy, were also interviewed to identify information they wished they had regarding therapy. Nurses in chemotherapy/biotherapy, radiation and surgical areas were interviewed to assess the evidence-based information currently used to educate patients. Using the information gathered, the Patient Education Department, in collaboration with nurses and dieticians specializing in oncology, created a class addressing general chemotherapy/biotherapy and radiation side effects, nutritional needs, and surgical recovery. This hour long class is offered twice weekly by nurse and dietician team.

Greater than 90% of patients/caregivers surveyed indicated an increase in understanding of management of expected side effects. Nurses in the clinics indicated that the classes have helped enrich patient education. Specific treatment regimens are still discussed individually with patients.

By focusing on expressed educational needs of patients and caregivers in a group format, patients receive focused education that increases their understanding of treatment side effects. The group format enriches patient support and allows interaction between patients and families, while decreasing individual nurse time. Such strategies may be useful to oncology nurses in other settings.

#### 4484

**SURVIVORSHIP ADVOCACY FOR PATIENT EMPOWERMENT AND HEALING.** Susan Leigh, BSN, RN, Self-Employed, Tucson, AZ; Melissa Glim, MPH, National Coalition for Cancer Survivorship, Silver Spring, MD

As identified by Stovall and Clark in "Advocacy: The Cornerstone of Cancer Survivorship" (1996), advocacy is a method for receiving quality cancer care. There are basic, teachable skills that enable people with cancer to become a better self-advocates, and there is growing evidence indicating that engaged patients have a better experience. These advocacy skills can be used at multiple levels. Survivorship advocacy is beneficial to both the survivor-advocates and to the quality of healthcare policy, research, practices, and materials created. Nurses play an important role in both their position to impact a person's survivorship experience and in being active survivorship advocates.

We will present survivorship advocacy on a continuum from personal to community to public interest, and describe the benefits of engaging in and encouraging interested patients to develop their advocacy skills. We will offer healthcare professionals resources and programs created to teach advocacy skills and suggest ways to put those skills into use.

In response to the clear need for better survivorship care and advocacy, the National Coalition for Cancer Survivorship has developed a series of patient training and support materials for advocacy across the continuum of care. NCCS developed the Cancer Survival Toolbox® (CST), to teach the basic advocacy skills, as well as an advocacy network and training program that offers cancer survivors and healthcare professionals guidance and opportunities to put advocacy skills into action.

The CST and related advocacy trainings were developed using literature reviews, and the input of patient and healthcare providers who participated in focus groups and evaluation surveys.

Because nurses can directly understand the challenges of attaining quality cancer care, they are well-positioned to offer guidance on becoming involved in cancer advocacy to patients who are looking for ways to give back or share their knowledge, and are also credible survivor advocates on themselves. Patients often look to oncology nurses for guidance on resources for adjusting to the “new normal” of cancer survivorship. Therefore, nurses are key sources of information and could benefit from being prepared to engage survivors on survivorship advocacy opportunities.

#### 4485

**UTILIZATION OF FLOWCHARTS IN THE ADMINISTRATION OF CLINICAL TRIAL PROTOCOLS IN AN AMBULATORY ONCOLOGY TREATMENT UNIT.** Kim Hua Lee, RN, National Cancer Centre, Singapore; Soon Yue Loh, RN, National Cancer Centre, Singapore; Valencia Agnes Shah, RN, National Cancer Centre, Singapore

Clinical trials are a critical part of the research process that speed up the search for new and effective treatments for cancer. Oncology nurses play a crucial role in the safe administration of all the investigational drugs. Currently, the nurses utilized the summarized trial regimens to guide them in administering the drugs. However, the instructions are lengthy and do not provide sequential instructions on the flow of drugs administration and timing of the monitoring, thus making it error prone.

The goal was to develop a set of flowcharts by simplifying the existing regime instructions into flowchart format. The flowcharts will guide nurses throughout the whole process of drug administration, as well as act as a communication tool. Ultimately, the aim is to have zero medication error for complex regimens.

Following the collaboration with the Clinical Research Coordinators, flowcharts were developed and implemented. On each patient's visit, the Coordinator would review the patient and attached the respective flowchart to the patient's file. When the treatment is in progress, the nurse would hang the flowchart on the infusion pump. Each step (i.e. drug, parameters monitoring, specific instructions) would be struck off once completed. By adhering to the user-friendly flowchart, there were proper hand-over of cases, correct sequence of drug administration and appropriate documentation. Attrition rate due to protocol violations was expected to be none.

Based on feedback from the oncology nurses, the flowcharts were easy to use and effective in the facilitation of safe medication administration of investigational drugs. Preliminary data indicated that there were no medication errors on trial protocols and patient monitoring were done in a timely manner. Data collection over three months on patients who are on the trial protocols are in progress.

Strict adherence to the protocol instructions is crucial in evaluating the success or failure of the clinical trials. The implemented flowchart had addressed the safety issue of drug administration. The synergy collaboration between the Research Coordinators

and oncology nurses had improved the image of the treatment unit. We hoped to maintain the reputation of the institution as a premium research centre for conducting global clinical trials.

#### 4490

**DEVELOPMENT OF COLLABORATIVE PHYSICIAN/NURSE TEAMS IN AN ONCOLOGY PRACTICE.** Carol Blecher, RN, MS, AOCN®, APNC, Trinitas Comprehensive Cancer Center/Aptium Oncology, Elizabeth, NJ; Jeanette Barefoot, RN, MSSL, OCN®, Trinitas Comprehensive Cancer Center, Elizabeth, NJ; Barry Levinson, MD, Trinitas Regional Medical Center, Elizabeth, NJ; Juanita Fryer, RN, BSN, OCN®, Trinitas Comprehensive Cancer Center, Elizabeth, NJ

To provide seamless oncology patient care nurses must be educated in oncology and have refined critical thinking skills. Physicians and nurses must cultivate a close working relationship, communicating effectively as a team to provide quality patient care. Critical thinking, disciplined, directed thinking, takes time and effort and it requires using factual information (oncology knowledge) plus observations (assessment) to draw conclusions. The philosophy of our center is that every oncology patient needs an oncology nurse to support them, provide them with reinforcement regarding self care practices and to answer their questions regarding disease and treatment. The nurses in the practice area were spending too little time in direct patient care, and therefore needed to be relieved of paperwork responsibilities enabling them to pair with the physicians in providing direct patient care.

A team approach is necessary for patient care, and all individuals involved with the patient must be knowledgeable regarding the plan of care to provide effect counseling and support. To provide quality patient care all member of the team must have the same information and be “on the same page”. In order to facilitate this effort we opted to focus on reinforcing staff knowledge regarding cancer diagnoses, treatment options, side effects and their management.

Physician/nurse teams were created. The medical director and physicians in collaboration with the APN developed a plan of communication including diagnosis, treatment plan and periodic updates regarding current patient status. With the support of the Director of Clinical Operations and the Nurse Manager staff education programs were designed to strengthen the critical thinking and oncology focus of the nurses. Systems are also being designed to free the nursing staff so that they can focus on patient assessment and primary nursing care for their patients.

The effectiveness of this program will be assessed through evaluation of nursing staff job satisfaction pre and post implementation. We will also evaluate physician and patient satisfaction after the implementation of the program.

In an effort to improve quality patient care we developed physician/nurse practice teams. Education and support was and will be provided to promote staff development and increase job satisfaction.

#### 4493

**THE DEVELOPMENT OF AN EDUCATIONAL SUPPORT PROGRAM FOR ONCOLOGY PATIENTS WHO HAVE COMPLETED CANCER TREATMENT.** Susan Schwartz, RN, BSN, OCN®, Memorial Sloan-Kettering Cancer Center, Commack, NY; Joan Williams, RN, MS, AOCN®, Memorial Sloan-Kettering Cancer Center, Commack, NY

Patients who have completed treatment for cancer are faced with complex challenges and concerns. Although it is a time of happiness, patients may also experience fear and uncertainty about their future. Upon completion of chemotherapy at our NCI-designated comprehensive Cancer Center, patients expressed the need for information about health maintenance and wellness. Among the areas of concern were nutrition, exercise, fatigue, memory, depression, and coping skills.

To help support and educate our patients, we developed a program called Surviving Cancer. Our objective was to provide education to patients to help them cope with long-term effects of treatment, promote physical well being, healthful nutrition, and help them adopt strategies to live fuller lives. The goal was to increase awareness and provide knowledge to help ensure the best quality of life in the post-treatment period.

Our program was reviewed and supported by our nursing director. With the help of the Director of our Survivorship Program, we assembled a multidisciplinary team of experts to discuss nutrition, physical fitness, cancer rehabilitation, and neurocognitive problems. Program fliers were distributed throughout our facility and mailed to patients who completed treatment within the last six months. Due to the success of our initial program, we offered two additional sessions on coping skills and spirituality. Plans for future programs include presentations on lymphedema and sexuality.

We developed an evaluation tool for patients to rate the program and indicate topics of interest. Results revealed that patients found the content valuable and were eager to participate in future programs.

Patients need to know what to expect following cancer treatment. Our educational program has been designed to help support those needs. Oncology nurses play a pivotal role in the development of similar programs to help their patients successfully transition to life after cancer treatment.

#### 4494

**CARE INITIATION UNIT.** Deborah Mast, RN, BSN, OCN®, Northwestern Memorial Hospital, Chicago, IL; Maribeth Mielnicki, RN, MSN, Northwestern Memorial Hospital, Chicago, IL; Patricia Murphy, RN, MSN, MBA, NEA-BC, Northwestern Memorial Hospital, Chicago, IL; Michelle Munroe, RN, BSN, Northwestern Memorial Hospital, Chicago, IL

At an academic medical center, hematology-oncology patients were experiencing extended wait times for inpatient beds. Almost one third of all hematology-oncology direct admission patients were waiting for more than sixty minutes. Many of the scheduled direct admissions were chemotherapy patients. These patients were arriving early in the morning and experiencing the longest waits. Over 11% of the scheduled direct admissions were not admitted to an inpatient bed until after 1300.

These wait times were due to a daily mismatch between bed supply and demand. Each day patient admission requests are received prior to inpatient discharges and the subsequent bed cleaning.

To help bridge the gap between bed need and bed availability the interdisciplinary team implemented an on-unit Care Initiation Unit on one of the hematology-oncology units. The three recliner unit with in-room sink, gases and suction provides a venue for starting inpatient care prior to an inpatient bed being available. Patients can receive tests, medication, pre-hydration, meals, etc, while they wait for the next patient discharge.

Since implementation the percent of patients waiting for more than sixty minutes has dropped as low as 18%. The percent of scheduled direct admissions in an inpatient bed before 1300 has increased, one month being as high as 98%.

It is very beneficial to have our hematology-oncology patients be able to have access to medical care earlier in the day. This allows our patients to spend less time in the hospital as nurses can get patient's chemotherapy regimens started in a more timely basis. This can be beneficial to other institutions in which patients experience high wait times for inpatient beds.

#### 4495

**DIGITAL TECHNOLOGIES USED BY ONCOLOGY NURSES AND THE DEVELOPMENT OF EVIDENCE-BASED PRACTICE (EBP) UPDATES SENT VIA THOSE TECHNOLOGIES.**

Ellen Carr, RN, MSN, AOCN®, Moores UCSD Cancer Center, La Jolla, CA

Oncology nurses are practicing in an ever-expanding environment of digital information overload. The internet and other digital information sources regularly provide a daily avalanche of filtered and unfiltered clinical information. Among these sources are social networking sites, websites, cell and smart phones, blogging, texting, e-mail and podcasts. Yet the time that busy clinical oncology nurses have to review and incorporate EBP into their clinical practice is limited; oncology nurses are caring for more patients with increasing complexity.

The rationale for this project stems from the Institute of Medicine report, *Crossing the Quality Chasm* (2001), citing the rapid pace of medical science and technology while healthcare delivery lags behind.

This project surveyed nurses at The Moores UCSD Cancer Center (an ambulatory NCI-designated comprehensive cancer center) about their current preferences and use of digital technologies to access clinical information. Then based on survey results, regular evidence-based practice (EBP) "bursts" of short, clinically relevant information could be developed to inform oncology nurses.

A survey was distributed to clinical oncology nurses providing patient care at the cancer center. The survey gathered demographic information, as well as responders' current use of specific digital technologies, comfort level with these technologies and preferred length of proposed EBP "bursts". Prototype EBP bursts were then developed with a plan for dissemination, relayed by preferred digital technologies.

Based on evaluation responses, clinical oncology nurses access and exchange information using myriad digital information sources. Oncology nurse preference and consistent use of digital technologies to receive clinical information is based on their age, comfort with technologies, interest in topics and the frequency and length of proposed EPB updates.

The survey established baseline data to determine the technologies best to deliver periodic EBP updates to clinical oncology nurses at the Moores UCSD Cancer Center. To provide relevant EBP updates that are actually read or seen, oncology nurse use of familiar and emerging digital technologies needs to be known. Survey results and the experience in developing EBP updates inform other cancer care facilities challenged with providing relevant clinical updates to their oncology nursing staff.

#### 4499

**CHEMOTHERAPY COMPETENCE FOR NURSES IN NON-TRADITIONAL SETTINGS.** Susan Yackzan, RN, MSN, AOCN®, ARNP, Central Baptist Hospital, Lexington, KY; Rhonda Casey, RN, MSN, AOCNS®, OCN®, ARNP, Norton Cancer Institute, Louisville, KY; Stacy Stanifer, RN, MSN, OCN®, University of Kentucky Markey Cancer Center, Lexington, KY; Angie Malone, RN, BSN, OCN®, Central Baptist Hospital, Lexington, KY

Chemotherapy administration requires institutional policies as well as completion of competencies in administration, safe handling and patient care. At the author's institution, cancer chemotherapy treatments are given by oncology nurses who have completed the ONS Chemotherapy & Biotherapy Course as well as institution-specific skills competencies. Chemotherapy administration infrequently occurs in non-traditional settings including: continuous 5-FU in Home Health (HH), bladder instillation in the Operating Room (OR) and intramuscular (IM) Methotrexate in the Emergency Department (ED). The Oncology Clinical Nurse Specialist (CNS) led an assessment of chemotherapy administration in these areas and developed a plan for policy development and chemotherapy competence specific to the needs in each setting.

The purpose of this project was to develop policies and chemotherapy competencies for nurses in HH, OR and ED. Chemotherapy administration in each of these settings is limited to one agent, given in a specific way and consistent dosage-range.

Each area independently sought assistance from the Oncology CNS. As each request came to the attention of the CNS, an initial evaluation of chemotherapy administration in that area was undertaken including the number of administrations and medical record reviews. A plan for nursing education was developed. The Oncology CNS and three oncology nurses completing graduate clinical study developed the documents and inservices for this project. Administration policies and competencies varied for each setting. Safe handling concerns, however were similar.

This project is currently ongoing. Draft documents and inservices had been developed including: policies and competency checklists, a general intranet web-based powerpoint module on safe handling, specific intranet web-based modules targeted to each area's needs on patient safety, chemotherapy administration and medication information. An evaluation of the project will be conducted with each setting after full implementation.

Chemotherapy administration is a well-established procedure for nurses who work in oncology areas but the administration of chemotherapy for non-oncologic conditions and the infrequent administration in unique clinical areas pose a dilemma for both safety and competence. These non-traditional settings require the consultation of nurses proficient in chemotherapy administration and the development of resources that meet requirements for competence and safe practice

## 4500

**IT'S A MARVELOUS NIGHT FOR A JOURNAL CLUB: 3 AM DISCUSSIONS INITIATE CHANGE FOR GYNECOLOGY (GYN) ONCOLOGY PATIENTS.** Darryl Somayaji, MSN, RN, CCRC, Roswell Park Cancer Institute, Buffalo, NY; Joanne Abboty, RN, BSN, Roswell Park Cancer Institute, Buffalo, NY; Manshao Kuang, RN, Roswell Park Cancer Institute, Buffalo, NY; Deborah Sendlak, RN, Roswell Park Cancer Institute, Buffalo, NY; Lucia Scarpino, MS, RN, CWOCN, Roswell Park Cancer Institute, Buffalo, NY; Melissa Hiscock, RN, BSN, CWOCN, Roswell Park Cancer Institute, Buffalo, NY

Certain abdominal surgeries are associated with an increase risk for abdominal wound infection and wound dehiscence. Our GYN patients may be at greater risk following abdominal surgery due to their existing health behaviors, cancer diagnosis, treatment, and available resources for post discharge care. Our nursing staff was concerned about the potential health outcomes for their patient that may include wound infection, wound dehiscence leading to evisceration. Abdominal wound infection and dehiscence became the topic for one of our 3 AM journal club meetings which snowballed into creating a nursing team dedicated to developing a nursing plan to reduce the incidence of abdominal wound infection and dehiscence.

The purpose is to 1) create and implement a nursing process devoted to reducing the incidence of abdominal wound infection and dehiscence, and 2) emphasize how journal clubs engage nursing staff in thoughtful and innovative approaches for patient care.

Wound Infection and Wound dehiscence topic was introduced for a nightshift journal club meeting as a concern for their patients.

Nursing review of the literature.

A multidisciplinary group (nursing staff, nurse manager, advanced practice nurse, Certified Wound Ostomy Continence Nurses and staff from Infection Control) gathered to discuss wound infection rates and wound dehiscence incidence.

Selected nurses attended a two day conference to develop a nursing quality initiative plan.

GYN Post-Operative instructions for discharge are amended to include patient education regarding signs and symptoms of wound dehiscence.

An initiative is planned to trace select group of GYN patients post discharge for one month and monitor any unscheduled visits or phone calls to our outpatient oncology center, community

emergency room, or health care provider regarding signs and symptoms of wound infection and dehiscence. The audit will be conducted by nurses using phones calls to assess patient's comprehension of discharge instructions, issues and concerns.

Data collected post hospital discharge will be analyzed to assess patient outcomes and impact to current nursing practice.

Nursing journal clubs are excellent forums to explore patient care issues by synthesizing current literature and empowering oncology nurses to influence patient outcomes and quality of life issues.

## 4501

**DEVELOPMENT OF A NURSING ORIENTATION PROGRAM TO ADDRESS THE NEEDS OF NEW RNs ON A MIXED-ONCOLOGY UNIT.** Tahitia Lloyd, MSN, RN-BC, ONC, Virtua Memorial, Mount Holly, NJ; Lisa Feaster, RN, Virtua Memorial, Mount Holly, NJ

The shift of oncology patient care from the inpatient setting to the out patient setting has created a challenge for many hospitals. The need to be fiscally functional on units that were traditionally oncology has created mixed oncology units. The challenge in the mixed oncology unit setting is to create an orientation that focuses on oncology topics along with general medical-surgical issues for new nurses. In order to create an environment focused on quality care, we sought to implement an orientation that focused on basic oncology concepts and partnered new nurses with dedicated preceptors.

A unit-specific orientation would create a stronger foundation for new nurses and would hopefully be reflected in both employee and patient surveys regarding satisfaction. This poster describes the creation of an orientation program for new RNs to ensure a basic understanding of oncology issues on a mixed oncology unit.

A review of the existing materials revealed a deficit in oncology information. An orientation process and materials were developed. Orientees received a binder that contained basic oncology information along with general medical surgical topics. The unit based educator worked closely with the teams to facilitate learning by discussing general paperwork and hospital-wide processes. This allowed preceptors to focus on unit-based issues. Orientees were paired with nurses who were interested in oncology and had at least two years experience. Preceptors worked with orientees in a team manner, enabling orientees to participate in complicated oncology cases, without feeling overwhelmed.

Quizzes and surveys were utilized to assess the learner's comprehension. A voluntary survey was conducted on the unit and in the hospital to analyze both preceptor and orientee satisfaction with the orientation process. Results regarding satisfaction were compared.

Changing the orientation process to a unit-specific one, driven by the needs of the mixed oncology unit appeared to aid in reducing preceptor fatigue, and increasing overall orientation satisfaction. This approach may be useful on other mixed-oncology units especially with new RNs as a way to ensure they have a basic knowledge of oncology practice and a foundation in med-surg.

## 4502

**IMPROVING VACCINATION RATES FOLLOWING STEM CELL TRANSPLANT.** Julie Baumberger, RN, BSN, OCN<sup>®</sup>, Aveira McKennan Hospital and University Health System, Sioux Falls, SD

Patients who undergo high dose chemo with stem cell rescue lose some of their immunity. Upon review of our institution's post stem cell transplant patient vaccination records and Centers for Disease Control (CDC) recommendations we found that patients should be receiving more vaccinations than were currently being given. Audits showed that patients who were deemed immunocompetent often did not have vaccinations initiated at the twelve month target, nor stay on the schedule outlined by the

Centers for Disease Control (CDC). The vaccination documentation tool did not include all the items required for documentation. Transplant oncology nurses are in key positions to identify, schedule, administer, and document the recommended vaccinations to their patients.

The purpose of this project was to improve the number of post stem cell transplant patients who received the correct number of vaccinations at the correct time intervals, while improving patient education and completeness of documentation.

A multidisciplinary team was formed including oncology nurses, pharmacists, infectious disease physicians and stem cell transplant physicians. CDC vaccination recommendations were reviewed and the program's Standard Operating Procedure was updated. Based on input from oncology and transplant nurses, a preprinted form was developed which included the vaccination orders, the required documentation and patient education fields. The bone marrow transplant program staff entered the stem cell transplant patients into a new computer tracking system, which was then programmed with actions to flag the patients for vaccinations at the required time intervals. The nurses receive a task list from the program staff, administer the immunizations, and record them on the new documentation form.

A repeat chart audit showed a 57% improvement in timeliness of vaccinations, and a 48% improvement in documentation of patient education.

As oncology nurses we can advocate for our patients overall well-being by educating them about the decrease in immunity as a result of the high dose chemo and stem cell transplant process and administering the vaccinations in a timely manner. Constantly improving technology can be utilized to streamline work, and improve compliance with myriad regulations or accreditation criteria.

## 4503

**ONS CHAPTER COLORECTAL CANCER SCREENING PROJECT IN MINORITY POPULATIONS.** Jeanne McDonagh, MSN, RN, OCN®, Eastern Michigan University School of Nursing, Ypsilanti, MI; Tsu-Yin Wu, PhD, RN, Eastern Michigan University, School of Nursing, Ypsilanti, MI

Colorectal cancer (CRC) is second to lung cancer as a second leading cause of cancer-related death among men and women in the United States. In Michigan, more than 5,000 individuals were newly diagnosed with CRC and 1,750 deaths were caused by this cancer. Colorectal cancer screening can reduce mortality by detecting both precancerous polyps and cancers early. CRC screening rates are low in the general population, and African Americans and Latinos have even lower rates than Whites.

The purposes of this project were to: 1) uncover the unique needs of minority populations in dealing with colorectal cancer screening, and 2) implement an innovative CRC screening and awareness campaign in an underserved community.

The Oncology Nursing Society Ann Arbor Chapter collaborated with a local University School of Nursing and other organizations in a project to educate the underserved population about the importance of CRC screening and early detection. The project team, consisting of chapter members, collaborated with three school districts with minority populations to design, implement, and evaluate a colorectal cancer awareness campaign. The project team trained community health nursing students as program facilitators to deliver interventions in the classrooms. A total of 1,800 middle and high school students received the interventions and wrote personalized letters to their significant others and family members about the importance of colorectal cancer screening.

The results showed that the program increased participants' awareness in CRC and promoted their intention to be screened. The project also established a solid foundation for students' understanding of the importance of cancer screenings. This community-based program provided unique strategies to reach the underserved populations in suburban Michigan.

Nurses play a critical role in educating the public about cancer screenings and can make significant strides toward reducing cancer mortality by educating the public about the importance of cancer screenings. ONS chapters and individuals can develop and implement this type of intervention to make a significant impact in their communities.

## 4504

**SURVIVORSHIP CARE PLANNING: A COOPERATIVE APPROACH.** Carol Blecher, RN, MS, AOCN®, APNC, Trinitas Comprehensive Cancer Center/Aptium Oncology, Elizabeth, NJ; Jeanette Barefoot, RN, MSSL, OCN®, Trinitas Comprehensive Cancer Center, Elizabeth, NJ; Barry Levinson, MD, Trinitas Regional Medical Center, Elizabeth, NJ; Grisela Hidalgo, LCSW, Trinitas Comprehensive Cancer Center, Elizabeth, NJ

There are currently estimated to be over 11 million people living with cancer in the US, and these numbers are growing. In order to meet the complex needs of these individuals there must be a plan, so that care is coordinated between specialists and primary care providers. Care plans must include treatment summaries and follow up. They are designed to inform all clinicians involved in the care of the survivor of treatment given, potential late effects of that treatment and of appropriate surveillance.

One can access a number of Survivorship Care Plans for use, but many of them are lengthy and complex. We felt that if a form were modified to suit the primary care provider's needs and time constraints it could be user friendly and therefore more beneficial. We also wanted to assure that all essential information was included in the care plan.

A letter was sent to local primary care providers with copies of the ASCO and Lance Armstrong Survivor Care Plans. A self selected work group was invited to a meeting to supply feedback regarding their informational needs and what they felt to be beneficial information for them. After this meeting the information was reviewed by our Survivorship Work Group (Medical Director, Director of Clinical Operations, APN, Social Worker and Dietician) and a care plan was developed.

We will begin using the Care Plan in April of 2010. They will be reviewed with the patient at the end of active treatment and a copy will be sent to their primary care provider. A follow up questionnaire will be sent to the primary care physicians in November of 2010 to evaluate their perception of the effectiveness of the care plans. Patient satisfaction questionnaires regarding survivorship issues will also be evaluated.

Systematic transfer of information from the specialist to the primary care provider once the patient has completed treatment is vital. This project, based on the current evidence, is an attempt to develop a useful survivor care plan for both the patient and primary care provider in order to provide the best quality of care to our survivor population.

## 4506

**SAFER HANDLING OF HAZARDOUS DRUGS: CLOSED SYSTEM TRANSFER DEVICES.** Marlon Saria, MSN, RN, AOCNS®, UC San Diego Medical Center, La Jolla, CA

The promises of adapting new technology to make work faster and more efficient has led many to believe in the existence of a fail-safe way to prevent unnecessary exposure to hazardous drugs. Although clinicians refer to a limited number of published studies and recommendations from the National Institutes for Occupational Safety and Health (NIOSH) and several professional organizations as evidence to support the use of CSTDs, administrators and decision-makers are influenced by regulatory mandates or strong clinical evidence to justify the increased up-front costs associated with CSTDs.

This paper describes one institution's experience in adapting CSTDs as part of a multidisciplinary safer hazardous drug-handling program.

In 2008, the Department of Pharmacy released a list of hazardous drugs based on the definition published by NIOSH. 179 hazardous drugs (from 58) were categorized into three levels according to known and potential risks. Engineering and work practice controls were implemented following approval of the list as part of the revised hazardous drug policy. CTSDs were introduced as part of engineering controls. The nursing department conducted the trials for three different CTSDs on two high-volume areas. Results of a cost-benefit analysis determined the CTSD that will be adapted for drug administration. Concurrently, Pharmacy began the trials that resulted to a different CTSD for drug preparation. Compromise was reached to use two different systems that are efficient and practical for application by each discipline.

There was an increase in the number of incident reports under the hazardous drug spill category in the first few months following implementation. It is not clear whether this can be attributed to an early learning curve in adapting a new technology or an increased awareness of the risks associated with hazardous drug handling. Two critical incidents underscored the fact that there is no fail-safe system in preventing exposure to hazardous drugs.

Just as there are no safe medications, only safe dosages; there are no safe procedures, only safer practices. It is important to remember that CTSDs are only adjuncts to a carefully planned, enforced and monitored safer drug-handling program.

## 4509

**SAFE HANDLING OF HAZARDOUS DRUGS: A REMINDER FOR THE ONCOLOGY NURSE AND SUPPLEMENTAL EDUCATION FOR THE NON-ONCOLOGY NURSE.** Jennifer Pavone, RN, BSN, OCN®, University of California San Diego Medical Center, La Jolla, CA

Handling of hazardous drugs is a daily routine for the oncology nurse. While it is known that occupational exposure to such drugs poses health risks, appropriate safety measures have been demonstrated to help decrease such risks. Existing gaps were identified between current practices on an in-patient oncology unit with institutional policy and recommended national standards of practice. We hypothesized that by providing staff with critical information, RNs would be able to make better informed decisions regarding safe handling of hazardous drugs. Staff education that included current safe practice recommendations from ONS, OSHA and NIOSH was therefore identified as the best approach to reconcile the gaps.

The goal of this educational program was to increase staff knowledge of hazardous drugs and provide a safe working environment for all healthcare workers who come in contact with hazardous drugs.

We developed a spreadsheet that outlined discrepancies between best practice guidelines and current practices at our institution. Educational sessions focused on hazardous drug classifications, hierarchy of controls, institutional policy, surface contamination, chemotherapy precautions, closed system transfer devices, personal protective equipment and waste management. To measure the outcomes, we included an informal survey of safe hazardous drug handling and a validated pre and post-test evaluation; pre and post-tests were validated by comparing a novice and an expert BMT nurse on a trial version of the test.

The survey revealed a lack of knowledge and reinforced the need for hazardous drug education. Overall scores from the pre and post-test were analyzed using student's t-test, and an item analysis of individual questions was conducted to determine further needs for education. Based on our findings and recommendations from the education department, computer-based learning modules were developed and incorporated into the institution's annual medical staff education for 2010.

Over time oncology nurses have a tendency to become insouciant and relaxed when handling hazardous drugs; this education served as an essential reminder. Practices have changed on the oncology unit for the better with an increase in hazardous

drug knowledge. It is noticeable that nurses are making better decisions now regarding hazardous drug practices being armed with the appropriate knowledge.

## 4510

**UTILIZATION OF CHEMOTHERAPY CALENDAR FORMS FOR PATIENTS UNDERGOING BONE MARROW TRANSPLANT.** Sam Byars, RN, OCN®, UCSD Medical Center, La Jolla, CA

Physician order sets for patients undergoing Bone Marrow Transplant are challenging and complex. In particular those order sets pertaining to allogeneic Bone Marrow Transplants contain orders not only for chemotherapy, but orders for rescue drugs and tests essential to positive patient outcomes. A total of six errors were discovered over the last twelve months at our institution which had the potential for negative patient outcomes.

The solution was the development of a worksheet, or "Chemotherapy Calendar", to be used by staff RN's on a daily basis detailing medications and tests that are part of the regimen protocol as dictated by the physician orders. Calendars based on the seven most common transplant regimens at our facility were adapted from calendars UC Davis presented at the 2009 ONS Congress. The RN will review and initial the calendar daily to ensure all medications and tests as ordered by the physician are implemented.

They begin on the day of admission and continue until twenty-one days post transplant. Calendars contain all chemotherapeutic agents, rescue drugs, tests, antibiotics, immunosuppressants, and growth factors. They were adapted in collaboration with the Pharmacy department. Once completed they were presented to staff at our annual skills competency day.

The calendars were approved by the BMT Medical Director and Unit Manager. Staff voiced approval as a tool to provide a "blueprint" for the day. Implementation has recently begun; effectiveness to be measured by lack of hospital incident reports pertaining to medication errors and missed tests for patients undergoing autologous or allogeneic transplant.

The Calendars are a tool to ensure the delivery of safe patient care in a complex setting. The goal is zero missed medications/procedures. An added benefit is the patient may receive a copy of his Calendar detailing the preparative regimen. This involves the patient in the plan of care and may improve patient satisfaction ratings.

## 4511

**SHARED DECISION MAKING SKILLS FOR CANCER PATIENTS.** Yuko Kawasaki, RN, MSN, University of Hyogo, College of Nursing, Akashi, Hyogo, Japan

The Guideline for Establishing Designated Cancer Hospitals state that to be designated a cancer hospital (in Japan, 2008), a hospital must have a department capable of providing counseling and support services, so that they can provide consultations for patients and their families, as well as for other medical institutions in the region. In accordance with the Guideline requirements, each designated cancer hospital has established a "Cancer Counseling and Support Center," where many nurses serve as counselors.

A previous study has found that the needs of cancer patients have not been adequately fulfilled partly because of lack of knowledge of the disease and its treatment. There have been few studies on the technique for counseling by nurses to help patients select treatment.

To identify and structure techniques for nurse counseling in which the decision-making process is shared, using records of nurse consultations.

Qualitative research based on interpretive interactionism.

Techniques for nurse counseling involving support in decision-making were identified in 207 records of consultations provided for cancer patients and their families regarding treatment. The contents were analyzed using the following 3 techniques

proposed by Mayring: summarizing content analysis, explicative content analysis and structuring content analysis.

The following 8 categories were identified as techniques for counseling: to accept the patient's/family's feelings, to highlight what the patient/family wants to consult about, to help the patient/family prepare for life during treatment, to guarantee continued treatment and care, to provide information for decision making, to help in understanding information, to strengthen the support system, and to show the patient/family future possibilities. Of these categories, the category "to highlight what the patient/family wants to consult about" is important in an interview. This category comprises the following 3 techniques: to confirm values regarding the status of treatment, to enable the identification of potential problems, and to highlight problems to be shared. The present study shows that by using these techniques, nurses always keep patients involved, clarify the roles of patient and nurse, and always share the decision-making process.

## 4514

**THE MEANING OF SOCIAL NETWORKS IN RELATION TO BREAST CANCER SCREENING PRACTICES AMONG MIDDLE-AGED KOREAN WOMEN.** Sue Kim, RN, PhD, NP, Yonsei University, Seoul, Korea; Yun Hee Ko, RN, MS, Yonsei University, Seoul, Korea

Despite universal health care and government spearheaded efforts to promote breast cancer screening in Korea, the screening rate in 2007 was 38.7%, lower than other developed countries. Although the idea of social networks has gained popularity in the health literature, such as utilizing peer advisors and lay health workers, etc., research is not sufficient on how the concept of social networks is perceived by Korean women, especially in relation to promoting breast cancer screening. An understanding of what social networking means to minority women may help oncology nurses to have greater cultural sensitivity in efforts to mobilize social networks for cancer screening.

The study aims to explore the meaning of social networks among Korean middle-aged women in the community and identify their understanding and expectations for social networks in relation to promoting breast cancer screening practices

This study is exploratory and descriptive in nature. A qualitative approach using focus group (FG) discussions was used to explore the meaning of social networks.

Women between 35-59 years were recruited from a rural community to participate in a one-time FG discussion. FGs were conducted separately for women younger than 50 and women in their 50s, with approximately five women recruited for each group. This study is in progress, with three FGs completed and three additional FGs scheduled for January, 2010.

FG discussions were audiotaped and transcribed, and will be considered together with field notes as the data source for analysis. The research team will conduct content analysis to identify themes across the FGs (February - March).

Preliminary findings suggest that women have different ideas and expectations of social networks, especially in terms of network type, according to age. Also there appears to be a conceptual mingle of communal networking, stemming from cultural influences, and individual networking. These findings may support creative health policies that actively consider the appropriate and relevant use of social networks among middle-aged Korean women, to increase breast cancer screening in the community.

## 4518

**DEVELOPING THE RESOURCE NURSE ROLE.** Elizabeth Johnson, RN, MSN, AOCN®, AOCNS®, Massachusetts General Hospital, Boston, MA; Coleen Caster, RN, C, MN, FNP, Massachusetts General Hospital, Boston, MA

Traditionally, nursing care has been organized on a shift-by-shift basis with one nurse designated as the point person for organiz-

ing staff assignments and making operational decisions within the context of the shift. Various referred to as the "charge nurse," "shift coordinator," or "resource nurse," this role has been implemented in an arbitrary way at best, owing to tradition and to the lack of evidence-based literature. Nevertheless, informed operationalization of a resource nurse role with theoretical underpinnings could enhance smooth unit functioning both in the moment and promote progress toward a visionary future.

To define the role of the unit-based Resource Nurse (RRN), enumerate performance expectations, and describe a plan for preparing prospective candidates and for promoting professional growth among incumbents.

While the RRN role has typically been reserved for the experienced nurse, unit leadership on an acute gynecology unit sought to formalize role delineation and related professional development through a series of activities. Using Radwin's 2000 paper on patients' definition of the attributes of high-quality cancer nursing care as a theoretical framework, the authors solicited role-related narratives from incumbents, held focus groups to explore aspects of the role, and developed qualification parameters, an orientation program dedicated to the role, and guidelines for mentoring and continuing education.

The resource nurse development program enhanced continuity of care, teamwork, collaboration with other units, accountability for shift decisions, coordination with unit leadership, synchronization of the daily work with the unit mission and vision, professional development, and staff satisfaction.

Unit leadership seeks to build on this work with a goal of creating evidence-based guidelines to support thoughtful delineation and development of the resource nurse role.

## 4522

**TREATMENT PATTERNS, DURATION OF THERAPY AND SURVIVAL IN SEQUENTIAL METASTATIC BREAST CANCER CHEMOTHERAPY: INFORMATION FOR PATIENT COUNSELING.** Patricia Gordon, MSN, CRNP, OCN®, Magee Womens Hospital of UPMC, Pittsburgh, PA; Sondra Swain, RN, BSN, UPMC Cancer Centers, Pittsburgh, PA; Jung Su, University of Pittsburgh School of Nursing, Pittsburgh, PA; Adam Brufsky, MD, PhD, UPMC Cancer Centers, Pittsburgh, PA; Margaret Rosenzweig, PhD, FNP-BC, AOCNP®, University of Pittsburgh School of Nursing, Pittsburgh, PA

Counseling and anticipatory guidance of the expected course of treatment for women newly diagnosed with MBC are difficult due to increasing number of treatment options and heterogeneity in MBC treatment response. We used real patient data to inform patient counseling.

Determine the durations of, and survival after sequential chemotherapies in MBC.

Johnson's Self Regulation Theory states that individuals are active information processors and problem solvers. When provided with accurate, concrete information, patients with MBC are better able to use adaptive coping strategies and experience less distress.

MBC cohort from one large urban practice, of the University of Pittsburgh Cancer Institute Breast Cancer Program followed from 1999 through December 2008. Retrospective repeated measures review of established medical records according to protocolized abstraction was utilized. Data were collected and entered into EXCEL and exported to SPSS (version 15) for analysis.

Median survival of the cohort deceased or with data truncated in December, 2008 (n=663) was 29 months (SD22.3), with a range of 1 to 114 months. Sequential chemotherapy, in combination and as single agents, independent of other treatment options, was analyzed for treatment duration and survival from completion of that chemotherapy. Average number of treatments from diagnosis of MBC to death was 3.1 sequential chemotherapy treatments for all women.

Almost all women (524/663 or 79%) received chemotherapy. Up to 14 sequential chemotherapies were used. Median duration of first sequential chemotherapy and median survival from termination of first chemotherapy were 4 months and 17 months respectively. Subsequent sequential chemotherapies had no more than median 3 months of treatment duration and 6 months survival from treatment termination. However, wide ranges of treatment duration and survival continued through all sequential chemotherapy.

A minority of heavily pretreated women can achieve some response to late stage MBC sequential chemotherapy. This heterogeneous response presents a patient counseling challenge. This rare clinical response should be fully assessed for factors predictive of therapy responsiveness, but not deter attention from end of life counseling for the majority. Better predictors of MBC treatment responsiveness are needed in order to better tailor counseling and end of life treatment decisions.

## 4523

**DEVELOPMENT AND IMPLEMENTATION OF AN ADMISSION DISCHARGE NURSE: TACKLING FRAGMENTED WORK FLOW AND STAFF DISSATISFACTION.** Kim Slusser, RN, MSN, CHPN, Duke University Hospital, Durham, NC; Michelle Kasprzak, RN, BSN, OCN®, Duke University Hospital, Durham, NC

The admission process provides vital information for the patient plan of care, yet can be time consuming, impacting staff workflow. In addition, timely patient discharges facilitate bed availability for those requiring hospitalization. Feedback from the National Database Nursing Quality Indicators 2009 RN Survey Report showed a major source of stress and dissatisfaction with the volume of admissions and discharges (A/D) and how it disrupted the ability to provide quality care. This 31-bed, adult oncology unit averages 44 admissions and 44 discharges a week. The majority of admissions are unscheduled requiring acute symptom management.

Nursing leadership evaluated A/D volume and timing, time required to complete A/D, and reviewed the literature and best practices of an A/D nurse (A/D-RN). This process validated staff perception of workflow, assessed the need for an A/D-RN, and gathered information for development and implementation.

With input from staff, nursing leadership developed a job description, responsibilities checklist, and staffing model for the A/D-RN. The A/D-RN required an alternative twelve hour shift beginning at 10:00 a.m. which was based on patient A/D times. Two volunteers piloted the role for one month. If the role improved staff satisfaction and efficiency of A/D processes, a rotating schedule would be created.

Data was collected and staff meetings were held to evaluate satisfaction and stress level. Shift start time was validated given 16% of admissions and discharges were outside the shift and the A/D-RN completed 74% of all admissions during the shift. In addition, 53% of discharges were completed by the A/D-RN. Staff feedback was positive. Staff stated reduced stress and more time with patients. The admission process was completed thoroughly improving quality of care. The pilot A/D-RNs stated satisfaction in the role and had more time to adequately orient the patients and their families to the unit.

The A/D-RN pilot was successful. It increased efficiency and quality of A/D, reducing staff stress and dissatisfaction. These patients have shorter lengths of stay and complex symptom management issues, and the A/D-RN role provides staff time with their patients facilitating comprehensive assessment, teaching, and coordination of care.

## 4525

**MULTIDISCIPLINARY PRETREATMENT SEMINAR: EMPOWERING PROSTATE CANCER PATIENTS.** Kathleen Field, RN, BSN, OCN®, Roswell Park Cancer Institute, Buffalo, NY; Cathrin McMullin, RN, BSN, OCN®, Roswell Park Cancer In-

stitute, Buffalo, NY; Richard Powers, RN, Roswell Park Cancer Institute, Buffalo, NY

Many prostate cancer patients survive their treatment but will suffer side effects (e.g., erectile dysfunction and urinary incontinence) which may have a long-lasting impact on their quality of life. At support group meetings, patients shared information with nursing staff revealing enhanced education and support services were needed to improve the quality of life of this group of survivors. Through collaborative efforts of a multidisciplinary team, a pretreatment seminar was developed for prostate cancer patients and their families.

The goal of the seminar was to develop an evidence based education program providing patients and their families the opportunity to receive supplemental information specific to their treatment plan, learn about possible side effects, and support services available through the multidisciplinary team.

A multidisciplinary group led by nursing and social work, met to discuss program development, producing course content and a power point presentation. The group included all disciplines involved in patient care. Former patients reviewed the presentation and revisions were made based on their recommendations. Clinic staff was educated about seminar content and the process for scheduling patients and families to attend one of the ninety-minute sessions offered every two weeks.

Verbal feedback from participants has been indicative of a positive outcome from the seminar and appreciation for the opportunity to attend. A quantitative evaluation tool (completed following the seminar presentation) has been developed with nursing input to evaluate the effectiveness of the program. Information gathered will be shared with all staff, reviewed at steering committee meetings and revisions made as needed.

The development of the prostate pretreatment seminar provides an educational program that enhances patient and family knowledge, empowers them to make informed decisions and provides the opportunity for support from the multidisciplinary team. This model may be used by other oncology nurses to develop enhanced services and to positively affect quality of life for patients. Although progress has been made in the area of treatment options for patients diagnosed with prostate cancer, efforts need to increase in the area of assisting them to cope and manage significant treatment side effects.

## 4526

**THE ONCOLOGY NURSE'S ROLE IN IMPROVING MEDICATION ADMINISTRATION SAFETY VIA A BETA UNIT, BAR-CODING SYSTEM AND SMALL TESTS OF CHANGE.**

Joanne Abbotoy, BSN, RN, Roswell Park Cancer Institute, Buffalo, NY; Diane Bartella, BSN, Roswell Park Cancer Institute, Buffalo, NY; Sandra Kipler, AAS, Roswell Park Cancer Institute, Buffalo, NY

Medication administration errors are concern for patients, hospital administration and oncology nurses who are charged with safe medication delivery to their patients. It is the nurse who is the last check to ensure patient safety and the nurse who feels responsible when an error is made. In a recent study by Health-Grades 37 million patient records for the years 2000, 2001 and 2002 were reviewed revealing that there were 195,000 deaths that resulted from medication errors.

Implementation of a bar coding system is an important step in improving patient safety. Bar-coding builds into the system double identifiers, assuring the correct MAR is being used and assures that the five rights of medication administration are being followed. It assists in removing human error.

Workflow for the oncology nurse is changed and medication administration time will be increased due to the bar-coding process. This is acceptable, however, due to increased patient safety. The oncology nurse has valuable knowledge regarding all aspects



of patient care. This is why it is important to include the nurse in all steps of this project. This includes but is not limited to

- choosing the bar-code scanner
- work flow redesign
- development and changes to policy and procedure
- education and support of staff nurses

The system will be tested on one unit, changes in the rate of medication errors will be measured and compared to the previous year before implementation on the next unit. This will be done on a monthly basis with results posted for nurses to review. The bar-coding system will be implemented one unit at a time to allow for nurse education and support at the bedside during implementation.

Changes throughout this process are multidisciplinary. The oncology nurse is the end-user of the system and must have a voice in the changes. It is also important to have small tests of change so that multiple changes and re-education of large groups of staff is avoided. This is accomplished through a beta unit where workflow changes will be identified and decisions made by the nurses who are using the system.

## 4531

**INCORPORATING REHABILITATION SERVICES INTO ONCOLOGY SITE-SPECIFIC CLINICAL PRACTICE GUIDELINES.** Kathleen Leies, RN, OCN®, Lehigh Valley Health Network, Allentown, PA; Kathleen Sevedge, RN, MS, AOCNS®, Lehigh Valley Health Network, Allentown, PA; Dorothy Morrone, RNC, MS, OCN®, Lehigh Valley Health Network, Allentown, PA; Stephanie Marshall, PT, DPT, OCS, Lehigh Valley Health Network, Allentown, PA; Jennifer Roeder, MSPT, MBA, Lehigh Valley Health Network, Allentown, PA

The disease management initiative was formulated at Lehigh Valley Health Network in 1997 for the purpose of ensuring the delivery of quality, evidenced-based cancer care and for monitoring the outcomes of our care delivery efforts. This nurse coordinated program has evolved into seven site-specific, multidisciplinary, disease management groups charged with reviewing national guidelines and standards of care as well as researching current evidence bases to formulate our institution's Clinical Practice Guidelines in Oncology. Following the recent National Comprehensive Cancer Network initiative, we are expanding these guidelines to include elements of care which are vital to the patient's overall outcome and quality of life. The example for presentation is Rehabilitative Services; specifically as incorporated into our Central Nervous System algorithm.

The purpose of integrating Rehabilitation as well as other ancillary services into Clinical Practice Guidelines is to promote a comprehensive, multidisciplinary approach to cancer care within our health network.

A multidisciplinary team of Rehabilitation Program professionals developed an evidence-based algorithm to identify immediate and long-term physical sequelae resulting from disease or treatment. Predisposing factors, descriptions of interventions and notation of appropriate consult targets were also included. A nurse led work-group added information to the predisposing factors, such as specific agents contributing to the late effects of chemotherapy. The information was then presented to the disease management team for review and incorporation into the Central Nervous System Guidelines. The design of this initial algorithm will serve as a template for additional ancillary care protocols such as survivorship. Our guidelines can be easily accessed by network providers on our intranet site.

Disease Management Groups review and update all guidelines on an annual basis. Rehabilitation will evaluate referral patterns and patient satisfaction as initial quality measures. The Nurse Coordinator will develop outcome measurement tools to augment the quality process.

Expanding our Clinical Practice Guidelines from a traditional physician focus has provided an educational experience for

our entire oncology team. Providers demonstrate a heightened commitment to guideline development and outcome evaluation. Nursing leadership has utilized a strong evidence-based format to enhance the delivery of cancer care at Lehigh Valley Health Network.

## 4533

**SBAR TO THE RESCUE; UTILIZATION OF SBAR PRINCIPLES IN A HOSPICE SETTING.** Gabriela Kaplan, RN, MSN, AOCN®, Care Alternatives Hospice, Cranford, NJ

Communication is the key element in the ability to provide optimum care. However, this is often the RN's Waterloo, as nurses are not trained to communicate beyond the immediate. Caring for a hospice patient requires the ability to see "the big picture," or, in today's vernacular, "think outside the box." Medicare hospice regulations require that the patient be "re-certified" every 60 days, in order to meet eligibility criteria. The RN's inability to adequately communicate the pertinent information resulted in physician dissatisfaction and loss of service to patients.

The purpose of the activity is to assist the nurses in organizing the required data according to pre-set criteria. SBAR was used as the organizational tool, as it is easily adaptable to both clinical and non-clinical settings. In addition, use of the SBAR format allows for easier audit activities, pinpoints the areas of need for patient care, and allows for the delivery of said care in a more timely manner.

A form was created to facilitate the delivery of required information. The form was distributed to the five Regional Managers, and instituted as a "worksheet" for communication.

Use of the worksheet immediately improved the quality of communication at the weekly team meeting. All five MD directors were able to state that they had the needed information to re-certify the patient. More importantly, the nurses stated that they were able to communicate the pertinent data effectively, and that they were not "made to feel stupid" because of miscommunicated information.

Nursing communication is often limited to the "momentous." In other words, nurses are used to communicating what is happening "at the moment;" current vital signs, tests ordered, etc. As a rule, we are not used to communicating over the long term, and that is a skill that is needed in hospice. Using the SBAR format, which traditionally has been most effective in an acute care setting, allows the hospice nurse to focus on those aspects of patient care that are pertinent to the hospice setting. There is also some poetic justice in utilizing a military creation in a peaceful environment.

## 4535

**NAVIGATING THE FINANCIAL STORM OF CANCER CARE.** Jacqueline Miller, RN, BSN, OCN®, Lourdes Medical Center Burlington County, Willingboro, NJ

Cancer treatment is most effective when received in a timely manner and completed on schedule. With the change in the current economy many cancer patients have lost their jobs, and their health insurance. The high cost of cancer care prohibits many patients from even starting their treatment, and more to stop their treatment before completion. Identifying patients at financial risk and assisting to remove financial barriers to care is critical for successful treatment of all patients.

According to the US Dept of Labor, unemployment at the end of 2009 was at 10%. Oncology patients are having difficulty with routine expenses, and oncology staff are challenged with balancing quality care and assisting with the timely process of financial applications, grants, etc. This presentation will assist staff by giving resources for financial assistance, prescription assistance, and support for oncology patients to ensure quality treatment.

Ensuring quality care and providing patients with financial assistance information can be managed in a timely manner when

patients at risk are identified at diagnosis, and National and local financial resource information is readily available to give to patients. At LMCBC we have developed a financial folder which has printed info regarding resources, qualifications, applications, and contact information. We also have developed a database of disease specific resources.

Oncology patients who receive printed information regarding financial assistance and applications are more compliant with their treatment regimes and verbalize feeling relieved that assistance is available. Co-pay assistance program information is encouraged for all oncology patients.

A diagnosis of cancer is overwhelming to all patients. The additional burden of financial difficulties and loss of insurance can be devastating and can decrease treatment compliance and success. Educating patients with printed information regarding available resources helps them to maintain control and reduce stress.

## 4537

**EDUCATIONAL PROGRAM TO IMPROVE PAIN DOCUMENTATION.** Gretchen Dawson, RN, BSN, OCN®, Duke University Hospital, Durham, NC; Michelle Kasprzak, RN, BSN, OCN®, Duke University Hospital, Durham, NC; Giselle Boward, RN, BSN, OCN®, Duke University Hospital, Durham, NC; Deborah Allen, MSN, RN, CNS, FNP-BC, AOCNP®, Duke University Hospital, Durham, NC

Administration of pain medications on an inpatient medical oncology unit is a standard occurrence. While the nursing staff on this 31-bed oncology unit were very good at assessing pain, administering appropriate medications, and initiating medication changes based on patient responses, they were less likely to document their reassessments 1-hour after the interventions. Increasing accurate documentation and communication among the members of the healthcare team is essential in order to ultimately have better outcomes for our inpatient oncology patients' pain management.

To foster an environment of change, the unit Pain Champion (PC) had to be creative in developing and implementing a comprehensive nursing educational initiative to promote the importance of all five components of pain documentation, with a focus on time and pain score at reassessment.

Initially, data was collected by matching medication administration and pharmacy usage records to nursing pain assessment documentation, confirming incongruence between usage and reassessment documentation. The multi-step education initiative consisted of several components: a pain quiz using scenarios for staff completion, reviews of scenario answers to promote discussion, 1:1 reviews for remediation, development of a poster prominently displayed as a reference for correct documentation through scenarios, annual competency compliance reviews on the essential components of pain documentation, and individual counseling of staff by the pain champion for those demonstrating persistent inconsistencies for improvement by weekly audits. The PC highlights pain audits at staff meetings to encourage peers to discuss documentation barriers.

Monthly pain documentation audits have shown significant improvement with >20% increase in compliance since initiation (3-month averages: pre 73.2%, post 94.3%). Documentation audits continue with "Perfect Pain Documenters" prominently posted in the workroom, which continues to act as an incentive for staff to continue with their compliance in accurate pain documentation.

Developing a multi-step program administered over several months to attack the barriers to successful documentation is one key component of this program. The use of peers to develop, implement, and monitor the program through audits and 1:1 feedback improves the success for staff engagement and improvement.

## 4538

**IS YOUR ONCOLOGY PRACTICE EHR READY? BEST PRACTICES TO PREPARE FOR A SUCCESSFUL ELECTRONIC**

**HEALTH RECORD IMPLEMENTATION.** Jacqueline Dauteuil, RN, IntelliDose, a division of IntrinsicQ, LLC, Waltham, MA

Implementation of electronic health record technology (EHR) in practices is increasingly being managed by nurses. Before the software is adopted by a practice and used by clinicians, nurses can assess practice readiness to influence and ensure a successful implementation. The Professional Services Team at IntelliDose includes oncology nurses who implement medical oncology computerized physician order entry software. The implementation team has implemented over 100 client sites including single and multiple site oncology practices, multi-specialty practices, and hospitals and health systems.

Knowledge of proven steps to a smooth technology implementation ensures nurses managing the process may prepare for a successful technology deployment. The transition does not just involve placing paper patient records into a computer.

Built from practical, hands-on experience, we have identified the following ways in which nurses may lead and influence a successful implementation:

1. Build the internal project leadership team with representation from all stakeholders and engage team members who possess credibility within the organization.
2. Encourage participation from the entire oncology care team and communicate the benefits for patients, physicians, nurses, administrative staff, and information technology groups.
3. Benchmark issues, identify and establish the criteria for success, measure achievements, and build in continuous improvement.
4. Start the change process early. Assess the current workflows and treatment plans or guidelines used by oncologists (clinicians) in the practice.
5. Appraise technology readiness, identify training needs (such as computer skills) and engage staff in training before implementing the EHR.

During the process of consulting, planning, and completing implementations of oncology electronic health records, the team conducts post-implementation reviews. These reviews drive refinements to implementations as part of continuous quality improvement. Experience with multiple implementations has highlighted the characteristics of a potentially unsuccessful implementation.

Nurses are directly involved in implementing electronic health records. Automating the workflow supports establishing best practices, enabling evidence-based medicine, and improving patient safety. Nurses will be able to use the information presented to assess practice readiness and take action to lead a successful implementation.

## 4540

**N-CHAT: NURSES CREATING HEALTHCARE ADVANCES THROUGH TALKING.** Nicola Brooksbank, RN, BSN, OCN®, Duke University Health System, Durham, NC; Joey Misuraca, RN, BSN, OCN®, Duke University Health System, Durham, NC; Deborah Allen, RN, MSN, CNS, FNP-BC, AOCNP®, Duke University Health System, Durham, NC

On a 31-bed, hematology-oncology unit in an academic medical center, nursing-focused teaching rounds were formed to facilitate discussion between expert oncology nursing staff and novice nurses by talking about their patient-care experiences. This unit has nurses with an average of 9 years of experience and an annual retention rate of 96% since 2007. Since novice nurses tend to replace staff that have completed their advanced practice degrees, they may easily feel overwhelmed with the level of care and knowledge they are expected to demonstrate. Thus an avenue to promote an evidence-based teaching forum led by nurses just for nurses was developed.

The purpose of this educational forum was to promote expert and novice nurse discussions of hematology-oncology patient care through a focused presentation of a current patient with an identified diagnosis, symptom, or treatment.

The forums take place twice a month and are posted in advance for staff participation. The care nurse presents the patient history, current treatment plan, and any identified issues. Facilitators of each session include the nurse manager, clinical nurse specialist, and unit educator. They assist by prompting questions for discussion between nurses. Discussions may range from diagnosis pathophysiology to complex psychosocial and quality of life issues. The facilitators bring awareness to current practices that are evidence-based, as well as explore other applicable practices in the literature that may be of benefit to patient care.

After 6 months, staff interviews have shown that they overwhelmingly enjoy and learn from the forums. Novice staff members state that they feel more empowered to ask questions regarding symptoms and standards of care in these forums. Expert nurses have voiced improvement in their ability to present patient histories and assessments which has translated into conversations with physicians for symptom management.

The development of novice nurses beyond orientation is an ongoing professional responsibility, yet can be difficult on a fast-paced hematology-oncology unit where teaching can become second to providing care. This unit has developed a novel forum to promote ongoing discussions that foster teamwork, share knowledge and expectations of care, and increase the incorporation of evidence-based practices.

#### 4541

**EVIDENCE-BASED PRACTICE AT THE BEDSIDE.** Jo Hanson, RN, MSN, CNS, OCN®, City of Hope, Duarte, CA; Marcia Grant, RN, DNSc, FAAN, City of Hope, Duarte, CA

Despite the documented benefits, most bedside nurses provide care without an evidence-base practice approach. Scientifically based, well developed evidence-based practice models are available, yet the majority of bedside nurses rarely use them. Identified barriers, such as time, lack of awareness or understanding of research, or lack of resources, contribute to the gap. Additionally, bedside nurses are just that—bedside nurses who are excellent clinicians. They are not research nurses and they generally perceive evidence-based practice as a research nurse role.

An evidence-based practice model was developed to meet the scientific rigor for best practice and to address the practical needs of bedside nurses. The model was developed using the Donabedian framework of structure, process, and outcome. Structure, the first area of focus, is the evidence-based practice program. Secondly, process includes the components of nurse initiated projects. Lastly, outcome evaluates the change.

Over a three year period, one day evidence-based practice training workshops were presented to small groups of bedside nurse teams. The nursing research department presented the workshops and provided long term (12 month) support for unit-based team initiated projects. Workshop content included the: 1) basics of evidence-based practice; 2) strategies in finding the best evidence with an emphasis on institutional policies and national guidelines; and 3) facilitated bedside nurse initiated unit-based project planning and implementation. Unit-based projects were evaluated for completion and long term sustainability.

From 2007-2009, 155 bedside nurses attended one of nine evidence-based practice workshops. For years 2007-2008, more than 50% have completed their projects. The 2009 projects are in process and will be evaluated one year from initiation. Projects ranged from symptom management to nurse-to-nurse communications.

This evidence-based practice model incorporates the rigor of scientific evidence and the practical needs of the bedside nurse. Providing a process to find strong evidence using easily accessible institutional policies and national guidelines rather than embarking on a detailed research study analysis offers a practical means for bedside nurses to incorporate evidence-based practice into their daily care. This framework, tailored for bedside nurses, can lead to more nurses adopting an evidence-based approach in their clinical practice.

#### 4542

**BLOOD AND MARROW TRANSPLANT PATIENT EDUCATION QUALITY IMPROVEMENT.** Idalina Williams, RN, Dartmouth Hitchcock Medical Center, Lebanon, NH; Lynn Root, RN, Dartmouth Hitchcock Medical Center, Lebanon, NH; Kate Wilcox, RN, Dartmouth Hitchcock Medical Center, Lebanon, NH; Elizabeth Kimtis, APRN, Dartmouth Hitchcock Medical Center, Lebanon, NH; Susan Brighton, APRN, Dartmouth Hitchcock Medical Center, Lebanon, NH

Bone marrow transplantation is a complex medical treatment that requires extensive patient education. Patients' are preparing for transplant at a time of intense stress. These factors affect the patient's readiness to learn, comprehend, and retain the information.

Through our quality improvement initiative, we identified obstacles that impact effective and comprehensive patient education. We flow charted the current process for providing patient education along the continuum of care. Analyses of the flow chart demonstrated Inconsistencies in how a patient enters the system, what information is provided at different times along the continuum, and how the information is presented. We then facilitated patient and caregiver focus groups to validate the obstacles. Patients' reported that although they received teaching, it was not consistently at the best time where they were physically or emotionally ready to process or retain the information.

We identified eight key times in the continuum where education is indicated. We will identify multiple ways, (written, visual, verbal, and web based) of presenting the information to meet the needs of different style of learners. By breaking down the material to cover each step individually, the goal is that patients' will not be overwhelmed and demonstrate readiness to learn. With each time period, we will identify specific learning goals that will meet the educational needs of patients' at that time in the continuum. We will then identify what teaching material will meet each of those goals and present only that material that is necessary to safely prepare the patient for the next phase of care.

We will ask patients' to complete a survey at different time periods. The intent is that each survey will assess patient's knowledge and retention of material taught up until that time. The survey will be administered at time of admission for transplant, first follow up visit in clinic after discharge from the hospital, and approximately 30 days post transplant.

Patients' who face multiple stressors are not able to retain large amounts of information and therefore outcomes are compromised. By breaking down the information, patients may demonstrate improved knowledge and retention, therefore resulting in improved outcomes.

#### 4546

**THINKING OUTSIDE THE ONCOLOGY BOX: NURSING EDUCATION RETURNS TO MED-SURG BASICS IN A COMPREHENSIVE CANCER CENTER.** Mimi Haskins, MS, RN, CMSRN, Roswell Park Cancer Institute, Buffalo, NY; Elizabeth Owens, RN, MS, OCN®, Roswell Park Cancer Institute, Buffalo, NY; Erin Mouyeos, RN, BSN, OCN®, Roswell Park Cancer Institute, Buffalo, NY; Darryl Somayaji, MSN, RN, CCRC, Roswell Park Cancer Institute, Buffalo, NY; Martha Kershaw, RN, BSN, OCN®, Roswell Park Cancer Institute, Buffalo, NY

Oncology nurses in a comprehensive cancer center focus on a patient's cancer diagnosis and treatment. Nursing staff often need educational support for the co-morbid conditions that may be pre-existing or result from cancer treatment modalities. When faced with the signs, symptoms and treatments of these co-morbidities, staff often have questions regarding the specific care needed to treat their patients. Information garnered from the annual nursing staff needs assessment survey indicated that more education on medical-surgical topics was needed.

In order to meet staff requests for medical-surgical education topics, the Nursing Education Department, at our comprehensive cancer center, implemented a number of programs to address these needs.

Based on the educational needs assessment responses, two specific nursing education programs REIN in Your Brain, a monthly inservice and Nursing Knowledge Express, a quarterly inservice were developed. These programs provided education on topics such as Diabetes Update, Renal Failure, Heart Failure, Cardiomyopathy and Atrial Fibrillation, Care of the Obese Patient, Recognition and Treatment of Shock and Sepsis, and Aids in the Community for the oncology nursing staff. A collaborative agreement was reached with a local acute care health system to offer programs to both ours and their nursing staff free or at reduced rates. The collaborative courses offered in 2009 included a two-day Medical-Surgical Nursing and Critical Care Nursing Certification Review Course, as well as ACLS.

Attendance at the programs included nursing and non-nursing staff from the inpatient and ambulatory settings, as well as the clinical research staff. A review of the post program evaluations revealed a very positive response to the material presented, as well as recommendations to continue medical-surgical education programs for oncology nursing staff.

Given the positive response to the medical-surgical programs offered, the Nursing Education Department is planning a new line-up of topics for 2010, based on the nursing needs assessment survey. The collaboration with one health system will continue and an additional collaboration with the other area acute care health system is being pursued to open up more educational opportunities for all oncology nursing staff.

## 4547

### **JUNE CLEAVER MEETS HER AVATAR: THE CHALLENGES OF BABY BOOMERS USING SIMULATION IN EDUCATING THE NEW GENERATION OF ONCOLOGY NURSES.**

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In recent years the Nursing Professional Development Department at this cancer center has undergone a turnover of Nurse Educators. As new educators were hired it brought with it a multi-generational challenge. The Baby-Boomer generation was now facing collaborative challenges in working side by side with this younger generation. Our lectures were being asked to be brought into the 21st century. We were asked to incorporate more interactive methods of education, less paper, more technology and innovative strategies. Where does June Cleaver go to do this? Answer, she must face her Avatar.

We took on the challenge of incorporating patient simulation and establishing a simulation laboratory, in order to enhance the engagement of the new learner into oncology, and move the existing staff into the new world of technology.

We brought into our department a new colleague, SimMan®. A patient simulator developed by Laerdal®. SimMan® allows us to create oncologic patient scenarios in a controlled environment. SimMan® has multiple functioning body systems. This capability for simulation allows for repetitive performance of skills, and assessment without jeopardizing patient safety. We are able to program SimMan® into a state of septic shock, as we assess our new nurses' response to this oncological emergency. We can simulate a patient's adverse reaction to chemotherapy administration, and observe the nurses' understanding of the management of anaphylaxis.

The incorporation of this simulation technology into many of our educational programs, such as, code management, moderate sedation training, advanced life support, management of oncological emergencies and dysrhythmia interpretation has shown an overwhelming positive response from new and incumbent staff that has compared it to our past methods of delivering this same content. These were reported through written and verbal program evaluations

By listening to the voices of our younger colleagues, we have successfully incorporated new advanced technologies in teaching old and new skills to a multigenerational group of nurses in a more interactive way. Staff comment on how the realism of simulation facilitates seeing the bigger picture of oncology care management.

## 4549

### **HUMAN PAPILLOMAVIRUS (HPV): WHAT ABOUT OUR HEAD AND NECK PATIENTS?**

Carol Butch, RN, Roswell Park Cancer Institute, Buffalo, NY; Kathleen Olewniczak, RN, BSN, Roswell Park Cancer Institute, Buffalo, NY; Kathleen Killion, RN, OCN®, Roswell Park Cancer Institute, Buffalo, NY; Renee Miller, RN, Roswell Park Cancer Institute, Buffalo, NY; Nikki Hicks, LPN, Roswell Park Cancer Institute, Buffalo, NY; Linda Manikowski, LPN, Roswell Park Cancer Institute, Buffalo, NY; Karen Shaul, LPN, Roswell Park Cancer Institute, Buffalo, NY

Recent findings in the literature report a relationship between sexually transmitted HPV 16 and head and neck cancer. The rising incidence impacts diagnostic, preventative and therapeutic interventions for the oncology patient. Approximately 70% of Americans both men and women, are expected to become infected with the virus at some point in their lifetime. Men and women, girls and boys need education regarding preventative measures against HPV and head and neck cancer. The nursing staff in our outpatient Head and Neck Center were concerned that there was inadequate information available to educate patients, family, and staff. Steps were taken by oncology nurses to increase their own knowledge by a synthesis of the literature in addition to creating a HPV and head and neck cancer pamphlet.

The purpose of this project is to 1) increase awareness regarding HPV and head and neck cancer and 2) highlight how oncology nurses in an outpatient nursing journal club can develop vital education information for oncology patients.

The first step took place following discussion of current literature on HPV and head and neck cancer during our monthly nursing journal club meeting. Each member of the group took responsibility to search the literature and credible websites including our own comprehensive cancer center website for more information. Next we reviewed other pamphlets on HPV for our gynecology patients. We then drafted a pamphlet specifically for head and neck patients

The completed document will be reviewed by the clinical staff in the Head and Neck

Center which include nursing staff, advance practice nurses, physicians, healthcare staff, dental team and patient education prior to release. The pamphlet will be available in the patient exam rooms in addition to the outpatient waiting areas. Providing educational material to patients during their outpatient visit may encourage dialog between patients and healthcare staff

Patient education pamphlets are important tools to provide HPV content that may be difficult for the patient or provider to discuss. Oncology nurses have a critical role in providing information to their patients as well as to their community on the effects of HPV and its association with cancer.

## 4550

### **PREDICTORS OF EXERCISE ADHERENCE AND EXERCISE BEHAVIORS AMONG A SAMPLE OF PUERTO RICAN BREAST CANCER SURVIVORS.**

Velda Gonzalez, MSN, UPR Cancer Center, San Juan, Puerto Rico; Maribel Tirado,

MD, UPR Cancer Center, San Juan, Puerto Rico; Daniel C. Hughes, PhD, Institute for Health Promotion Research, San Antonio, TX; Karen Basen-Engquist, PhD, MPH, University of Texas MD Anderson Cancer Center, Houston, TX

One of the goals of the Puerto Rico comprehensive cancer control plan 2008-2012 is to promote physical activity to maintain health and reduce the risk for chronic disease including cancer recurrence and development of second primary cancers. Puerto Rican oncology nurses can contribute to achieve this goal by understanding the determinants of exercise behaviors for Puerto Rican survivors. Even though the benefits of exercise are documented, exercise promotion has not been successfully implemented among Puerto Rican cancer survivors.

The purpose of this study was to assess predictors of exercise adherence and exercise behaviors among Puerto Rican breast cancer survivors using a Social Cognitive Theory based model. This study relates to the priority topic for the ONS 2009-2013 research agenda of health promotion in an ethnic minority group.

Social Cognitive Theory variables that affected exercise behaviors

Patients attending the medical oncology clinics at the Puerto Rico Medical Center participated in the study. Patients completed 10 short questionnaires focused on capturing variables related to medical history, exercise history, motivation, and social cognitive theory related factors affecting exercise self-efficacy. Descriptive and bivariate analyses were performed.

A total of 50 patients participated in the study. Median age was 57 years. Nineteen subjects were obese (38%) with a BMI of 30 or more. More than 75% of the subjects were not performing strenuous or moderate exercise at the time of the interview; only 38% were engaged in light exercise more than 3 times in a 7 days period. Only eleven subjects (22%) reported themselves as self-identifying as "exercisers". Consistent with the model for Social Cognitive Theory, exercise self-efficacy for walking and barriers self-efficacy were both significantly correlated to self-reported exercise as assessed by the Godin Leisure Time Physical Activity Scale ( $r = 0.367, p = 0.009$ ;  $r = 0.306, p = 0.031$ ) respectively. Oncology nurses taking care of Puerto Rican breast cancer survivor need to consider motivational factors affecting adoption and maintenance of exercise behaviors in the implementation of strategies to promote exercise.

## 4552

**HUNTERDON REGIONAL CANCER CENTER'S FIT KIT INTERVENTION TO INCREASE COLORECTAL SCREENING RATES AMONG THE UNINSURED.** Mary Vecchio, RN, MSN, APN, OCN®, Hunterdon Regional Cancer Center, Flemington, NJ; Margaret Vellotti, Hunterdon Regional Cancer Center, Flemington, NJ; Maria Montano, Hunterdon Regional Cancer Center, Flemington, NJ; Barbara Tofani, RN, MSN, Hunterdon Regional Cancer Center, Flemington, NJ; Jacqueline Hale, RN, MSN, APN, AOCN®, Hunterdon Regional Cancer Center, Flemington, NJ; Lori McMullen, RN, MSN, OCN®, Hunterdon Regional Cancer Center, Flemington, NJ

Colorectal cancer is the third most common cancer among men and women. Although one of the most detectable and treatable cancers when caught early, less than 50% of people aged 50 and older in the United States have had a recent screening test. The New Jersey Cancer Education and Early Detection (NJCEED) Grant is a program that provides education and screening to individuals who lack insurance and fall within 250% of the federal poverty level. Hunterdon County has approximately 129,000 residents; 22.6% (29,154) falling within the age range of 50-64. Many barriers may prohibit individuals from engaging in colorectal screening. Recommendations from the New Jersey Comprehensive Cancer Control Plan (2008-2012) include "partnering with the NJCEED to educate and change behaviors of target populations regarding measures available for prevention, detection, and

treatment of colorectal cancer". Oncology nurses serve as a valuable resource to provide education to this targeted population.

The program's purpose is to educate eligible men and women on colorectal cancer and increase the enrollment for colorectal cancer screenings through NJCEED. The option of Fecal Immunochemical Testing (FIT) was offered as the primary screening method. The program was developed using the framework described in the Health Belief Model.

Education programs were developed and offered quarterly. Participants were given information on lifestyle modification, genetic testing, and support through patient navigation if a cancer diagnosis was discovered. Participants were given step by step instructions on how to complete their FIT kit at home.

Data analysis was conducted by NJCEED staff. Follow up letters were sent to participants who did not return their kits within 2 months. Enrollment data was reviewed 12 months before the first program and compared to the enrollment during the project time line to determine an increase.

The creators of the program hope to reduce barriers and motivate Hunterdon County residents to engage in colorectal screening. Oncology nurses, serving as community educators, have the potential to reduce the incidence and morbidity of colorectal cancer through early detection. Lessons learned from this program may be transferable to other health conditions that may benefit from early detection and intervention.

## 4556

**PATIENT EDUCATION ON THE MANAGEMENT OF DIARRHEA RESULTING FROM IPILIMUMAB THERAPY.** Ruthann Roman, RN, BSN, Memorial Sloan Kettering Cancer Center, New York, NY

In 2009 there was estimated to be 68,720 new cases of Melanoma and 8,650 deaths. Ipilimumab is a monoclonal antibody that blocks cytotoxic T-lymphocyte antigen-4 and has shown activity in advanced melanoma patients with one-year survival rates ranging from 41-59%. The majority of treatment-related adverse events are immune-related, with diarrhea being one of the most common, requiring careful management along with patient education

The intent is to provide oncology nurses with a set of interventions, resulting from our experience with ipilimumab in clinical trials, and to emphasize the need to educate patients about the accurate and timely reporting of symptoms related to diarrhea by sharing the educational plan used.

Upon initiation of ipilimumab treatment, a system for communicating symptoms promptly to nurses should be initiated. It is recommended that nurses review baseline bowel and dietary habits with patients, and provide instructions on early detection of symptoms leading to diarrhea. Once symptoms have been reported, patients should be properly educated on proper diet and symptomatic treatment with medications, should be initiated. Importantly, patients should be instructed to promptly contact their nurse if symptoms worsen. When diarrhea begins, treatment algorithms implemented in clinical trials include the use of oral budesonide daily for grade 1-2 diarrhea, and high-dose steroids for grade 3-4 diarrhea

Ipilimumab has been evaluated in 487 patients with advanced melanoma in phase II clinical trials. Adherence to the treatment algorithms implemented in these studies and quick symptomatic treatment has been shown to reduce the incidence of colectomy and bowel perforation.

Early detection of changes in bowel habits is critical to the management of ipilimumab-associated diarrhea, and a means for patients to communicate their symptoms to nurses must be initiated at the time of treatment. It is particularly important for the oncology nurse to listen carefully to how patients describe their symptoms and to adhere to guidelines proposed. Nurses will need to reassure patients that these symptoms have been successfully treated in other patients, and that early treatment may allow them to receive all ipilimumab doses and potential benefit.

4558

### QUALITY OF LIFE IN PEOPLE EXPERIENCING GVHD FOLLOWING ALLOGENEIC BONE MARROW/STEM CELL TRANSPLANT.

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Graft versus host disease (GVHD), a common side effect of allogeneic bone marrow and/or hematopoietic stem cell transplant (BMSCT), has multiple, well-documented complications both acutely and chronically. There has been limited research about quality of life (QOL) of BMSCT patients who develop GVHD despite continued identification of QOL and symptom management as research priorities. Most studies concerning QOL in BMSCT survivors have given limited attention to GVHD and its impact on QOL. In the few studies that focused on GVHD, it was found to be a predictor of poor QOL in BMSCT patients.

The purpose of this pilot study is to test the feasibility of a future study to describe perceptions of QOL over time and to explore self-care management strategies used by people experiencing GVHD after undergoing allogeneic BMSCT.

The study framework is Roy's Adaptation Model.

The study will use a descriptive, longitudinal design with repeated measures. Convenience sampling will be used to recruit subjects admitted for allogeneic BMSCT to an inpatient BMSCT unit in north Texas. The total sample size is projected to be 40-60 subjects to achieve a sample of 25 subjects with GVHD. Perceptions of QOL will be measured at enrollment and at one, three, and six months after BMSCT using the Functional Assessment of Cancer Therapy – Bone Marrow Transplant. Symptoms of GVHD will be measured at 1, 3, and 6 months after BMSCT using a modified version of the Chronic GVHD Symptom Scale. Audiotaped interviews will be conducted with subjects at 6 months after BMSCT to assess perceptions of QOL, factors influencing QOL, and self-care management strategies. Demographic and medical information will be assessed at enrollment and at 1, 3, and 6 months after BMSCT. Changes in QOL and GVHD symptoms will be analyzed using the multivariate approach to analysis of variance for repeated measures. Interview data will be examined using content analysis.

Findings from this study will be used to guide development of a future study to explore QOL and self-care management strategies used by people experiencing GVHD after allogeneic BMSCT with the aim of identifying nursing interventions to promote QOL in these individuals.

4560

### AN INNOVATIVE METHOD TO MEET THE NEEDS OF ONCOLOGY PATIENTS IN BOLIVIA.

Frances Rice-Farrand, DNP, APRN, CNS, Los Angeles City College, Los Angeles, CA; Anita Miles (Haddad), RN, Providence Health Care-Providence Saint Josephs Hospital, Burbank, CA

Bolivia is perhaps the poorest country in South America. Cervical and Breast cancer account for over 45% of the new cases and 37% of cancer-related deaths. Major health problems result from inadequate knowledge related to cancer and the fact that, when diagnosed with cancer, many Bolivians are told to go home to die. In Cochabamba, a support group of cancer survivors and cancer care providers was developed and sought assistance to provide cancer education.

Believing that education can make a difference in the quality of care given to the oncology patients, a team of nurses and translators partnered with a Cochabamba missionary group. The purpose was to develop a cancer educational program and community outreach.

Written information in Spanish, and CDs demonstrating screening techniques were used. During the community outreach, over 115 individuals were screened for cancer. More than 70 attended a week-long family support group where fears and concerns were addressed as well as providing direct care during the illness trajectory. Health-care provider seminars addressed basic pathophysiology, treatment, and end-of-life issues. Hospital and clinical staff were taught breast examination. An hour-long television educational program on cancer was taped for public viewing.

Our goal was to empower and facilitate change among the Cochabamba population. We accomplished this by facilitating communication between patients, families, and clinicians. Formal evaluations were difficult to ascertain due to language barriers and short-term contact. Informally, nurses and families voiced their confidence in the ability to now care for cancer patients. Contact with key stake holders continues via e-mail and plans to return to the community are evolving.

By focusing on education, screening, and outreach of cancer patients we established open lines of communication between healthcare providers. We reduced the amount of fear and stigma attached to the cancer diagnosis. In order to continue the process, a plan was established to start an oncology nurse's chapter. Other oncology nurses can make a difference through collaboration, coordination, and flexibility to increase a community's awareness of cancer trajectory. The knowledge of an oncology nurse is a treasure, well appreciated by others.

4561

### THE ELECTRONIC PATIENT MANAGEMENT CALENDAR—A SYSTEM FOR TRACKING OUTPATIENTS WHO ARE RECEIVING ORAL CHEMOTHERAPY AGENTS AS WELL AS OUTPATIENTS WHO REQUIRE SPECIALIZED LAB MONITORING.

Christine Carlisle, RN, OCN®, UPMC Cancer Centers, Wexford, PA; Shani Weber, RN, BSN, OCN®, UPMC Cancer Centers, Pittsburgh, PA; Cheryl Steele, RN, MSN, MPM, AOCN®, UPMC Cancer Centers, Pittsburgh, PA

Significance & Background: Patient non-compliance with oral chemotherapy agents has been well documented. Patients can easily "slip through the cracks" without a system for accountability in place. No reliable system existed within 23 UPMC Cancer Centers to monitor and track outpatient compliance. It became evident that there was a need to develop a cancer center wide tracking system to act as a safety net for patients and to ensure consistent nursing follow up.

Purpose: The goal was to develop an electronic patient management calendar that would be updated on a daily basis and assist nurses in tracking patients receiving oral chemotherapy agents as well as patients who require specialized lab monitoring. The system would address patient noncompliance and missed laboratory appointments and allow for timely follow up with patients.

Interventions: The electronic management calendar was developed in partnership with the information technology department at UPMC. The design specifications were reviewed with the IT department. The system was developed and piloted at four outpatient Cancer Center locations prior to implementation across all 23 Cancer Centers. The electronic calendar requires nurses to submit daily online patient updates to document when lab results have been received and patients have been called with instructions.

Evaluation: The nurses find the electronic calendar very easy to use. It is also visually easy to view as it looks like a traditional calendar with patient names printed on the date that the patient is due to have labs drawn. The nurse is required to make a follow up call to any patient whose lab results have not been received. Once the laboratory results are received and reviewed the patient is instructed on their medication and the nurse enters the next lab due date on the calendar.

Discussion: The electronic management calendar may assist other Cancer Center programs in developing their own system for tracking outpatients receiving oral chemotherapy agents as

well as patients who require specialized lab monitoring. The ongoing teamwork and collaboration between nursing and IT has been the key to the success of this project.

## 4562

**CARE OF THE URINARY DRAINAGE BAG AFTER DISCHARGE: WHAT IS THE EVIDENCE?** Lucy Mathew, RN, BSN, UT MD Anderson, Houston, TX; Silvestina DeCoteau, RN, MSN, NEA-BC, UT MD Anderson, Houston, TX; Silvy Ninan, RN, UT MD Anderson, Houston, TX

Patients and their caregivers being discharged from the hospital with a urinary drainage device(s) should receive education regarding the care of these devices. To be effective, the education must be delivered in a manner that facilitates retention of content received the application. On our 32-bed surgical oncology and urology unit, patients being discharged with urinary drainage device, and their caregivers attend a "hands on" class offered by nurses on the unit. The class uses model, discharge supplies, demonstration, return demonstration and interaction. The major goal of the class is to provide education about the use, care and application of the devices. Nurses on this unit wanted to ensure that the most up-to-date information based on evidence was being presented in class to adequately prepare patients/caregivers for transition to the home setting.

The purpose of this project was to ascertain best practice for changing and cleaning urinary drainage bags in the home setting following urologic surgery.

The literature was reviewed for evidence related to frequency of cleaning and changing urinary drainage bags and the best solution for cleaning the bags. A summary table was completed to evaluate the evidence and will be presented.

The literature supported the content used in the class and also provided additional recommendations for inclusion. Use of leg bag and bedside drainage bag is an acceptable practice in the home setting. Cleaning recommendations were consistent with our current practice.

This evidence-based project provided information related to the care, cleaning and changing of urinary drainage devices to help oncology nurses as they prepare patients and caregivers for transition to the home setting. The literature search demonstrated that, there is a need for additional nursing research related to changing and cleaning of urinary drainage bags.

## 4563

**INTRODUCING EVIDENCE-BASED PRACTICE GUIDELINES FOR ORAL MUCOSA ASSESSMENT IN AN ACUTE ONCOLOGY SETTING IN AN ACADEMIC MEDICAL CENTER.** Regina DeGennaro, RN, MSN, AOCN®, University of Virginia School of Nursing, Charlottesville, VA; Tanya Thomas, BSN, RN, BA, University of Virginia Health System, Charlottesville, VA; Sherry Kausch, MSN, RN, MA, University of Virginia Health System, Charlottesville, VA; Kristen Smith, MSN, RN, MSW, Inova Health System, Falls Church, VA

Oral mucositis presents significant comorbidity in the cancer patient population. Managing this toxicity is complicated by a lack of standards of care for oral assessment. The review of current evidence demonstrates a lack of oral assessment standards of care in oncology nursing practice despite availability of validated instruments used to measure and grade oral mucositis as a toxicity in acute oncology patient care settings. Recently, the Oncology Nursing Society has developed guidelines that include management strategies designed to prevent oral mucositis development. Yet lack of consistent oral health assessment has been identified as a concern at the University of Virginia Medical Center acute oncology unit.

The purpose of this project is to evaluate the implementation of an evidence-based nursing practice intervention oral mucosi-

tis toolkit for patients with malignancies receiving care in an acute oncology setting.

The toolkit is designed to increase knowledge of the oral mucositis problem, improve nursing assessment skill, and to introduce a validated oral assessment instrument into practice. The approach will include teaching oncology nurses the benefits and use of an oral assessment instrument as part of routine care, and implementing an evidence-based oral care protocol, which incorporates patient education. The toolkit includes resources for nurses and for patients. Nurse resources include flashlights, nurse education cards and the Oral Assessment Guide. Patient resources include soft toothbrushes, normal saline, education cards and penlights.

Evaluation of data will include nursing knowledge measurement pre-and post teaching through a paired t-test. Evaluation of documentation of nursing assessment and patient teaching will be descriptive and reported in frequencies and percentages.

The process that we followed to implement evidence-based guidelines to manage oral mucositis on our acute care unit might be useful to oncology nurses. Education for the oncology nurses on this unit has been occurring in stages and multiple forums for over two years, with preparation for implementation of this mucositis assessment toolkit.

## 4564

**A FEASIBILITY STUDY OF LOW-COST SELF-ADMINISTERED SKIN CARE INTERVENTION IN HEAD AND NECK CANCER PATIENTS RECEIVING CHEMORADIATION.** Catherine Mannix, RN, MSN, OCN®, Massachusetts General Hospital, Boston, MA; Mimi Bartholomay, RN, MSN, AOCN®, CNS, Massachusetts General Hospital, Boston, MA; Carol Doherty, RN, BSN, OCN®, Massachusetts General Hospital, Boston, MA; Maryellen Lewis, RN, BSN, OCN®, Massachusetts General Hospital, Boston, MA; Mary-Liz Bilodeau, RN, MS, CCRN, CCNS, CS, BC, Massachusetts General Hospital, Boston, MA

Current evidence for management of radiation skin toxicities demonstrates equivocal outcomes using a variety of interventions, leaving substantial gaps in knowledge regarding management of skin reactions. Head and neck cancer patients receiving chemoradiation are particularly vulnerable to disruptions in skin integrity, often leading to treatment delays, increased risk for infection, and pain. Impaired skin integrity can require intensive wound management that is costly to the patient in terms of both time and money.

This study sought to minimize skin toxicity in head and neck cancer patients undergoing chemoradiation using a low-cost, patient-administered skin care intervention, while measuring patient adherence and the impact upon NCI skin toxicity grade.

The study is guided by theoretical and conceptual underpinnings of Dodd, et al, Model of Symptom Management.

100 Head and Neck patients receiving chemoradiation initially enrolled in this prospective, descriptive study. Subjects were recruited from Radiation Oncology service at an academic medical center. 10 patients were excluded for a variety of reasons (hospice, refused chemo). Two more were excluded for failure to complete diaries, yielding a final N=88. Sample consisted of 87% male and 13% female, with a mean age of 57 (ranging from 21 to 90). Data collection and photographs were completed at baseline and weekly throughout treatment. Patients received skin care kits: hypoallergenic moisturizing soap, oat-based moisturizing lotion, lip emollient, sun-block, and instructions. Adherence was measured using self-report diary documenting washing and moisturizing. Skin toxicity was graded and validated by at least three clinicians using serial photographs with 100% inter-rater agreement. Data was analyzed using descriptive statistics, graphs, and bivariate analysis.

Adherence to washing and moisturizing was consistently high throughout treatment (80% at week 6). In week 6, the mean dose of radiation was 67.9 Gy, with mean skin grade of 1.74 and

Grade 3 toxicity at 5.7%. A correlation existed between the radiation dose and skin grade ( $p=0.003$  using 2-tailed t-test) at week 6. There was no statistical significance between adherence and skin grade. The impact of adherence was difficult to ascertain given the high rate of compliance. Total cost per patient was under \$11.00, making the intervention affordable.

## 4565

**TEAM ROUNDING: PREVENTING FALLS ON THE ONCOLOGY UNIT.** Tanya Haight, RN, OCN®, CMSRN, ONC, Providence Holy Cross Medical Center, Mission Hills, CA

Among patients with cancer, the risk of falls increases as activities of daily living are negatively impacted. This can occur as a result of the disease process itself and of cancer treatment. Older adults undergoing cancer treatment have a significantly higher risk and occurrence of falls as compared to oncology patients not undergoing cancer treatment. The Joint Commission has identified the need to reduce patient falls and implement risk reduction strategies. They have identified root causes as related to caregiver communication issues and environment of care.

The purpose of this 45 day pilot study on the Oncology unit was to introduce an evidence based intervention that identified patients at increased risk for falls and ultimately prevent falls, while improving both caregiver and patient communication. Team Rounding was suggested as a risk reduction strategy that would comply with the Joint Commission recommendations.

The interdisciplinary team was comprised of the Oncology/Medical-Surgical staff. The Rounding Team observed the patient, the room environment and assessed the patient for the "Three P's (pain, potty and positioning). Lead nurses on the pilot study provided weekly feedback on a designated form and offered suggestions for improvement. Based on this feedback Team Rounding was scheduled every two hours during day shift and every hour during night shift.

After 45 days the Team Rounding pilot study was anonymously evaluated by the Oncology/Medical-Surgical staff using a four point Likert Scale measuring six elements pre and post implementation. Staff compliance with Team Rounding was 100%. Team Rounding increased general awareness of patients at increased risk for falls, unit acuity and individual patient needs, in addition to preventing actual patient falls. Patient satisfaction scores increased and falls decreased 80% over the course of the study and 65% for six months afterwards.

Because of the significant reduction in falls on the Oncology unit, Team Rounding was successfully implemented hospital-wide with the same positive results. In addition to significantly preventing patient falls and resultant injuries, Team Rounding provided the added benefits of improved interdisciplinary communication, safe nursing practice and quality patient care.

## 4566

**INCORPORATING PALLIATIVE CARE INTO INTERDISCIPLINARY EDUCATION: FROM THE BOTTOM UP.** Rita Wickham, PhD, RN, AOCN®, Rush University College of Nursing, Chicago, IL; Susan Breakwell, DNP, APHN-BC, Rush University College of Nursing, Chicago, IL; Margaret Faut-Callahan, PhD, RN, FAAN, Marquette University, Milwaukee, WI; Judith Paice, PhD, RN, FAAN, Northwestern University, Chicago, IL; Martin Gorbien, MD, FAAC, Rush University Medical Center, Chicago, IL

Palliative care is particularly important for individuals with cancer and other chronic, life-threatening illnesses, but many clinicians receive little palliative care and end-of-life (EOL) education, cannot differentiate hospice and palliative care, and have knowledge deficits in pain and symptom management, and addressing patients' psychosocial and spiritual needs. Ongoing programs (i.e. EOL Nursing Education Consortium [ELNEC], Education on Palliative and EOL Care [EPEC]) are addressing educational needs

of nurses or physicians, but we found no programs specifically designed for intercollegial palliative care education.

Our primary aim was to develop and implement a novel interdisciplinary palliative care course (IDSPC) with input local and national expert (nursing and medical) and built upon existing EOL and palliative care initiatives (the focus of this presentation). Other aims are comprehensive program evaluation, and dissemination of our experiences and clinical materials.

The resultant largely web-based IDSPC course incorporates interdisciplinary didactic content (six modules) implemented through online discussion groups, a half-day on-site simulation laboratory (SL) (distance students complete online via a previously videotaped SL), and ~8 hours clinical observation with a palliative care team or hospice. IDSPC is required for all graduate nursing students, is specifically structured for 4th year medical students' schedules, and is open to students in other disciplines. The number of times the course is offered has been increased to meet the increasing numbers of students desiring to take IDSPC.

To date, >700 students have taken the course, and >50% of 4th year medical students take this elective – although the hours are not needed for graduation). Pre- and post-course comparisons reveal significant changes in students' palliative care knowledge and beliefs about pain and symptom management, communication, cultural issues in palliative care, decision making, and interdisciplinary team work ( $p = .000$ ).

Students universally rate IDSPC highly and post positive reflective feedback about the SL and their clinical observations. The richness of the course is clearly related to meaningful interdisciplinary discussions about collegial care issues, and has been recognized by students who will hopefully translate learning into better clinical practice. The IDSPC faculty's current focus is developing lasting course elements and reducing faculty burden.

## 4572

**PRESENTING SYMPTOMS AND OUTCOMES OF ONCOLOGY VISITS TO A 24/7 CANCER CARE CLINIC.** Sarah McCaffrey, RN, AOCN®, ANP, Barnes Siteman Cancer Center, St. Louis, MO; Amy Determann, D.Mgt, RN, CEN, NE-BC, Barnes Washington University Siteman Cancer Center, St. Louis, MO; Margaret Barton-Burke, PhD, RN, Barnes Washington University Siteman Cancer Center, St. Louis, MO; Katie Nolan, RN, ANP, Barnes Washington University Siteman Cancer Center, St. Louis, MO

Cancer and its treatments are becoming increasingly complex causing side effects that leave patients at risk for more serious complications. Cancer patients and their families oftentimes find themselves needing urgent care for their cancer related symptoms. Sometimes they present to the emergency or urgent care department where they could be exposed to a number of infectious pathogens. Other times, they must wait until their physician's office is open to be evaluated and treated during which time their symptoms may worsen. There is evidence that delayed treatment in non-oncology setting can lead to oncologic emergencies, i.e. neutropenic fever. Our institution recently opened a 24/7 Cancer Care Clinic staffed by oncology nurses and nurse practitioners to meet the specific needs of these patients. In this unique setting, oncology nurses can intervene early in complex symptom management and impact patient outcomes.

The purpose of this presentation is to describe presenting symptoms and outcomes of patients seeking treatment in our 24/7 Cancer Care Clinic.

The interventions include database development and data collection for future evaluation and review. Data will include nursing-sensitive outcomes including, but not limited to, fatigue, neutropenia, nausea/vomiting, and pain.

The oncology patient visit presenting symptoms and outcomes are prospectively collected and entered into the database. The 24/7 Cancer Care Clinic is still in its infancy stages, but soon Press Ganey scores will be available for review. These scores will be ex-



amined and interventions will be developed for improved patient care. Patient outcomes and disposition upon discharge from clinic, including discharge home, admission to an oncology floor, admission to an ICU bed, and death will be collected as well.

There exists a dearth in the literature regarding the development and use of oncology-specific urgent care centers. Little is reported about the types and kinds of patients who are seen in such settings and the symptoms, patient characteristics, and outcomes are non-existent. The conceptualization and development of this new service for unscheduled, symptomatic oncology patients is forward thinking and quite progressive. It also offers an opportunity to gather data prospectively on a previously unstudied group of oncology patients.

## 4573

**AN INTERDISCIPLINARY APPROACH TO DECREASING PATIENT-REPORTED PAIN IN PATIENTS RECEIVING RADIATION THERAPY.** Sara Parise, RN, OCN®, North Shore/Long Island Jewish Health System, New Hyde Park, NY; Beatrice Bloom, MD, North Shore/Long Island Jewish Health System, Manhasset, NY; Carol Morgenstern, RN, BSN, MA, North Shore/Long Island Jewish Health System, New Hyde Park, NY; Alison Hochhauser, MSW, North Shore/Long Island Jewish Health System, New Hyde Park, NY; Diana Schettini, RN, OCN®, North Shore/Long Island Jewish Health System, Manhasset, NY

Patients receiving Radiation Therapy experience pain from different sources. Pain can result from the disease process, as a side effect of the treatment itself, or a pre existing comorbidity. Radiation therapy itself can be used as treatment for painful metastasis, as definitive or palliative treatment for different types of cancers or for benign conditions.

The goal of the project is to better assess pain in patients receiving Radiation Therapy. The Radiation Medicine Department of the North Shore-Long Island Jewish Health System is comprised of 4 centers that span at least 40 miles on Long Island in New York. All outpatients patients are asked to voluntarily complete a satisfaction survey at the completion of treatment. Included in this survey is a question asking patients to rate how their pain was managed while on treatment on a scale of 1 (very poor) to 5 (very good).

An Interdisciplinary team was formed comprising of oncology certified nurses, a Radiation Oncologist and a social worker to discuss the implications of the results of the pain scores. The Pain Committee met monthly and reviewed the scores from the patient survey questionnaires. After an analysis, the group felt that the current pain assessment that the staff nurses utilized needed to be changed to better reflect a more in-depth pain assessment. The primary nursing intake, on treatment visit and follow up pain assessment forms were modified to include not only if the patient is having pain and the intervention, but also the type, location, duration, cause and desired level of pain.

The nursing staff found the new assessment to be relatively simple to complete during the patient visits. The information that was obtained was more comprehensive and thus a better understanding of the patient's pain was obtained leading to more comprehensive interventions.

The overall outcome of the Pain Committee is still ongoing. Future planned interventions include the use of personal pain diaries and the development of an inpatient specific pain survey.

## 4574

**REVACCINATING MULTIPLE MYELOMA PATIENTS AFTER AUTOLOGOUS STEM CELL TRANSPLANTATION.** Jenifer Bennett, RN, Memorial Sloan Kettering Cancer Center, New York, NY; Sierra DeLeon, RN, BSN, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY; Patricia Schaindlin,

RN, MA, AOCN®, Memorial Sloan Kettering Cancer Center, New York, NY

Multiple Myeloma (MM) patients are living longer after autologous stem cell transplant (ASCT). Infection, however, still remains an important cause of morbidity and mortality in this patient population. Vaccine responses of ASCT recipients decline after transplant and remain so unless revaccination occurs. Post ASCT revaccination data are largely limited to lymphoma and pediatric patients post ASCT. Little to no research has addressed the response of MM patients post ASCT to revaccination against Tetanus-Diphtheria, Polio (Inactivated), Haemophilus B Influenza, Pneumococcal Conjugate, and MMR. Revaccination guidelines vary greatly among hospitals with no standard of care currently established. Hematology outpatient service members (physicians, NPs and staff nurses) at this NCI-designated comprehensive cancer center recently implemented evidence-based guidelines to revaccinate MM patients after ASCT.

Guidelines for revaccinating MM patients were established. Oncology nurses at our institution play an integral role in educating patients post ASCT. Nursing participation in evidence-based guideline development is essential to patient outcomes.

Outpatient Hematology nurses administered vaccines, provided comprehensive patient education, and documented details of each revaccination. Pre-vaccination titers were drawn at the one-year post ASCT physician visit. Patients were then revaccinated with Tetanus-Diphtheria, Polio (Inactivated), Haemophilus B Influenza, and Pneumococcal Conjugate. MMR (live vaccine) was administered at the two-year visit. Patients were also given a revaccination record.

Nurses educated and revaccinated fifty MM patients using established guidelines without significant issues. Revisions to the revaccination record are currently being performed by nursing to ensure patient and nurse satisfaction.

The evidence-based guidelines established by our outpatient Hematology service will help facilitate collaboration among oncology nurses caring for MM patients post ASCT. Revaccination is another tool that oncology nurses can use to prevent infection to ensure the delivery of the highest standard of care.

## 4575

**A NURSE PRACTITIONER-BASED ANTICOAGULATION MANAGEMENT SERVICE.** Kristin Cawley, RN, MSN, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY

The incidence of venous thromboembolism (VTE) in cancer patients is reported to be as high as 15% and requires critical oversight and coordination in the treatment and prevention. In October 2008, this NCI-designated comprehensive cancer center developed a nurse practitioner-based Anticoagulation Management Service (ACM) for patients requiring anticoagulation therapy.

The principle goal of the ACM was to shift the existing challenges of managing these patients from the office practice/clinic setting to a specialized and centrally-monitored service.

The ACM service operates as a referral service providing assessment, management and education for newly diagnosed patients, pre-surgical patients requiring "bridging" therapy; in addition, is responsible for "virtual" monitoring of oral anticoagulation.

An electronic clinical documentation tool was created to customize patient visits, track laboratory results and medications, and capture patient history, assessment, and plan and capture pertinent patient education. Clinical data has been queried from this source. Results have provided high compliance rates both with institutional guidelines and regulatory standards.

The ACM has been successful in managing challenges of the oncology patient requiring anticoagulation management. The service has met the need for consistent and continuing risk assessment, interpretation and evaluation of laboratory values, assessment of patient outcomes, and to ensure patient compliance; in addition to ascertaining that institutional practice aligns with national requirements. To date, the ACM service has collectively

managed close to 1100 patients requiring anticoagulation management. Future endeavors include: piloting the ACM service at organizational regional sites, revising practice guidelines to reflect updated research findings, and monitoring consistency of practice across the ambulatory-inpatient setting. This presentation will include a comprehensive program description and serve as a guide for other organizations.

## 4576

**WEATHERING THE STORM: STANDARDIZATION OF HURRICANE PREPAREDNESS PLANS IN THE ACUTE CARE HOSPITAL SETTING.** Natasha McClure, MBA, BSN, RN, OCN®, St. Luke's Episcopal Hospital, Houston, TX; Alene Jackson, MSN, RN, NE-BC, St. Lukes Episcopal Hospital, Houston, TX

Across the United States Gulf Coast Region, acute care hospitals continuously revise existing Hurricane Preparedness Plans in an effort to ensure lessons learned from the previous hurricane disaster are remembered. During Hurricane Ike, many hospital's supplies and resources were strained, efforts to secure the area were chaotic, and plans outlining where nursing staff riding out the storm would sleep were confusing and ill-defined. For oncology patients and others receiving routine treatments, contingency plans to ensure their care went uninterrupted were not well planned when they were forced to evacuate. Although nursing administrators and nurse managers seemingly planned in advance for Hurricane Season, their planning efforts fell short, leaving patients and staff vulnerable during an already stressful time.

A recent review of literature shows there are few acute care hospital settings with standardized processes for activating and utilizing a successful hurricane or other weather-related preparedness plan. Nurse Leaders therefore developed a template whose purpose was to identify problems and their causes, create resolutions, and standardize processes for responding to such challenges when hurricane disasters strike.

Nurse Leaders including Assistant Managers and Clinical Coordinators formed Hurricane Preparedness Workgroups. Each workgroup had a Team Leader who facilitated the development of guidelines for the following areas of the Hurricane Preparedness Plan: Communication, Resources, Safety & Security, Staff Responsibilities, and Patient and Support Activities. Data and feedback were collected and entered into each category. Each workgroup then identified improvements that needed to be made, implementing those improvements in need of immediate attention right away through their perspective Senior Nurse Leader.

Previous challenges to Hurricane Preparedness Plans were related to staffing, payroll, and resource distribution. After implementing Hurricane Preparedness Workgroups, expectations of staff were better defined, payroll incentives were implemented for employee ride-out team members, and sleep arrangements for staff were revised. Continuity of care for oncology patients and similar populations of patients was also revisited.

Success of a hospital's Hurricane Preparedness Plan is highly dependent upon Nurse Leader involvement and responsiveness. This presentation will identify key components of a good emergency preparedness plan and how to utilize them within the acute care hospital setting.

## 4578

**A RENEWED LOOK AT OCCUPATIONAL EXPOSURE TO ANTINEOPLASTIC DRUGS AND PREGNANCY OUTCOMES: RESULTS OF A SYSTEMATIC REVIEW OF THE LITERATURE.** K. Ashley Martin, RN, ANP-BC, OCN®, The University of Texas M.D. Anderson Cancer Center, Houston, TX

Occupational exposure to antineoplastic drugs during pregnancy has been studied in various ways over the last three decades. Due to the known teratogenicity of several agents used to treat cancer, precautions were put into place to protect those handling the drugs. Technological advances in protective devices

have flourished since the 1980s, but recent studies have shown that health care workers continue to be exposed to low or moderate levels of chemotherapy. The Oncology Nursing Society and the American Society of Health-System Pharmacists encourage the option for pregnant women to avoid exposure. However, it is still common practice for pregnant women in health care to handle antineoplastic agents when required in practice settings.

A systematic review of the literature was conducted to assess if occupational exposure of health care workers to antineoplastic drugs during pregnancy is associated with adverse fetal effects. This review included all studies that assessed exposure to antineoplastic agents during pregnancy.

A search of the literature included Medline/Pubmed, CINAHL, Cochrane, and SCOPUS databases for all studies published before November, 2009 that researched the fetal outcomes of health care professionals occupationally exposed to antineoplastic drugs during pregnancy. Ten articles and one systematic review were identified through the search. The results of the studies were compared using adjusted odds ratios and 95% confidence intervals published by each.

The systematic review included six adverse outcomes to pregnancy measured in the research studies: spontaneous abortions, congenital defects, stillbirths, birth weight, gestational age, and ectopic pregnancy. A possible relationship between occupational exposure to antineoplastic agents during pregnancy and spontaneous abortions was identified. No relationship was found between occupational exposure and other adverse fetal outcomes.

The systematic review conducted identifies gaps in the research for the protection of oncology nurses and other professionals while handling hazardous chemicals. Despite the increase in protective gear implemented by healthcare facilities, the risk of exposure remains and the association of the exposure and spontaneous abortions continues to be demonstrated. This presentation will review the research findings and suggest paths for future research and practice.

## 4579

**THE "GREENING" OF CHEMOTHERAPY: IDENTIFYING STRATEGIES TO REDUCE THE ENVIRONMENTAL FINGERPRINT OF CYTOTOXIC THERAPIES.** Amanda Choflet, RN, OCN®, University of Maryland Medical Center, Baltimore, MD; Denise Choiniere, MS, RN, University of Maryland Medical Center, Baltimore, MD; Nancy Gambill, RN, CRNP, OCN®, University of Maryland Medical Center, Baltimore, MD

The use and disposal of chemotherapy in the hospital setting poses a potential health hazard to the surrounding community. Current practice dictates chemotherapy waste is collected in designated yellow plastic containers, disposed of as biohazard waste and incinerated. However there is little evidence to support these practices.

The goal of this project was to align our chemotherapy waste disposal policy to reflect the hospital's commitment to healthcare provider safety as well as financial and environmental stewardship.

A multidisciplinary team used evidence-based practice processes to examine chemotherapy waste disposal methods. Evidence reviewed included federal regulations, EPA standards, local and state statutes and ONS recommendations. This review revealed no evidence to support the use and incineration of designated yellow plastic containers for chemotherapy. The team concluded that the majority of chemotherapy waste can be safely disposed of in red biohazard containers. Bulk chemotherapy, greater than 3%, should be handled as hazardous RCRA waste and disposed of in black buckets. These practice changes result in the streamline of all biohazard waste into one container.

While the intervention is still in the implementation phase, it is projected that these practice changes will save money as more than \$60,000 is spent annually on the purchase and disposal of yellow containers. This practice change positively impacts the

health and safety of the community through the elimination of cardboard containers the yellow containers are delivered in, reduced emissions associated with the transportation of the containers, and the environmental health risks associated with the production and incineration of plastics.

The health care industry generates over 4 billion pounds of waste annually, and as such hospitals must reduce their environmental footprint through conservation and re-evaluation of purchasing and waste disposal practices. This project revealed no evidence to support current practices related to disposal of chemotherapy. Practice changes will result in financial and environmental stewardship while maintaining healthcare provider safety.

## 4580

### **DEVELOPMENT OF AN INFUSION SERVICES IMPROVEMENT TEAM TO IDENTIFY ISSUES CONTRIBUTING TO PATIENT DISSATISFACTION RELATED TO WAITING AND TO IMPLEMENT STRATEGIES TO IMPROVE.**

Frances McAdams, RN, MSN, AOCNS®, Fox Chase Cancer Center, Philadelphia, PA; Mary Ellen Morba, RN, BSN, Fox Chase Cancer Center, Philadelphia, PA; Kathleen Smith, RN, BS, OCN®, Fox Chase Cancer Center, Philadelphia, PA; Virginia Martin, RN, MSN, AOCN®, Fox Chase Cancer Center, Philadelphia, PA; Richard Needleman, RPh, Fox Chase Cancer Center, Philadelphia, PA; Robert Beck, MD, PhD, Fox Chase Cancer Center, Philadelphia, PA; Maureen Nawrocki, RPh, Fox Chase Cancer Center, Philadelphia, PA

The Infusion Room at Fox Chase Cancer Center (FCCC) is an outpatient treatment area which treats approximately 100 patients daily. The patients and families have expressed dissatisfaction with wait times for treatments. The Infusion Nurses expressed concern that the patients were angry and anxious due to the long waits. This dissatisfaction was also reflected in the patient satisfaction surveys. The Director of Quality and Patient Safety was asked to help us gather some data to better understand the problem areas.

A multidisciplinary Infusion Services Improvement Team was created to help identify problem area and plan interventions to improve the patient and staff satisfaction related to waiting utilizing the FOCUS/PDCA model.

A patient survey was developed and distributed to approximately 500 patients asking for the one change that would make the biggest difference during their Infusion visit. In addition, a data collection tool was distributed to approximately 1000 patients which recorded start and stop time of each step of the patient experience during an infusion appointment. After the data was collected, 5 work groups were formed to plan interventions for specific problem areas. These included: (1)Waiting area overcrowding; (2)Separating Infusion only patients from those with physician appointments; (3)Missing Chemotherapy order management;(4)Scheduling by drug regimen;(5) Inconsistent gap time between appointments.

The survey results clearly indicated that one change that would make a difference for patients would be decrease in waiting. The data collection indicated that 22% of the patients in the waiting room did not have Infusion or Physicians' appointments. The average delay when lab appointments were delayed was 37 minutes. The average delay when Infusion appointments were delayed was 73 minutes. The average physician's appointment takes 50 minutes and infusion appointments are often scheduled 30 minutes or less after physicians' appointments. During the work group meetings, strategies were identified and implemented to address each delay issue.

The removal of some of the delays in the process as well as including nurses in the scheduling process and on the ongoing multidisciplinary improvement team, empowers the nurse and improves both nurse and patient satisfaction.

## 4581

### **TOWN HALL MEETINGS TO ENGAGE MINORITY AND MEDICALLY UNDERSERVED COMMUNITIES IN CLINICAL TRIALS.**

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Historically 3-9% of adult cancer patients participate in clinical trials; few are minority or medically underserved. Low participation delays trial completion and under representation of certain groups limits generalizability of results.

To engage a medically underserved and minority community in dialogue about cancer clinical trial participation in order to develop strategies to overcome barriers to participation and create opportunities for community engagement in the research process.

The Health Belief Model which states the likelihood that an individual will take action is determined by their desire to take action and by weighing perceived benefits against perceived costs of barriers.

Using focus group methodology and a community based participatory approach, six Town Hall Meetings (THMs) were planned and held in collaboration with community partners (Cervical Cancer Coalition of TN, Nashville Branch of the NAACP, Nashville General Hospital at Meharry Super 60s, Nashville Health Disparities Coalition, Nashville Latino Health Coalition, and Dickson rural health council). After IRB approval, THMs were held in locations selected by each community partner and at days and times that were convenient for the participants. Discussions were recorded, transcribed, and analyzed using ATLAS.ti software.

Three-fourths of participants were female (76%), 79% African American, 11% Hispanic, and 41% college graduates. Average age was 49 years (range 19-83). One third of participants had positive previous research experience. The word cancer generally evoked a negative response (death, fear and suffering). The word research evoked negative (mistrust, stigma, uncertainty) and positive (hopeful, educational) responses. Participants identified barriers to participating in clinical trials and actions that would facilitate participation. Half signed up to participate in further research activities. Study results are being used to inform community outreach interventions, engage community participation in IRB and advisory committees, and improve consent form and protocol development.

## 4583

### **"IT'S EXCITING TO SPEND TIME WITH PEOPLE FROM THE HOSPITAL BUT NOT AT THE HOSPITAL" AND OTHER LESSONS LEARNED FROM ADOLESCENTS WITH CANCER.**

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Adolescents with cancer (AWC) have unique psychosocial needs related to their developmental stage. Understanding these needs from their own perspective gives healthcare providers the best opportunity to identify appropriate interventions to better meet these needs.

The purpose of this study is to explore the unique psychosocial needs of AWC, the impact that a teen weekend retreat (Teenapalooza) has for them and the expectations that they hold when they attend. This allows healthcare professionals to identify meaningful and positive experiences that give the AWC opportunity to manage and integrate their cancer diagnosis into their everyday lives.

Empirical phenomenology is the qualitative approach used to explore the AWC perceptions of their needs and the ways in which participation in Teenapalooza met those needs. In addition, the needs the AWC would identify as unmet were explored within the context of their cancer diagnosis.

Participants were recruited from a single institution in the Midwest. All of the cohort in this phase of the study had participated

in Teenapalooza previously. Data were collected from in-depth interviews which were digitally recorded and transcribed verbatim. These were analyzed for themes both within and among participants.

Nine participants, aged 12-17 years, participated in this part of the study. The sample was comprised of 7 females and 2 males, 7 Caucasians and 2 Hispanic/Latinos and was reflective of the group that participated in Teenapalooza. The most central theme to these AWC was developing relationships with other AWC. Social outings provide a comfortable way to do this. Other needs identified as important to these AWC included having opportunities to participate in activities that cancer had limited, having developmentally appropriate activities, and redefining normal. Understanding the unique perceptions and needs of the AWC provides a means to both evaluate existing psychosocial support programs and develop new ones. Ultimately, this will provide valued, appropriate and appreciated care for this underserved population.

## 4586

**PUTTING "PEP" IN OUR STEP: INGRAINING EVIDENCE-BASED PRACTICE INTO INPATIENT AND OUTPATIENT ONCOLOGY.** Kelly Powers, RN, OCN®, BSN, Sinai Hospital of Baltimore, Baltimore, MD; Jean Becker, RN, OCN®, Sinai Hospital, Baltimore, MD; Patti Wilcox, MSN, RN, AOCN®, Sinai Hospital, Baltimore, MD

Implementing evidence-based practice guidelines should be a goal of all inpatient and outpatient oncology areas. The ONS Putting Evidence into Practice (PEP) guidelines provide the nurse with evidence-based guidelines for oncology symptom management. The Oncology Practice and Outcomes Council at Sinai Hospital of Baltimore decided to systematically review the PEP guidelines and compare them against our own practice at Sinai.

The purpose was to introduce evidence-based practice to the inpatient and outpatient nurses, and to ingrain this into the oncology culture at Sinai Hospital. We also hoped that the nurses would feel confident enough to discuss with providers their use of ineffective interventions, thus empowering the nursing staff.

The PEP guidelines were presented during Journal Club in both the inpatient and outpatient areas. The inpatient unit began with diarrhea. The nurses discovered that patients were not receiving the recommended doses of anti-diarrheal medication for acute and late diarrhea during irinotecan treatment. Thus, a standing order for C. difficile cultures is now in place for all chemotherapy patients; once that is obtained, the patient can then be placed on anti-diarrheal medications. The outpatient unit began with peripheral neuropathy. Although the practice of the outpatient unit was compliant with the PEP guidelines, it was found that we did not have measurable indicators that reflect the impact on the patients' activities of daily living. As a result, we have revised our toxicity-screening tool to include peripheral neuropathy and its effect on ADL's. Hopefully, as increasing toxicity occurs, it will be captured earlier in the treatment process.

Evaluation will be completed via audit for both irinotecan-induced diarrhea control and peripheral neuropathy grading.

Utilizing the PEP guidelines in daily practice is a great way to introduce and ingrain evidence-based practice into the oncology culture. Active staff participation is key. Using Journal Club as the arena, we will continue to review our practice, utilizing the ONS PEP guidelines, in both the inpatient and outpatient settings.

## 4589

**BREAST CANCER TREATMENT-RELATED LYMPHEDEMA SELF-CARE.** Sheila Ridner, PhD, RN, ACNP, Vanderbilt University School of Nursing, Nashville, TN

Lymphedema in breast cancer survivors is a chronic condition. Professional treatment seldom returns the arm to a normal size and swelling exacerbations are common. Effective self-care is required to: 1) reduce the impact of lymphedema on survivor well-

being; 2) decrease the number of exacerbations; and 3) avoid disease progression. Opportunities for nurses to assist in improving lymphedema self-care exist as a previous study found that only 45% breast cancer survivors with lymphedema completed any component of prescribed home self-care. There are no current published studies that evaluate lymphedema self-care practices or potential self-care barriers, benefits, and burdens to inform nursing practice

Consistent with the ONS Research Agenda to study late-effects and survivorship issues, the purposes of this study were to: 1) examine lymphedema self-care education, practices, and perceived self-care barriers, benefits, and burdens; and, 2) examine associations among self-care education, practices, symptoms, and QOL.

Self-regulation theory served as the conceptual framework.

Participants were recruited from a breast cancer registry. Cross-sectional design was used. Survey forms were mailed to participants and returned within one month. Valid and reliable instruments were used to collect symptom and QOL information. Quantitative data were analyzed using frequency distributions and Spearman Rank-Order correlations. Content analysis was undertaken to identify barriers, burdens, and benefits themes.

Surveys were returned by 51 of 58 eligible individuals. 94% of the 51 participants had received some self-care education, but 12% did not think it was adequate. 35% of the 51 required self-care assistance. Wearing a compression garment was the most common self-care activity. 33% of the 51 were spending 15 minutes or less per day on self-care. Five themes were identified for barriers, six for burdens, and four for benefits. Those with more symptoms spent more time on self-care activities and had poorer QOL. These findings suggest that barriers and burdens to lymphedema self-care exist and that lymphedema involves symptoms beyond simple swelling. Active involvement by nurses in lymphedema management (e. g. self-care education, compliance and symptom monitoring etc.) is indicated as is development and research of possible nursing interventions to support lymphedema self-care.

## 4590

**OBTAINING DISABILITY SUPPORT: STREAMLINING THE PROCESS.** Claudia Howe, RN, BSN, Dana Farber Cancer Institute, Boston, MA; Patricia Reid Ponte, RN, DNSc, NEA-BC, FAAN, Dana-Farber Cancer Institute and Brigham and Womens Hospital, Boston, MA; Clare Sullivan, BSN, MPH, Dana Farber Cancer Institute, Boston, MA; Mrinalini Gadkari, MBBS, MHSA, Dana Farber Cancer Institute, Boston, MA

Obtaining disability support is a major issue for many oncology patients; especially in this economic climate. Patients are fearful and anxious, not only of their disease and treatments, but also of losing their financial resources. Patients and staff are often frustrated by the 2-3 week process involved with completing disability paperwork for multiple insurance companies. Each disability form is passed through many staff hands before reaching the clinicians, who would then spend approximately 30 minutes per form completing the various requests of each insurance company.

The purpose of this quality improvement project was to increase efficiency of the disability process for both patients and clinicians.

A Multidisciplinary quality improvement team was created involving physicians, nurses, quality improvement and HIS (Health Information Systems) /medical record departments. The team implemented a computerized patient disability template. This form was to be completed by clinicians, immediately passed onto HIS and submitted by HIS to all insurance companies. Patient education was implemented via patient care brochures distributed at the point of care, and feedback was gathered from the first 17 patients going through the process.

At the end of the pilot period of 9 months, turn around time diminished from 3 weeks to about 3-5 days. Measurable time savings completing disability forms by clinical staff was estimated to be improved by 25 minutes.

Having a clear process, decreasing clinician's time on unnecessary paperwork and the ability to track all information ultimately leads to less resource utilization and systematic, streamlined procedures. As the process is further implemented throughout the ambulatory setting, the team will survey patients on satisfaction of process.

#### 4591

**CREATING AND IMPLEMENTING A NURSING CARE DELIVERY MODEL TO IMPROVE STAFF AND PATIENT SATISFACTION.** Lisa Roman-Fischetti, RN, MSN, OCN®, Fox Chase Cancer Center, Philadelphia, PA; Margaret Kearns, RN, MS, NE-BC, Fox Chase Cancer Center, Philadelphia, PA; Bernadette Ciukurescu, BSN, RN-BC, Fox Chase Cancer Center, Philadelphia, PA

Fox Chase Cancer Center (FCCC) is an NCI-designated comprehensive cancer center with a 100-bed hospital and a large outpatient population. The delivery of high quality nursing care to meet patient needs and enhance the work environment is an essential component of nursing performance excellence. Coordinating the patient's care plan including patient and provider goals, symptom management and support in an era of healthcare reorganization is challenging at best.

Nursing leadership identified a need to develop a model for oncology care delivery. These leaders selected the concept of relationship-based care based on the work of Marie Manthey as the framework. The purpose was to provide a model that would be useful in all settings where nursing is practiced and enhance the oncology patient experience.

Nurse Leaders including direct care staff nurses conducted a search for models of care that appealed to the unique attributes of FCCC nursing care. They concluded that no single nursing theorist's work was applicable. Instead, this group chose to adopt Manthey's relationship based care including the 3 Rights and Don Miguel Ruis' 4 Agreements to create an elegant care delivery model dubbed C.A.R.E.S. The acronym stands for: collaboration and communication, accountability, responsibility, evaluation and shared decision-making.

The model was piloted on an inpatient surgical oncology unit. Upon successful implementation and positive feedback from staff and leadership, mandatory education commenced for Center-wide deployment. Regardless of the length or type of nurse-patient or nurse-colleague interaction, the model provides for a superior relationship. Patient satisfaction survey results and nurse satisfaction survey results are trended as each inpatient and outpatient area becomes familiar and incorporates the C.A.R.E.S. model.

High quality oncology nursing care is essential for the most optimal cancer patient treatment experience. A framework for providing that care can assist the oncology nurse and provide a standardized approach for superior nursing performance. The oncology nurse's relationships with self, patients and internal / external customers are pivotal for enhanced patient and staff satisfaction.

#### 4593

**PREDICTORS OF CAREGIVER STRAIN AMONG CAREGIVERS OF UNDERSERVED ONCOLOGY PATIENTS.** Guadalupe Palos, RN, LMSW, DRPH, The University of Texas M. D. Anderson Cancer Center, Houston, TX; Kai-Ping Eric Liao, MPH, The University of Texas M. D. Anderson Cancer Center, Houston, TX; Katherine Ramsey, BSc, The University of Texas M. D. Anderson Cancer Center, Houston, TX; Karen Anderson, PhD, The University of Texas M. D. Anderson Cancer Center, Houston, TX; Charles Cleeland, PhD, The University of Texas M. D. Anderson Cancer Center, Houston, TX; Xin Shelley Wang, MD, MPH, The University of Texas M. D. Anderson Cancer Center, Houston, TX; Tito Mendoza, MS,

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It is widely recognized that disparities in cancer contribute to poorer patient outcomes in those who are ethnic minorities or underserved. Informal caregivers of oncology patients who face such challenges are at-risk to experiencing high strain and symptom severity. The combination of high caregiver strain and high symptom severity increases the likelihood that risk a caregiver will give inadequate care to the patient.

We determined factors associated with high levels of caregiver strain in caregivers of patients with advanced cancer treated at public hospitals.

The Symptom Burden Model was used to guide the analysis of symptom severity in caregivers.

The study sample included 111 dyads of African-American, Latino, and Caucasian caregivers of patients diagnosed with advanced solid-tumor cancer and beginning a chemotherapy regimen. Data were collected from dyads at 3 major times over the chemotherapy regimen. The primary outcomes, caregiver strain, and symptom severity, were measured using the Caregiver Strain Index and the M. D. Anderson Symptom Inventory. Descriptive statistics were used to summarize demographic and clinical characteristics. Hierarchical mixed modeling was used to identify predictors of caregiver strain across the treatment trajectory. High symptom severity in caregivers was based on the top 4 symptoms (sad, distress, fatigue, and disturbed sleep).

The caregiver sample was 50% Latino, 25% Caucasian, and 25% African-American. The majority of the caregivers were female (74%) and had 12 years or less of education (64%). An unexpected finding was that CSI scores did not differ significantly by patient characteristics, patient symptom severity or patient mental/physical health status. The overall mean CSI score was 5.26 (SD=3.2) and remained stable across time. One-third of the caregivers experienced caregiver strain of 7 or greater at all timepoints. Significant caregiver factors included in the mixed model were ethnicity, level of education, symptom severity, and mental/physical health status. Factors predicting high CSI scores were being Caucasian, better educated, reporting high symptom severity and having poor health status. Our study demonstrates the need for interventions to support caregivers at-risk to high strain and high symptom severity early in the cancer journey.

#### 4594

**SYMPTOM DISTRESS CHANGE DURING THERAPY AT TWO SITES OF A COMPREHENSIVE CANCER CENTER.**

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Patients with cancer arrive in the therapeutic setting with varying levels of symptomatology. Once treatment begins, another profile of symptoms commences as toxicities and treatment-related complications develop. Cancer symptoms are of the highest priority to oncology nurse clinicians and researchers. With the incidence of individual and groups of cancer symptoms at such a high level across various diagnoses and stages and the apparent impact of such experiences on the dimensions of quality of life, the consequences of inadequate symptom management are complex and can be overwhelming to patients and their caregivers. Skilled clinicians are required to prevent and manage such distress.

The purpose of this analysis was to explore changes in patient-reported symptom distress scale (SDS) scores collected at pre-treatment and one during-treatment clinic visit. This is highly relevant to the ONS research agenda, content topic B, Cancer Symptoms and Side Effects.

This analysis was guided by the Quality Health Outcomes Model, in which aspects of the healthcare system, notably clinician practice patterns, mediate patient outcomes.

As part of a randomized clinical trial at two urban health care institutions, patients with all types of cancer were asked to complete the Electronic Self Report Assessment for Cancer (containing validated symptom and quality of life questionnaires, including the 13-item SDS (possible score range = 13-65) just prior to any active treatment and approximately 6 weeks later. Paired t-tests were used to identify significant changes in distress.

A total of 588 participants with data at both time points were included: 271 in medical oncology (MO), 137 in radiation oncology (RO), 180 in stem cell transplant (SCT). The SDS score increases over time were significant for RO (1.3,  $p=.02$ ) and SCT (4.9,  $p<.001$ ). The shift from mild to severe distress was most evident in SCT. Symptom distress score increases varied by diagnosis as well ranging from .6 (GI cancers) to 5.1 (leukemia). These findings have implications for not only evaluating patients' risk of high symptom distress but for staffing of ambulatory services. The patients with highest symptom distress will require the more intensive and skilled oncology nursing care.

## 4596

**CAUSES OF DISTRESS AND THE IMPACT OF COPING STRATEGIES IN ADULT LEUKEMIA AND LYMPHOMA PATIENTS.** Paula Goodman, RN, BSN, OCN®, Georgetown University Hospital, Washington, DC; Aimee LeStrange, RN, BSN, OCN®, Georgetown University Hospital, Washington, DC; Nicole Harriman, RN, BSN, OCN®, Georgetown University Hospital, Washington, DC

Cancer patients experience distress associated with their disease, prognosis and treatment. Distress varies by diagnosis, severity of physical symptoms and stage of disease. Research has documented that emotional and spiritual needs have a profound effect on patients' health outcomes. Distress can be detrimental to decision-making and negatively impair compliance as well as treatment outcomes. Determining causes of distress and identifying effective coping mechanisms and strategies in the inpatient hospital setting would provide insight into useful interventions that would decrease stress in this patient population and is a reflection of the holistic nature of nursing practice.

The purpose of this study is to understand the causes of distress and determine effective coping strategies reported by the adult leukemia and lymphoma inpatient population at an academic hospital.

This study builds on the conceptual/theoretical framework that a cancer diagnosis of leukemia or lymphoma is stressful. If the distress is identified and managed, patient compliance and treatment outcomes will be positive.

This descriptive study uses a survey (a developed and approved Distress Screening Tool) to establish baseline distress levels, causes of distress and measure the impact of various coping strategies to determine which strategies are most effective. The adult inpatients with a diagnosis of leukemia or lymphoma are invited to participate in the study within 96 hours of admission. Descriptive statistics will be used for the surveys. Comparative analysis will determine the impact of various coping strategies.

Analysis will be completed after collection of data over a two-month period. Preliminary findings indicate that the identification of causes of distress and valuable interventions decrease distress in the patients and have a positive impact on the relationship between distress and emotional experiences of hospitalization.

## 4597

**PHYSICAL ACTIVITY AND DIETARY BEHAVIORS OF PROSTATE CANCER SURVIVORS POST PROSTATECTOMY.** Mary Schoen, MSN, MPH, NP-C, Memorial Sloan Kettering Cancer

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About one man in six will be diagnosed with prostate cancer during his lifetime. Although survival rates approach 100%, recent studies indicate that obesity adversely affects long-term outcomes, including impotency, urinary incontinence and risk of recurrence. The time after cancer treatment has been identified as a "teachable moment" when many survivors are searching for nutrition information and may be ready to make life style changes. An important step in promoting healthy behaviors is determining baseline diet and exercise information.

The purpose of this study is to establish baseline information on the physical activity and dietary behaviors of prostate cancer survivors.

The health belief model is based on the understanding that a person will take a health-related action (lifestyle changes) to avoid a negative health condition (side effects from a prostatectomy).

Approximately 1200 patients from a prostate cancer survivorship program were mailed a survey packet: a 17-item diet history questionnaire from the National Cancer Institute National Health Interview Survey, the 3-item Godin Physical Activity Questionnaire, and space for the patient to enter height and weight. The surveys were mailed out with a letter of introduction, a return self-addressed stamped envelope, and a green teabag as incentive to participate.

The survey garnered a response rate of 70% ( $n=836$ ). Data were assessed using descriptive statistics and bivariate analysis. Mean age at time of prostatectomy was 58.4 years ( $sd = 6.9$ ) and mean survival time at time of the survey was 55.1 months ( $sd = 3.4$ ). According to patient self report, 28% of the sample was of normal weight, 55% overweight, and 17% obese. Statistically significant ( $p < 0.05$ ) negative Pearson correlations with body mass index (BMI) included strenuous exercise, eating fruits, vegetables and whole grain bread. Positive correlations with BMI included eating French fries, bacon, and potato chips.

This review confirms that a high fat diet contributes to overweight and obesity. Prostate cancer survivors can benefit from improving their knowledge of nutrition and the role of physical activity in weight control.

## 4601

**USING EVIDENCE-BASED STRATEGIES TO REDUCE BLOOD STREAM INFECTION RATES ON A HEMATOLOGY ONCOLOGY INPATIENT UNIT.** Joey Misuraca, RN, OCN®, Duke University Medical Center, Durham, NC; Nikki Brooksbank, RN, BSN, OCN®, Duke University Medical Center, Durham, NC; Annette Potak, RN, OCN®, Duke University Medical Center, Durham, NC; Deborah Allen, MSN, RN, CNS, FNP-BC, AOCNP®, Duke University Medical Center, Durham, NC

Blood stream infections (BSI) are a devastating complication in the treatment of oncology patients. Minimizing risk for the development of BSI is an important intervention improving patient outcomes. As a 31-bed adult hematology-oncology inpatient unit recognized an increased incidence of BSI over the past 12 months, development and initiation of an intervention was essential.

The purpose of this project was to reduce BSI in the hematology-oncology patient population through developing evidence-based interventions targeted at staff and patient education with a focus on engaging the patient in infection control measures.

A multidisciplinary team was established to identify causes and search for evidence-based solutions. Twelve months of BSI data was examined for root causes, confirming myelosuppression as the primary risk with no other new risks determined. A staff survey developed to assess current practices in IV line maintenance revealed significant variance in nursing practice, indicating drift from policy. Additionally, literature was reviewed to evaluate best practices to aide in the development of education for nursing staff and patients. Staff education focused on unit-specific incidence of

BSI, IV line maintenance, dressing changes, accessing IV lines for labs and medications, and patient engagement in infection control strategies. Patient education focused on central line maintenance while hospitalized, return demonstration of central line care for discharge planning, and hand hygiene especially during key moments such as before and after eating, and using the restroom. As part of the admission packet, hand hygiene wipes and education cards are provided to patients to promote engagement. Hand hygiene reminder cards are also placed on their food trays.

Data collection is ongoing with analyses expected to be completed prior to presentation. Results will include BSI rate, elimination of practice variance measured by a skills demonstration competency, and patient feedback from the implementation of patient hand hygiene wipes and education. Preliminary data indicates a current decrease in BSI rate.

Evaluating practice of staff and engaging patients in infection control strategies can positively impact patients and their survival. With consistent teaching and messaging, variance in practice is eliminated and patients' risk of developing BSI can be reduced.

#### 4604

**FEBRILE NEUTROPENIA, SPREADING THE WORD.** Carol Blecher, RN, MS, AOCN®, APNC, Trinitas Comprehensive Cancer Center, Elizabeth, NJ; Jeanette Barefoot, RN, MSSL, OCN®, Trinitas Comprehensive Cancer Center, Elizabeth, NJ; Norma Bellarmino, RN, BSN, Trinitas Regional Medical Center, Elizabeth, NJ; Cheryl Meyer, RN, Trinitas Regional Medical Center, Elizabeth, NJ

There is much information in the literature regarding febrile neutropenia, it's prevention, identification and treatment. In spite of this febrile neutropenia continues to be a significant problem and potentially fatal emergency in the oncology patient population. Despite the availability of growth factors patients continue to be diagnosed with febrile neutropenia related to chemotherapy.

Our original project at Trinitas began with the evaluation of patients admitted with febrile neutropenia. With the encouragement of our Cancer Committee we incorporated the emergency department staff in an effort to improve the quality of care provided these patients in the ED. With the next phase of the program we have expanded our scope to the pharmacy, infection control and the inpatient units with the goal of providing high quality evidence based care to all neutropenic patients.

Patient education was expanded to include education regarding CBC results identifying the WBC and ANC, and instructions to request blood counts at each visit. The patients were also instructed in reporting the results to the physician should febrile episodes occur, and what to tell personnel should they need to go to the ED.

An ED standard order set was developed and this is being expanded into an inpatient standing order set.

Neutropenic precautions were modified according to evidence based practice.

Febrile Neutropenia inservices will be presented on all inpatient areas, the ED and pharmacy.

We will continue to evaluate all oncology admissions for febrile neutropenia assessing chemotherapy protocols, nutritional status and appropriate growth factor usage. ED and inpatient quality indicators will include rapidity of nursing response to the neutropenic patient, cultures and time to first antibiotic infusion. Pharmacy will track time from orders to first antibiotic delivery. The ultimate goal is to deliver the first antibiotic dose within 1 hour of patient arrival.

Evaluating current care of the patient with febrile neutropenia and introducing evidence based guidelines into current practice we began improving the quality of care within the oncology division of the institution. We are now expanding our range and creating an environment using evidence based practice to improve care of the neutropenic patient throughout our medical center.

#### 4606

**A COMPARISON OF DISRUPTED SLEEP PATTERNS IN WOMEN WITH CANCER-RELATED FATIGUE AND HEALTHY CONTROLS.** Horng-Shiuann Wu, PhD, RN, Wayne State University College of Nursing, Detroit, MI; Jean Davis, PhD, RN, Wayne State University College of Nursing, Detroit, MI; Josna Padiyar, Wayne State University College of Nursing, Detroit, MI; Hossein Yarandi, PhD, Wayne State University College of Nursing, Detroit, MI

Fatigue and disrupted sleep often coexist and both are prominent clinical problems in cancer affecting quality of life. Some research suggests a reciprocal relationship between cancer-related fatigue and disrupted sleep: fatigued cancer patients are more susceptible to disrupted sleep and higher fatigue levels are associated with more sleep disturbances. Findings are limited by heterogeneous patients in terms of disease trajectory, treatment type, status, or without healthy comparisons. Multi-dimensional characteristics are also lacking in subjective sleep reports.

To characterize and compare disrupted sleep patterns in fatigued breast cancer patients receiving chemotherapy with healthy postmenopausal women without a history of cancer. Anxiety levels were also examined.

Based on Piper's Integrated Fatigue Model, disease, treatment, symptom, and psychological factors affect individuals' fatigue experiences.

Data for this descriptive comparative analysis came from two studies. As part of a descriptive study navigating sudden onset fatigue, fatigued patients consisted of 30 female breast cancer chemotherapy outpatients, aged 31 to 65 (M= 52.1, SD=7.7), majority Black (63%). As part of a larger clinical trial, 32 postmenopausal women, aged 44 to 63 (M=54.1, SD=5.4), majority White (68.8%), served as healthy comparisons. Global sleep quality and state anxiety were self-reported using psychometrically sound instruments, Pittsburgh Sleep Quality Index (PSQI) and State-Trait Anxiety Inventory. Descriptive statistics characterized the disrupted sleep patterns. Wilcoxon tests examined the differences between fatigued patients and postmenopausal women.

Nearly all fatigued patients (97%) had trouble sleeping (global PSQI scores >5) and the majority (80%) had sleep efficiencies <85%. Significant sleep difficulties, characterized by prolonged sleep onset latency (M= 54.3, SD= 49.2 minutes) and frequent nighttime awakenings, were observed despite 40% of the patients using sleep medications three or more times a week. Compared to healthy comparisons, fatigued patients reported significantly longer sleep latency (p=0.041), more use of sleep medications (p=0.006), and higher total PSQI scores (p=0.005). State anxiety levels did not differ between the two groups (p=0.88). Knowledge of the nature of sleep disruption among cancer patients contributes to CRF symptom management which could lead to tailored interventions designed to improve quality of sleep in cancer patients managing fatigue thereby improving quality of life.

#### 4609

**COLLABORATIVE CHEMOTHERAPY EFFICIENCY PROJECT IMPROVES LENGTH OF STAY AND SAFETY OF CHEMOTHERAPY ADMINISTRATION.** Patricia Palmer, RN, MS, AOCNS®, University of California Davis Health System, Sacramento, CA; Helen Rice, RN, MSN, OCN®, University of California Davis Health System, Sacramento, CA; Scott Christensen, MD, University of California Davis Health System, Sacramento, CA; Andrea Iannucci, PharmD, BCOP, University of California Davis Health System, Sacramento, CA

In November 2008 our Director of Nursing challenged advanced practice nurses to develop projects that would decrease length of stay (LOS) in their specialty populations. The LOS for scheduled inpatient chemotherapy patients (SIPCP's) for 2008 was 5.76 days

and delay from admission to start of treatment was 12.5 hours with outliers and 9.8 hours without. Root cause analysis identified 1) SIPCP's were admitted to the hospital with incomplete and incorrect chemotherapy orders; 2) lab work, x-rays and procedures were often done after admission and 3) discharge medications needing pre-authorizations were not done prior to admission.

Beginning January 2009 the Collaborative Chemotherapy Efficiency Project (CCEP) sought to decrease LOS in SIPCP's.

A Chemotherapy Admission Checklist was developed to ensure that SIPCP's had correct completed orders and procedures prior to bed assignment. A pre-authorization coordinator was assigned in clinic to obtain discharge medication pre-authorization prior to admission. A collaborative relationship between the outpatient nurse case managers, inpatient nursing staff and pharmacy was fostered to ensure that the check list was completed prior to admission. Nursing administration agreed to hold a bed for SIPCP's who had a completed checklist and correct completed orders allowing earlier admissions. An audit demonstrated <50% compliance with correct complete chemotherapy orders therefore an order review checklist that is in compliance with the ONS/ASCO Chemotherapy Administration Safety Standards was developed in August 2009.

The result has been a complete cultural change in the administration of chemotherapy in our institution. Chemotherapy is now administered efficiently and safely on our inpatient unit. LOS for SIPCP's for 2009 was 3.74 days. Delay from admission to start of chemotherapy was reduced to 6.1 hours with outliers and 5.1 hours without.

There have been no significant chemotherapy errors since development of the order review checklist. Our inpatient success has motivated our outpatient areas to use similar methods to improve efficiency and safety. The CCEP achieved its goal of reducing LOS. It has fostered increased communication and collaboration between nursing, pharmacy and medical staff across the continuum of care. The resulting complete and correct chemotherapy orders have ultimately increased safety in administration of chemotherapy.

## 4611

**PHOTODYNAMIC THERAPY (PDT): THE CANCER LIGHT SAVER FROM EDUCATION TO TREATMENT.** Joy Octaviano, RN, BSN, OCN®, John Muir Health Cancer Institute, Concord, CA; Tanya Brubaker, RN, BSN, OCN®, CCRP, MBA, John Muir Health Cancer Institute, Concord, CA; Cindy Sidley, RN, BSN, MSN, CNAA-BC, John Muir Medical Center, Concord Campus, Concord, CA

New treatments in the hospital setting are often very complex. A need of a systematic process to implement and disseminate educational information for this new treatment is imperative for its success. A patient that undergoes PDT involves collaboration from different departments. Education is strongly needed for Short Stay, OR, ER, Oncology, Pharmacy, and Transport Services. To address this need, a PDT patient packet was developed for all patients receiving photodynamic therapy. Mini in services were conducted to improve nurses and patients knowledge and to decrease patients anxiety. Pre and post tests were given to nursing staff to highlight crucial information about PDT. Identifying key information for review aids nurses in providing consistent and continuing education upon discharge.

The purpose of this project is to increase nurses and patients knowledge about photodynamic therapy.

Multiple centers were contacted to obtain for best practices regarding the care and management of patients undergoing PDT. A checklist and a patient discharge sheet was developed to address patient's questions during treatment. Educational resources and literature about PDT were taken from the National Cancer Institute and JMH clinical pharmacology materials, which includes standardized sections unique to individual patient needs. A draft of the discharge form received favorable reviews from the nursing staff as well as the hospital oncology pharmacist.

The completed document was reviewed and endorsed by the oncology team which included our esophageal site specific program director. Concerns and suggestions given by fellow staff members and appropriate changes were made. Additionally, it was found out that younger patients have a harder time staying out of the light than older patients and computer screen is also a cause of photosensitivity. Overall, the nurses are now well aware of PDT.

By focusing on the individualized needs of oncology nurses and patients, a consistent and systematic approach in preparing patients and families for Photodynamic therapy treatment was created. Other oncology nurses may use similar approaches to increase patients and nurses knowledge and decrease anxieties related to new procedure in a hospital setting.

## 4617

**THE PERFORMANCE OF RESILIENCY: A PROGRAM OF SUPPORT FOR ONCOLOGY NURSES.** Sharon Krumm, RN, PhD, The Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, MD; Cathy Salit, Performance of a Lifetime, New York, NY; Maureen Kelly, Performance of a Lifetime, New York, NY; Suzanne Cowperthwaite, MSN, RN, The Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, MD

Oncology nurses have the highest "burn out" among all clinical specialties. A supportive work environment that fosters open communication and collegial relationships can reduce the negative effects of stress associated with caring for patients with cancer, especially those related to death and the dying process. Focus groups and electronic surveys previously completed by our nurses identified the major stresses they were experiencing at work. Resiliency is the ability to experience growth in the face of recurring stresses; and, when enhanced, allows oncology nurses to continue to experience the rewards of their profession, reducing the frequency of burn out and feelings of demoralization. The use of theater, improvisation and play is a novel approach used in this comprehensive cancer center to enhance oncology nurses' resiliency.

Performance of a Lifetime (POAL) is an international consulting company that uses theater, improvisation, and coaching to enhance communication, collaboration and cultural change. The decision to engage them in a resiliency support program was based on understanding that nurses needed to experience different approaches to their work and relationships; they did not need to be "told" how to be more resilient, they needed to experience it.

Adult medical, radiation, gynecology and pediatric oncology nurses were encouraged to participate in an initial four-hour session where they experienced play and improvisation under the direction of the consultants. Follow-up two-hour coaching sessions, where nurses determined the topics, were offered throughout the remainder of the year. The Connor-Davidson Risk Scale was administered at the initial session; and, initial session evaluations were completed by participants.

The Connor-Davidson Risk Scale has been used with health care providers and patients to measure resiliency. Results are reported by nursing unit, years as oncology nurse, etc., not by individuals. POAL sessions were evaluated using an adaptation of the cancer center's form for educational programs. Written comments were recorded and contributed to the complete evaluation.

POAL is a unique approach to strengthening oncology nurses' resiliency. A video of interviews with participants and coaching groups will be shown as part of this presentation. The data analysis affords other groups opportunity to determine appropriate adoption of this approach.

## 4619

**QT PROLONGATION: IMPLICATIONS FOR ONCOLOGY NURSES.** Brenda Shelton, RN, MS, CCRN, AOCN®, Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Bal



timore, MD; Nicole Herman, BSN, RN, Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, MD

Medications and diseases can prolong the QT segment of the electrocardiogram. The most severe adverse effect of this condition is life-threatening ventricular tachycardia (VT). It is unclear what thresholds lead to development of VT in any individual. Oncology nurses play a key role in assessing risk for prolonged QT, and implementing preventive interventions.

This presentation utilizes three cases to demonstrate pathophysiology, risk factors, signs and symptoms, diagnosis, and management of QT prolongation. It reviews electrocardiogram waveforms, describes the procedure for measurement of the QT and corrected QT intervals (QTc), and suggests preventive measures for QT prolongation.

Three patients experiencing significant QT prolongation with differing risk profiles and clinical presentation are described to elucidate the importance of identifying this syndrome and intervening promptly to prevent death. The first patient with lung cancer presented to the oncology clinic with new onset syncope, fluid deficit, and electrolyte imbalances, and was receiving voriconazole. The second patient was a woman presenting to clinic with bradycardia, delirium, and nausea two days after receiving nilotinib. She received five medications causing QT prolongation over eight hours. The third case was a woman with leukemia, sudden onset electrolyte imbalance and VT arrest nine days after receiving arsenic trioxide and seven days post appendectomy. All patients responded to correction of causative factors for QT prolongation and have not experienced residual clinical effects.

Patients may have few risk factors for prolonged QT, or have minimal interval prolongation, yet experience life-threatening dysrhythmias. Many oncology patients receive causative medications but never experience VT. They often concomitantly have hypokalemia, hypocalcemia, or hypomagnesemia that enhances this risk. Oncology nurses need to be knowledgeable of this potential complication, assess risk factors, identify patients who should have higher target electrolyte levels, and regularly monitor electrocardiograms.

Nurses benefit from discussion of lived experiences and their application to daily clinical practice. Nurses' heightened awareness of this complication of cancer and supportive therapies could influence electrolyte replacement standards and electrocardiogram monitoring. This presentation uses case examples to highlight risk factors, suspicious symptoms and preventive strategies that are applicable in many oncology settings.

## 4623

### THE EXPERIENCE OF IMMIGRANT WOMEN WHO HAVE ACCESSED BREAST HEALTH AND SCREENING THROUGH A WOMEN'S HEALTH EDUCATOR PROGRAM.

Joanne Crawford, BScN, CON(C), MSc, Public Health Services, Hamilton, Canada; Angela Frisina, BScN, MHSc, Public Health Services, Hamilton, Canada; Faye Parascandalo, BScN, Public Health Services, Hamilton, Canada; Trish Hack, BScN, Public Health Services, Hamilton, Canada; Fatima Homid, St. Josephs Immigrant Womens Center, Hamilton, Canada; Abir Alsaid, St. Josephs Immigrant Womens Center, Hamilton, Canada; Michelle Zu, St. Josephs Immigrant Womens Center, Hamilton, Canada

Subgroups of immigrant women, even after many years spent in the host country, do not demonstrate increased utilization of preventive care services, such as cancer screening. Peer health educators have demonstrated effectiveness in enabling access to breast cancer screening in some cultural groups. This literature has been primarily captured through quantitative questionnaires; limited research has portrayed immigrant women's perspectives with enough depth to take action to ensure that programming meets their needs.

The purpose of this study is to understand the experiences of four immigrant communities of women (Arabic, Chinese, South

Asian and Vietnamese) who have accessed the Women's Health Educator Program in the City of Hamilton in Ontario, Canada.

This research is situated within critical social theory drawing on Paulo Friere's theory of empowerment. We utilized Participatory Action Research (PAR) and qualitative exploration to uncover immigrant women's perceptions of the experience accessing a culturally tailored program utilizing peer educators.

Immigrant women were recruited from the program list. Data were collected from focus groups and in-depth interviews which were audio-taped and transcribed. Transcripts were the main form of data collection along with team meeting process, minutes, emails and other team activity informing the PAR process. Thematic content analysis was utilized for focus group, and interview data. All team members participated in the research process.

83 immigrant women participated in the study; 36% Arabic, 15% Chinese, 25% South Asian, and 18% Vietnamese. Age ranged from 40 to 74 years; 35% were 40-50 years of age and the remaining 65% were 50 years of age and older. Preliminary findings described previously held assumptions of breast cancer, such as fear and death which was challenged by the knowledge gained and subsequently portrayed as hope, realization and personal responsibility for one's own health. Women shared perspectives on the differences of the WHE program related to the provision of supportive care, presence, and safety. New directions for the enhancement of the WHE program reinforced that culturally tailored programs require input from women who access them to successfully meet changing needs.

**Funding Source:** Canadian Breast Cancer Foundation, non-profit organization collecting funds to support research

## 4626

### EXPRESSIVE ARTS: GETTING TO THE HEART OF ONCOLOGY NURSING.

Patricia Nishimoto, RN, BSN, MPH, DNS, Tripler Army Medical Center, Honolulu, HI; John Kim, SWS, Tripler Army Medical Center, Honolulu, HI; Maureen Kirchoff, SWS, Tripler Army Medical Center, Honolulu, HI; Joyce Wong, BSN, RN, Kapiolani Women and Children Medical Center, Honolulu, HI; Suzanne Ditter, RN, BSN, MPH, Kapiolani Women and Children Medical Center, Honolulu, HI; Cheri Uehara, RN, BSN, Queens Medical Center, Honolulu, HI

Patients from over twenty countries receive cancer treatment on the island of Oahu. ONS members wanted to develop an intervention for patients, family members, and friends to open communication about their cancer experience in a safe, nurturing environment despite language barriers.

To provide a venue to share their cancer experiences. Unlike other oncology expressive art venues used with adult oncology patients, our project includes pediatric patients and the children of adult patients.

Creative art-making related to the oncology experience and story-telling about the meaning of the art to the artists at various stages of treatment and recovery are used. Months in advance of the event, patients are told of the opportunity. Often their initial response is "I'm not artistic." Staff help them think of how they would describe their cancer journey if they could not use words. The day of the event, some come prepared with sketches of what they want to create while others just show up for the experience. The supportive non-threatening environment encourages creativity and relationship building. As soft music plays in the background, there is a gentle murmur of voices but also pockets of loud laughter and joy as young children experiment with paint. The children's excitement brings out the inner child of attendees resulting in an openness of being able to reflect and describe with art the adventure they are experiencing. The art is used to convey deep emotions that may not be recognized in the 'busy-ness' of life. Staff help the artists to explore the meaning of the art by helping them write a narrative. The completed artwork and narrative are displayed on the wall which stimulates new arrivals and those who have been sitting back and watching.

Participants in their written evaluations comment on the creation of community and the powerful, dynamic venue which taps into the healing qualities of creativity and relationships.

The intervention we developed is one that can be implemented in multiple settings with culturally divergent populations. Helpful tips on how to start this at your facility will be given.

## 4627

**IV COMPATIBILITIES, A JUGGLING ACT.** Marie Asay, RN, BSN, OCN®, University of Utah Hospitals, Huntsman Cancer Hospital, Salt Lake City, UT; Mandy Gentner, RN, BSN, University of Utah Hospitals, Huntsman Cancer Hospital, Salt Lake City, UT; Kim Noteboom, RN, BSN, OCN®, University of Utah Hospitals, Huntsman Cancer Hospital, Salt Lake City, UT; Kristen Vinik, PharmD, University of Utah Hospitals, Huntsman Cancer Hospital, Salt Lake City, UT

The average stem cell transplant patient can have several antibiotics, TPN, blood products, and a Patient Controlled Analgesia running through the IV simultaneously. Nurses at the University of Utah go to an online database, Micromedex®, to check IV compatibilities. Micromedex® often does not have oncology medications. We found that a printed version is invaluable to the bedside nurse to find compatibilities.

The purpose of this abstract is to share with other oncology nurses the value and importance of having a quick reference manual for IV compatibilities. Having a single reference point for confirming the compatibility of IV medications provides consistency and reliability. The overall goal of the IV compatibility manual is to enhance patient safety regarding IV medication administration.

Three IV compatibility reference manuals were arranged by the Nurse Educator. The manuals contain relevant drugs given on an oncology unit. The information provided in the manual is from the Cancer Chemotherapy Manual and all drugs are alphabetized by generic drug name. As new medications are used, drugs are added to the manual in collaboration with pharmacy and the Drug Information Specialist (DIS).

The manual was recently updated from suggestions of a staff nurse. Staff nurses were unable to find information on Mycophenolate in Micromedex®. In collaboration with Bone Marrow Transplant (BMT) pharmacy, Mycophenolate has been added to the manual. The pharmacists used reference material that is kept in the unit locked pharmacy, making it unavailable to staff. The Mycophenolate information was sent to the DIS in the hospital with the intent that this information be added to future publications. We are also surveying our nurses inquiring if the manual saves time, issues found, and if the manual enhances patient safety. Nurses have expressed greater satisfaction with the safety and time saved of administering IV medications.

This is an example of nursing collaborating with pharmacy to make easy, safe and time saving access to IV drug compatibility. As new medications are added to the BMT, the need for future compatibility studies will be needed.

## 4630

**SOCIAL VARIATION IN MENOPAUSAL RELATED SYMPTOM AND SELF-SEEKING BEHAVIORS IN WOMEN RECEIVING ADJUVANT HORMONAL THERAPY FOR BREAST CANCER.** Shiu-Yu Katie Lee, RN, MSN, DNSC, National Taipei College of Nursing, Taipei, Taiwan

Menopausal related symptom (MRS) is common in women receiving adjuvant hormonal therapy (AHT) for breast cancer (BC). Women in previous study reported that seeking for help was a key to cope and to manage the MRS. Social variation in cancer burden is a global issue. The phenomena and its relationship with women's MRS and help-seeking behaviors have not been fully understood.

The Purpose is to describe the MRS, help-seeking behaviors for MRS, and to explore the impact of social factors in women receiving AHT for BC.

Northouse's Stress and Coping for Cancer was used to guide the design of measurement of help-seeking behaviors for MRS.

This was a cross-sectional descriptive study. A convenient sample of 125 BC women receiving AHT was recruited from BC support groups in Taiwan. A majority of them were in mid-age, with associate degree or less, married but without employment or being housewives, and currently receiving Tamoxifen (68.8%). The sample completed Chinese versions of Breast Cancer Prevention trial Symptom Checklist, Degner's Control Preference Scale, Help-Seeking Behavior Checklist, and Social-Clinical profile. Multivariate analysis was used to test the social impact on MRS and help-seeking behaviors.

Results indicated that 70% - 82.4% women reported to have cognitive, sleep and fatigue issues; 60% of them being distressed with sexual issues; and 50-70.4% of them using positive thinking or exercise to cope with the MRS. Only around 40% of them have asked help from professionals or through health information. Those who were less educated, financially dependent or without partners were more likely to have more distressed in sexual and fatigue issues, or to seek less help from professionals or information resources. Education level and satisfaction with physician communication were accounted the most for seeking professional help. Women's help seeking behaviors were constrained. The findings would assist oncology providers gain a better understanding of social variation in women's menopause-related syndrome and help-seeking behaviors with BC. Future study is warranted to understand how to help these women assess the cancer care.

## 4640

**THE CHANGE OF SWALLOWING FUNCTION AFTER THE SURGERY IN PATIENTS WITH ORAL CANCER.** Shiu-Yu Katie Lee, RN, MSN, DNSC, National Taipei College of Nursing, Taipei, Taiwan; Pei-Shan Hsieh, MSN, Taipei Veterans General Hospital, Taipei, Taiwan; Chung-Ji Liu, MD, PhD, Mackay Memorial Hospital, Taipei, Taiwan

Swallowing difficulty is common among patients with oral cancer (OC), as relation to the tumor involvement, surgery, radiation and chemotherapy. Difficulty in swallowing may lead to poor nutrition status and quality of life. Little is known about the trajectory of swallowing change along the whole treatment process for OC.

To describe the change of swallowing function during 6 months after surgery among patients with OC. Developing an in-depth knowledge of swallowing difficulty along the treatment course may assist the development of intervention to improve the swallowing function in OC.

The clinical model of swallowing function with cancer therapy was used to guide the development of measurement for swallowing difficulty.

This was part of a larger longitudinal study to assess the symptom change in OC. A consecutive sample of 56 patients with OC was recruited from a medical center in Taipei, Taiwan. Swallowing difficulty was measured 6 times at pre-surgery, 1, 2, 3, 4 and 6 months after, and measured as perceived swallowing difficulty and size of mouth-opening, and by water swallowing test. A 16-item, 5-point Swallowing Difficulty Scale was developed, and tested as reliable and valid to measure the perceived level of difficulty. General Estimating Equation via SPSS was used to analyze the change of swallowing during the 6 months after surgery.

The sample had a mean age of 54.7. A majority of them were married and with formal education <10years, and received adjuvant radiation or/and chemotherapy. At 6-month post-surgery, 8.9% can't swallow 30cc water and 12% of the remaining had dripping, choking or pain during the test. The perceived swallowing difficulty significantly increased after the surgery, and indicated 1-month post-surgery as the first peak and recovering during 2-4-month post-surgery, and reaching to another peak at 6-month while completing adjuvant therapy. After control of change along the time course, the patient who was older, unmarried, without

job, with limited mouth-opening, receiving adjuvant therapy, having mucositis or pain had worse swallowing difficulty at 6 month. The finding can assist oncology nurse to develop future intervention to improve the swallowing function in patients with OC.

## 4642

**INCREASING PATIENT SATISFACTION THROUGH DISCHARGE FOLLOW UP PHONE CALLS.** Jeanene Robison, RN, MSN, AOCN®, The Christ Hospital, Cincinnati, OH; Cathy Greene, RN, BSN, MSN, The Christ Hospital, Cincinnati, OH

The Christ Hospital is a 550 bed tertiary care teaching hospital, which has been rated as a Top 100 hospital by The US News and World Report. Research studies report that organizations which have instituted follow-up phone calls have consistently reported improvements in patient satisfaction.

In March 2009, the 4-West Inpatient Oncology unit implemented discharge follow-up phone calls. The purposes of the phone calls were to increase patient satisfaction, improve patient / family centered care, and improve the patient's transition to home.

The purpose of this project was to determine if discharge follow-up phone calls can impact patient satisfaction scores on an inpatient oncology unit.

Three case managers (CM) on the oncology unit made the discharge follow-up calls. A script was used make the calls which included "Did you understand your discharge instructions?" and "Did you get your prescriptions filled?". The CM attempted to call all patients discharged to home between 24 and 72 hours after discharge. In order to measure patient satisfaction the quarterly Press-Ganey National Database was used it included multiple nursing sensitive indicators and provides an overall rating. Press-Ganey reports provide bi-weekly updates and unit-specific data to benchmark with other hospitals across the country.

The Press Ganey scores for the 4-West Inpatient Oncology unit in 4/08 - 6/08 were 83.3%. In March 2009, Discharge Follow-up Phone Calls were implemented. About 80% of the patients were contacted. The Press Ganey scores for 4-West in 7/09 - 9/09 were 87.5%. Over the next six weeks, scores improved another 3.3%, reaching an overall score for patient satisfaction of 90.8%.

The data suggests that discharge follow-up phone calls are having a positive impact on patient satisfaction scores at our hospital. We are aware that multiple factors can impact these patient satisfaction scores. The authors suggest that inpatient oncology units implement discharge follow-up phone calls as an effective strategy to increase patient satisfaction.

## 4643

**THE USE OF ANTINEOPLASTICS IN THE TREATMENT OF SICKLE CELL DISEASE: WHAT ONCOLOGY NURSES NEED TO KNOW.** Laurie Bryant, RN, BSN, OCN®, Sidney Kimmel Comprehensive Cancer Center at the Johns Hopkins Hospital, Baltimore, MD; MiKaela Olsen, RN, MS, OCN®, Sidney Kimmel Comprehensive Cancer Center at the Johns Hopkins Hospital, Baltimore, MD; Gina Szymanski, RN, MS, Sidney Kimmel Comprehensive Cancer Center at the Johns Hopkins Hospital, Baltimore, MD

Over 70,000 people in the United States have sickle cell disease; one in every 500 African American births. Historically patients have been managed with pain medications, fluids, blood transfusions and other supportive care measures. Despite intervention, sickle cell disease can be debilitating and life altering. Complications include pain, infection, acute chest syndrome, splenic sequestration, leg ulcers, priapism, vision loss, stroke and significant developmental and psychosocial issues. Increasingly, oncology nurses are caring for sickle cell patients who are receiving antineoplastics. The only potential cure is allogeneic stem cell transplantation. However, not all sickle cell patients are eligible for this aggressive treatment. A renewed interest in transplantation for sickle cell dis-

ease has emerged. Changes in donor criteria have created new opportunities in non-myeloablative stem cell transplantation. With research into less toxic stem cell transplantation, oncology nurses will need greater knowledge of sickle cell disease in order appropriately care to this unique population.

This presentation will increase oncology nurses' understanding of the management of patients with sickle cell disease and the role of antineoplastics. Case studies will discuss pathophysiology, risk factors, signs and symptoms, diagnosis and management of sickle cell disease.

Case studies will identify the comprehensive needs of patients with sickle cell disease including a review of sickle cell crisis recognition, prevention and management. The distinctive role of oncology nurses in managing the physical and emotional aspects of this illness while receiving antineoplastic therapy will be highlighted.

This presentation will enhance the nurse's knowledge of sickle cell disease in patients who are receiving antineoplastic therapy and assist them to effectively manage the global needs of these patients.

The use of antineoplastic therapy for sickle cell disease, with curative intent, shows real prospect for the future. For many patients, sickle cell disease has been a childhood diagnosis with significant debilitating comorbidities that are life altering, including the possibility of death. Oncology nurses must be prepared in all dimensions of sickle cell disease management. To participate in the promise of cure for this chronic illness is a unique opportunity.

## 4646

**VALIDATION OF THE PORTUGUESE VERSION OF THE SYMPTOM EXPERIENCE INDEX IN BRAZIL.** Mei Fu (Qiu), RN, PhD, ACNS-BC, New York University, New York, NY; Elenice Lima, RN, PhD, Federal University of Minas Gerais, Minas Gerais, Brazil; Irene Souza Prado, RN, MS, Federal University of Minas Gerais, Minas Gerais, Brazil; Marina Quadros Torre, Federal University of Minas Gerais, Minas Gerais, Brazil

Many oncology patients experience multiple symptoms concurrently. Assessment and management of multiple symptom experience is vital in patient care. In Brazil, there is lack of valid and reliable instruments to assess symptoms. One effective way for instrument development is to translate well-established, accurate, efficient, and research-based instruments developed in another country and conduct a study to evaluate the reliability and validity of the translated version in the target country. The Symptom Experience Index (SEI) is a valid, reliable, research-based instrument developed in the US. SEI consists of 41 Likert scale items assessing 20 symptom occurrence and the distress (emotional response) to the symptom occurrence.

The purpose of this study was to translate and validate the Portuguese version of Symptom Experience Index (SEI-Portuguese) in Brazil.

An integrative conceptual model based on self-regulation theory was used in the study to clarify the concept of symptom occurrence from the distress (emotional) response to the symptom occurrence.

An integrative translation method was used to translate SEI from English to Portuguese language. A team of experts evaluated the content, semantic, technical, criterion and conceptual equivalence for cross-cultural validation. Using a contrasted-group and test-retest method, reliability and validity was examined with a sample of 178 adult participants consisting healthy adults and oncology patients in Brazil in 2009. Descriptive statistics, Cronbach's coefficient alpha, intra-class correlation coefficients, correlations, and a multitrait scaling analysis, and t-tests were performed.

Test-retest with 40 healthy adults revealed strong reliability and stability of SEI-Portuguese with Cronbach's alphas 0.92. The SEI-Portuguese was then administered to 138 oncology patients, including colon-rectal (n=44), prostate (n=73), and lung (n=20). The SEI-Portuguese demonstrated adequate reliability for oncology patients with Cronbach's alphas 0.91. Discriminant validity

was supported by significant difference between healthy adults and oncology patients ( $p < 0.00$ ). Among the oncology patients, significant difference existed between patients with prostate and lung cancer ( $p < 0.00$ ), indicating higher symptom experience for the patients with lung cancer. The SEL- Portuguese is a valid and reliable instrument that Brazilian healthcare providers and patients can use to assess the experience of symptoms so that to improve quality patient care.

#### 4647

**IMPLEMENTING INSTITUTIONAL ONCOLOGY NURSING PRACTICE CHANGE TO INCORPORATE SURVIVORSHIP CARE.** Nancy Houlihan, RN, MA, AOCN®, Memorial Sloan Kettering Cancer Center, New York, NY

Recognition of the growing number of cancer survivors and a greater awareness of ongoing needs after cancer treatment, have created a need for change in how oncology nurses deliver care across the cancer continuum. At this NCI designated cancer center, disease specific nurse practitioner led clinics were implemented to provide comprehensive survivorship care to eligible survivors. However, a greater need for preparing all patients at the end of cancer treatment was identified. Ambulatory care nurses, in their role of educating patients and managing symptoms through acute phases of treatment, were recognized as appropriate clinicians to provide consistent post treatment education and counseling to survivors and families.

A program to expand the role of the ambulatory care nurses at this institution was implemented in 2008. The program's purpose is to ensure that all patients are educated at the end of treatment about surveillance, treatment effects and management, screening and health promotion, and available resources.

A baseline survey of 350 ambulatory care nurses revealed barriers including lack of information about patient needs and inadequate time; but nurses indicated they would change practice if they had knowledge and resources. A survivorship task force initiated the program: educated all staff about survivor needs to raise awareness; revised nursing practice standards for education and continuity of care; standardized resource lists and educational materials in a "survivorship packet"; developed new disease-specific educational materials for more specific counseling; and developed plans for implementing practice change including clinical documentation. Decentralized unit based education to facilitate practice change was provided across all ambulatory care sites.

A follow up survey of nurses was performed to assess learning and practice change. Patient education documentation is monitored quarterly and selected units performed satisfaction surveys. This presentation will include survey results and ongoing monitoring data.

Post treatment care is recognized as an important component of the cancer care continuum. Oncology nurses can contribute to survivorship care by preparing patients at the end of treatment with the necessary information and resources. This requires knowledge, a change in routine care delivery, and a plan for implementation.

#### 4649

**REINVENTING LEADERSHIP DEVELOPMENT FOR NURSE MANAGERS.** Laura Fennimore, RN, DNP, University of Pittsburgh Medical Center, Pittsburgh, PA

The nurse manager's role is critical to successful hospital outcomes including quality, safety, and financial goals and to the establishment of healthy work environments. Preparing nurses for this complex role, however, has been described as haphazard and often dependent upon on-the-job training.

An evidenced based leadership development program was designed, implemented, and evaluated at the University of Pittsburgh Medical Center based upon a conceptual framework defined by the Nurse Manager Leadership Collaborative Model encompassing the science and art of nursing management. The

purpose of this innovative program was to provide contemporary tools for nurse managers to practice effectively in their roles and thereby support institutional strategic objectives.

The "Leadership Development for Nursing Middle Managers" program was offered in 5 eight-hour sessions for 25 participants including oncology nurse managers. Sample presentations included: Leadership assessment, problem solving, conflict resolution, generational differences, horizontal violence, budget forecasting, behavioral interviewing, and mentoring. Sessions were presented by nursing executives, university faculty, and human resource specialists. Learning activities included assigned readings from key leadership texts / articles, lecture, discussion, self-assessment tools, and "homework assignments" designed to encourage participants to apply course content.

Participants completed an evaluation for each session and an overall course evaluation. Content that was identified as most valuable included: Finance/budgeting techniques, conflict management, emotional intelligence, and motivational skills. In addition, course participants completed a self-assessment rating their leadership skills on a 5-point scale from novice to expert prior to the first session and six months following course completion. Managers reported an average raw score improvement of 0.68 for all competency areas six months following course completion. Competencies that were identified as having the greatest improvements were: 1) Personal journey disciplines; 2) Foundational thinking skills; 3) Human resource management; and 4) Shared decision making.

Effective leadership preparation and engagement of the oncology nurse manager can lead to enhanced staff retention, reduced turnover costs, and improved quality and financial outcomes for health care institutions. The educational design, curriculum, and sample assignments from this program may be useful to educators and administrators seeking to develop programs for this essential leadership group.

#### 4650

**PURSUING EXCELLENCE IN CANCER CARE: IMPLEMENTATION OF THE QUALITY ONCOLOGY PRACTICE INITIATIVE AT AN URBAN CANCER CARE CENTER.** Anna Rodriguez, RN, MSN, MHA, OCN®, Mount Sinai Hospital, Chicago, IL; Gregory Horeni, RN, MSN, MBA, Mount Sinai Hospital, Chicago, IL; Smitha Thomas, RN, BSN, OCN®, Mount Sinai Hospital, Chicago, IL; Raquel Roberts, RN, BSN, Mount Sinai Hospital, Chicago, IL; Alritta Hubbard, RN, OCN®, Mount Sinai Hospital, Chicago, IL

The Sinai Health System's cancer care center provides integrated services to approximately 350 new cancer patients each year. The Sinai Cancer Care Center (SCCC), located in an urban area serving a largely African-American and Latino community, offers comprehensive care throughout the cancer continuum. As Sinai Health System strives to achieve its vision of becoming the national model for the delivery urban healthcare, the cancer care center voluntarily participated in a practice-based quality self-assessment program through the American Society of Clinical Oncology (ASCO) Quality Oncology Practice Initiative (QOPI) to improve practice and ensure delivery of the highest quality cancer care.

The ASCO QOPI is a voluntary program in quality self-assessment. The QOPI quality measures are consensus-based and clinically relevant measures derived from clinical guidelines or national published standards. The purpose for practice participation is to identify compliance with defined measures, trend performance data over time, and compare performance to other practices. The goal is use QOPI results to ensure delivery of quality cancer care.

Staff nurses in the infusion center and inpatient oncology unit with familiarity in navigating the electronic and paper medical records were selected to abstract charts. QOPI data collection is conducted twice a year. Chart abstraction sample size varies depending on practice size (i.e. total physician FTE). Charts are selected based on established QOPI criteria: diagnosis within two years,

and clinic visit within the last six months. The SCCC focused on breast cancer and symptom management for data collection.

The SCCC participated in the QOPI program since Spring of 2008. QOPI results were discussed with the oncologists, the Cancer Committee, and nursing staff. Based on the practice performance demonstrated in the QOPI aggregate reports, opportunities for improvement are identified and plans of action initiated. Similarly, best practices were highlighted and celebrated. The program saw consistent improvement in over 20 measures over time and is demonstrating best practice rates in many measures.

Ongoing QOPI participation provides a structure for continuous performance assessment and quality improvement and demonstrates Sinai Cancer Care Center's commitment to delivering exceptional quality cancer care for patients in the urban healthcare setting.

## 4651

**MAXIMIZING POTENTIAL: NURTURING MENTORSHIP BETWEEN COMPETENT AND NOVICE ONCOLOGY NURSES.** Patricia McTague-Allen, MSN, RN, FNP-BC, Memorial Sloan-Kettering Cancer Center, New York, NY; Gretchen Copeland, EdD, RN, Memorial Sloan-Kettering Cancer Center, New York, NY; Kathleen Schardien, MSN, RN, AOCN®, Memorial Sloan-Kettering Cancer Center, New York, NY; Altagracia Mota, MSN, RN, OCN®, Memorial Sloan-Kettering Cancer Center, New York, NY

Service restructuring and capability enhancements necessitated rapid training and assimilation of twenty new nurses on an oncology medical/surgical unit at this NCI designated comprehensive cancer center. In particular, Benner's competent stage staff nurses needed guidance in developing nurturing relationships with Benner's novice stage nurses, honing mentorship skills and addressing psychosocial and emotional needs unique to oncology nurses. In a 2008 climate survey of nurses, 85% reported caring for cancer patients as draining, 67% reported patients' stress affects them personally and 54% affirmed difficulty for new nurses to acculturate. An action plan was formulated for effective and time efficient team building addressing relationship nurturance, compassion fatigue and end of life caregiver coping strategies utilizing intensive team building programs popular in corporate environments.

Conceptually rooted in the Relationship-Based Care Nursing Model, a plan for expedient indoctrination and team building was devised. The purpose of the initiative was to identify impediments to effective mentorship, relationship building and coping strategies and to find creative solutions. Unit nursing leadership partnered with nursing education to expand on material presented in traditional preceptor workshops to target mentorship development among competent nurses.

An eight hour interactive educational program was designed stressing facilitation of autonomous decision-making, creative problem solving and forging meaningful, supportive relationships between competent and novice oncology nurses. Attribute awareness of self and others was initially assessed. Spontaneous role assumption exercises were employed to explore emotionally challenging scenarios. Episodic communication skills using the SBAR methodology were utilized to facilitate professional dialogues.

Post program evaluations demonstrated overwhelmingly positive responses among competent nurses. Six months post program, 100% reported having sustained nurturing mentorships with novice nurse colleagues. Ninety-five percent of novice nurses successfully completed orientation and were smoothly assimilated into the staff.

This program helped build upon a professional infrastructure based on teamwork and constructive collaboration promoting clinical competency and emotional sensitivity by remaining responsive to the specific technical as well as social, emotional and spiritual needs of oncology nurses. Next steps include implementation of compassion fatigue workshops and reexamination of nurses' satisfaction with their roles within the healthcare team.

## 4656

**FIGHTING CANCER HAS NO BOUNDARIES! STRATEGIES TO SUPPORT ONCOLOGY PATIENTS AS WELL AS MEDICAL PATIENTS RECEIVING CHEMOTHERAPY FOR NON MALIGNANT INDICATIONS ON GENERAL MEDICAL AS WELL AS INTENSIVE CARE UNITS.** Amy Moore, MSN, RN, Hospital of the University of Pennsylvania, Philadelphia, PA; Kirsten McClintock, BSN, RN, Hospital of the University of Pennsylvania, Philadelphia, PA; Mary Denno, MSN, RN, CMSRN, Hospital of the University of Pennsylvania, Philadelphia, PA; Teresa Kider, MSN, RN, OCN®, Hospital of the University of Pennsylvania, Philadelphia, PA; Kathleen Wiley, MSN, RN, Hospital of the University of Pennsylvania, Philadelphia, PA; Kristen Maloney, MSN, RN, Hospital of the University of Pennsylvania, Philadelphia, PA

The complexity of oncology care may result in multiple planned as well as unanticipated admissions to the inpatient setting. This unpredictable demand for supportive care combined with a need for highly acute care may result in the placement of oncology patients on general medical surgical units as well as intensive care units respectively. Consultation from an oncology nurse can be essential to ensure that oncology patients' physiologic as well as psycho social needs are met. In addition, the expertise of an oncology nurse is also needed to assist with the administration of chemotherapy for patients receiving chemotherapy for non malignant indications.

Three Oncology nursing units at a NCI Ranked Academic Medical Center worked together to create a series of strategies in which oncology patients displaced to non oncology units could receive immediate consultation from oncology nurses. Several processes were put into place to provide consultation to such patients as well as support the administration of chemotherapy for patients requiring chemotherapy for non malignant indications.

In an effort to follow oncology patients that had been transferred to the Intensive Care Unit, the Oncology Share program was created. The program allows Oncology Clinical Nurse Specialists to meet with nursing leaders in the ICU to discuss patients' clinical progress. In addition, Oncology nurses can alert the ICU for patients that may be deteriorating. An Oncology Phone was also created to allow clinical nurses to have immediate access to the expertise of an oncology nurse. Oncology Clinical Nurse Specialists conduct rounds on patients displaced off their oncology units to assess patients' oncology needs and provide education.

Data regarding the nature of consultations from the Oncology Phone, Oncology Share Program and Clinical Nurse Specialist rounds will be analyzed and presented as a method for evaluating the learning needs of non oncology nurses. Recommendations for continuing education topics will be presented for managing oncology patients on non oncology floors as well as supporting the administration of chemotherapy for non malignant indications.

Supporting oncology patients outside oncology units has been become a major issue affecting the staffing of oncology units across the country. The growth of the oncology population coupled with the demand for the administration of chemotherapy for non malignant diseases will continue to present a challenge.

## 4661

**CANCER CARE CONTINUUM: ONCOLOGY AND HOSPICE NURSE PARTNERSHIPS RESULT IN COLLABORATION, EDUCATION AND A TOOLKIT FOR SUCCESSFUL END-OF-LIFE CARE.** Noelle Vanoni, RN, BSN, OCN®, Sutter Roseville Medical Center, Roseville, CA; Alicia Black, BSN, OCN®, Sutter Roseville Medical Center, Roseville, CA; Deborah Dix, MS, RN, Sutter Roseville Medical Center, Roseville, CA; Terry Hendrix-Smith, BSN, RN, Sutter VNA and Hospice, Roseville, CA; Sharyl Kooyer, BSN, RN, Sutter VNA and Hos-

pice, Roseville, CA; Sandy Nelson, BSN, RN, Sutter VNA and Hospice, Roseville, CA

Oncology nurses provide patients with clinical interventions, education, advocacy and caring. They also participate in difficult end-of-life care discussions. In our facility, oncology nurses have developed expertise in end-of-life care. This expertise has resulted in our team becoming the preferred provider to manage terminal care for in-patients. As our experience and patient volume increased, we were presented an opportunity to partner with hospice nurses in managing extremely complex end of life patients.

Our goal was for oncology and hospice nurses to partner in creating a toolkit that provided a roadmap to enroll and manage patients eligible for in-patient hospice.

In spring of 2009, an interdisciplinary team met to develop a process for enrollment of Medicare eligible patients into in-patient hospice. This included an operational, step-by-step process, review by content experts in oncology and hospice, concurrent education of all staff in process and symptom management, and implementation of the program and evaluation. We created a toolkit for in-patient hospice to address these components. We also collaborated with oncology and hospice caregivers, increased care options for appropriate patients, and improved patient and family satisfaction.

Evaluation measures included in-patient hospice referrals, home with hospice referrals, SNF with hospice referrals, and expirations prior to discharge.

Since implementation in June 2009, we have enrolled a total 21 patients into in-patient hospice, compared to zero in 2008. Hospice referrals directly to home have also had a dramatic increase. From June to December, 2008 there were 78 referrals to home with hospice from our facility. From June to December of 2009 this number increased to 127. This is a 62% increase in home hospice referrals, an unanticipated, but beneficial outcome. Family satisfaction data from hospice satisfaction surveys was equal or better to comparison surveys. We are currently analyzing data from employees related to ease of use of the toolkit and improved working relationships. This toolkit has already been shared within our hospital system and additional programs are being developed.

## 4662

### SHOW ME YOUR CENTRAL LINE! IMPLEMENTATION OF CENTRAL LINE ROUNDS AS A STRATEGY TO REDUCE CATHETER-ASSOCIATED BLOOD STREAM INFECTIONS.

Kristen Maloney, MSN, RN, Hospital of the University of Pennsylvania, Philadelphia, PA; Amy Moore, MSN, RN, Hospital of the University of Pennsylvania, Philadelphia, PA; Kathleen Wiley, MSN, RN, Hospital of the University of Pennsylvania, Philadelphia, PA

Catheter-associated blood stream infections represent a major risk for morbidity and mortality in the oncology population. Despite this risk, central line placement is essential to the delivery of complex oncologic care.

Two medical oncology and autologous bone marrow transplant units, along with one allogeneic bone marrow transplant unit worked together with the department of infection control to initiate and maintain a formal central line round on each unit. The purpose of these rounds was two-fold. First, was to identify patients at risk for catheter associated blood stream infections, and second to develop a plan to provide ongoing monitoring, thereby providing early intervention.

Patients who have a central line are seen once a week on rounds by both an oncology clinical nurse specialist and infection control practitioner. The central line site is assessed for any local signs of infection, bleeding or allergies to adhesive dressings. Complications are noted and documented. Various evidence-based strategies are utilized, including but not limited to, dressing change algorithm, administration of alteplase or topical prothrombin powder. Central lines may also be photographed with the con-

sent of the patient in order to evaluate whether the intervention plan is working to manage the complication.

The overall evaluation goal is to reduce the amount of catheter-associated blood stream infections. Photographs of central lines with complications identified on rounds will be presented with suggestions for management. Algorithms for the management of bleeding lines and patients with sensitive skin will be presented.

The management of central lines is essential within the practice of oncology nursing. It is necessary to create evidence-based algorithm and protocols for management of common complications of oncology patients' central lines.

## 4663

### DELIRIUM SCREENING IN MEDICAL ONCOLOGY: WHAT'S THE BEST TOOL?

Sharon Krumm, RN, PhD, The Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, MD; Karin Neufeld, MD, PhD, Johns Hopkins University, Baltimore, MD; Gina Szymanski, MS, RN, The Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, MD; MiKaela Olsen, MS, RN, The Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, MD; Laura Hoofring, MS, RN, The Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, MD; Nicole Leistikow, Johns Hopkins University, Baltimore, MD; Amy Huberman, MD, Johns Hopkins University, Baltimore, MD

Delirium, an acute change in mental status causing global cognitive disturbances and particular problems with attention, has a presumed underlying medical cause. Occurring in 25% to 40% of hospitalized patients, it is under-recognized and undertreated in cancer patients, negatively affecting clinical care, length of stay and cost of hospitalization. Early detection of delirium is essential to correcting the underlying cause and preventing adverse side effects. Nurses at this cancer center have used the Intensive Care Delirium Screening Checklist (ICDSC) tool as standard of practice since 2005, demonstrating nurses' ability to effectively screen for delirium. When the Confusion Assessment Method-ICU (CAM-ICU) was introduced in the medical intensive care unit, it raised the question of whether one tool (CAM-ICU) could be used throughout the hospital.

Testing the psychometrics of the ICDSC in less severely ill cancer patients and comparing it with the CAM-ICU, using psychiatrist interviews as reference standard, could determine if one instrument, CAM-ICU, could be used in both clinical settings.

Using the ICDSC as standard practice, oncology nurses on two inpatient units (34 beds) participated in the study for one month, evaluating 147 distinct patients. A psychiatrist interviewed each patient and an independent rater completed the CAM-ICU within one hour of the reference interview.

The patients' characteristics are described. The point prevalence of delirium on earliest day of comparison was 14%; 26% had one or more days of delirium. The sensitivity and specificity of the CAM-ICU was 19% and 98%; the ICDSC was 57% and 99%. ICDSC's sensitivity was greater; the CAM-ICU's sensitivity was poor.

Screening tools must be sensitive to and specific for the targeted condition. The ICDSC, the tool used in medical oncology for five years, was proven to be sensitive and specific for detecting delirium in this patient population, and superior to the CAM-ICU. The continued use of the ICDSC, with evaluations of clinical outcomes, will advance the understanding of delirium in patients with cancer.

## 4664

### THE QUARTERLY REPORTING OF CHEMOTHERAPY ADVERSE EVENTS (IV, IM, SQ, ORAL) CAUSE, ANALYSIS, AND ACTION PLAN—A PROCESS TO TRACK CHEMOTHERAPY ERRORS THAT OCCUR IN THE DELIVERY OF CARE BY PHYSICIANS, PHARMACISTS, AND NURSES IN INPATIENT

**SETTINGS AND AMBULAT.** Cheryl Steele, RN, AOCN®, MSN, MPM, UPMC Cancer Centers, Pittsburgh, PA; Mary Madeya, MSN, UPMC Cancer Centers, Pittsburgh, PA

The occurrence of chemotherapy errors has been well documented in the literature over many years. There is no published acceptable incidence rate of error. UPMC Cancer Centers, a network of 23 locations, has struggled with a system for accurately reporting and subsequently preventing errors since the 1990's. This institution supports the reporting of errors in a no blame environment in all patient treatment settings. The majority of errors reported are voluntary and/or near miss events. By capturing actual and near miss errors, performing a root cause analysis of the errors, and repairing broken processes, repetition of the same errors can be prevented.

The goal is to conduct an analysis of the errors reported and identify weaknesses and breakdowns in procedures for order writing, order verification, admixture, and administration of chemotherapeutic agents.

When an error is identified and reported the nursing manager initiates multidisciplinary review of the process breakdown. Following this investigation a final summary is presented at the Quarterly Adverse Events Committee where members review and make recommendations for change across the network. For serious adverse events immediate corrective action occurs.

Error rate is analyzed in correlation with patient volume and staffing. Errors that are repetitive result in system wide process changes. For example repetitive height/weight errors resulted in re-education of all medical assistants and nurses, revision of nursing documentation forms, purchase of new height bars, and online competency testing for medical assistants.

All cancer centers need to develop a process for reporting and analyzing chemotherapy errors and immediately correcting process breakdowns. This involves a multidisciplinary team approach in a no blame environment that continuously looks beyond the total number of errors, consistently reviewing and analyzing root causes with outcome being prevention of future errors.

## 4665

**EXCELLENCE IN ONCOLOGY NURSING EDUCATION IN AN ADULT COMMUNITY BASED PRACTICE.** Sandra Purl, RN, MS, AOCN®, Oncology Specialists, S.C., Park Ridge, IL

As we enter the new decade cancer will remain a prevalent disease as our population ages. Keeping oncology nurses up to date on the most relevant information is a challenge. Continuing education in a busy community based practice requires dedication and innovation to find avenues to implement staff and patient education.

Using adult learning theory we have developed many programs and resources for our staff of adult learners to ensure nurses have the knowledge base to care for complex oncology patients. All nurses in the practice are OCN certified and need continuing education credits to maintain certification.

Many programs have been developed including, comprehensive orientation for newly hired nurses, a monthly evidence based practice journal club, "Stump the Chump" a multidisciplinary tumor board of difficult oncology clinical cases, encourage attendance at ONS local chapter dinner programs and pharmaceutical sponsored events, medical student lectures, physician presentations on medical topics, and nurse run monthly multidisciplinary clinically focused meeting. Timing for programs varies including just prior to work start, lunch programs, end of day programs and dinner programs. Topics presented include symptom management guidelines for nausea & vomiting, constipation, diarrhea. Journal club topics have included nursing professionalism, navigating a package insert, helping children cope with a parents terminal illness, patient education for those with low health literacy. Medical presentations have included updates on major tumor types like breast and prostate cancer, and managing cardio toxicities from therapy.

By employing many innovative approaches to staff education we are able to assist nurses at our practice to keep abreast of new information despite a very busy practice environment. This has resulted in a high staff retention of OCN certified oncology nurses in a very turbulent employment arena.

Community based practices may find some of these approaches useful to aid them in education of their oncology nurses.

## 4666

**JOURNEY TO CHEMOTHERAPY SAFETY.** Theresa Johnston, RN, OCN®, Greenebaum Cancer Center, Baltimore, MD

Chemotherapy administration safety for every patient is a core value in our organization. Visionary leaders and vigilant nursing staff have built and continue to maintain a culture of chemotherapy safety. Various tools and processes created during our safety journey have successfully prevented ordering, preparation and administration errors from reaching our patients.

The purpose is to enhance consistent safe practice across the cancer center for chemotherapy administration, utilizing the ONS guidelines.

Our journey began with the development and implementation of chemotherapy preparation and administration guidelines. A safety task force crafted the guidelines and conducted center wide staff education. Critical to the initial project was the development of an administration checklist, similar to the aviation industry's pre-flight checklist. Two clinicians complete this document before each chemotherapy or biotherapy drug is administered to our patients.

Missing consents, missing pre-medications or supporting therapy, critical lab values that would dictate drug dosage modifications and dosage calculation errors are identified before chemotherapy regimens are administered. Consistent bedside and chairside independent double checks for patient identification, visually showing drug labels to patients before administration and verifying allergies at the bedside aid in correcting wrong patient, wrong drug events before reaching the patient.

Simulation chemotherapy administration laboratory sessions have been added to the ONS Chemotherapy & Biotherapy course to increase the practice accuracy and performance comfort of staff before they are clinically signed off to independently administer therapy. A core group of chemotherapy competency assessors has been trained to validate competency at the bedside and chairside for initial and annual practice sign off. Training a core group of senior clinicians as competency assessors tightens and clarifies performance expectations and provides content consistency for clinical staff.

Nursing staff education and competency expectations reinforce a culture of safety. Current ONS Chemotherapy and Biotherapy Provider Cards and annual chemotherapy administration competency validation are required for all clinical staff.

Compliance audits conducted by our Process Improvement Council track our current chemotherapy safety initiatives. Audit results reflect how we are doing today and assist us in mapping tomorrow's improvements needed to maintain chemotherapy safety.

To identify barriers to consistent nursing practice, i.e. critical thinking, administration skills, utilization of PPE, patient education and documentation.

To provide fellow oncology nurses with a standardized method to provide training to staff nurses.

## 4673

**THE PANCREAS MULTIDISCIPLINARY CLINIC.** Barbara Biedrzycki, MSN, CRNP, AOCNP®, Johns Hopkins, Baltimore, MD; Joseph Herman, MD, Johns Hopkins, Baltimore, MD

Pancreas cancer is sometimes known as the "silent cancer" as it may not present its signs and symptoms until the cancer is advanced. Patients need a rapid evaluation and education on pancreatic cancer when the cancer is diagnosed or suspected. On-

cology nurses have the unique opportunity to become essential team members in an effective multidisciplinary clinic. The model for the Pancreas Multidisciplinary Clinic at Johns Hopkins may provide guidance to others.

The purpose of this presentation is to provide information on the logistics of how the Pancreas Multidisciplinary Clinic (PMDC) operates. Through an overview of the process of team building, the oncology nurse will learn the essential elements of the (PMDC). From the practical perspectives of patient intake through clinic evaluation, key components of the PMDC will be shared. The PMDC recently celebrated its third year of existence. The majority of patients are self-referred based on their internet searches and recommendations from families and friends. Most patients are self-referred and are not local residents. We value the collaborations that are developed with the patients' local health care providers as a result of the patients' self-referrals to the PMDC. The PMDC focuses not only on a thorough evaluation, but also on tailored education specific to the patient's diagnosis, treatment plan, and needs. Patient satisfaction, as evidenced by their responses to satisfaction surveys, is a nursing sensitive outcome of the PMDC.

The PMDC goal is to provide a full service evaluation and education during a one day visit. This is accomplished by the collaborative efforts of a multidisciplinary team. Oncology nurses are key team leaders of the clinic who provide education, evaluation, hands on care, and counseling.

Oncology nurses will benefit from learning the logistics of coordinating a PMDC. Aspects of this information may be applied in the oncology nurses' setting, even when developing a multidisciplinary clinic is not the goal.

## 4675

### **ESTABLISHMENT OF A PERIPHERAL NEUROPATHY ASSESSMENT PROGRAM FOR ONCOLOGY NURSES.** Alicia Johnson, LPN, Southeastern Medical Oncology, Goldsboro, NC

Many cancer patients experience peripheral neuropathy (PN). The etiological factors of PN are diverse and multifaceted. Some known causes include chemotherapy agents, tumor invasion, radiation injury, co morbidities (e.g. diabetes, renal disease) and medications (e.g. anticonvulsants, antivirals). Due to the negative impact of PN on patient's quality of life, it is imperative that oncology nurses take a lead role within the health care team to assess, implement therapeutic interventions and utilize strategies to prevent/minimize PN.

To improve overall patient quality of life through prompt and consistent assessment of PN by implementing a comprehensive PN program including the utilization of an efficient standardized PN assessment tool to promote the systematic and uniform grading PN amongst our staff nurses.

The first step in establishing the standardized PN program was outlining and conducting an all-inclusive staff education course. This was followed by the development and implementation of an efficient standardized PN assessment tool. This tool was utilized to assess patients at their baseline visit as well as subsequent visits. A key component of the PN program included a formalized patient and family education component. The patient/family's were empowered to be active in their care through reader friendly materials that were designed to improve their cognizance of changes in existing and/or the development of new PN symptoms.

The implementation of our standardized PN Program has streamlined our assessment process, influenced the health care prescriber's decision on the selection of therapeutic options and had a positive effect on patient care outcomes as well as their overall quality of life.

New cancer therapies are extending the lives of our patients and turning many cancers into a chronic illness. Our PN program was designed to address the short and long term effects of this devastating entity. We believe our program can be easily adapted by other nurses to improve the lives of their patients.

## 4676

### **MULTIDISCIPLINARY APPROACH IN IMPROVING THE CARE OF ACCELERATED PARTIAL BREAST IRRADIATION (APBI) PATIENTS AT VIRGINIA HOSPITAL CENTER.** Cecilia Brizuela, RN, Virginia Hospital Center, Arlington, VA; Donna McCoy, RN, OCN®, Virginia Hospital Center, Arlington, VA

Accelerated Partial Breast Irradiation (APBI) following breast conservation surgery is an alternative to whole breast radiation in a select group of patients with early stage breast cancer. The Virginia Hospital Center's Radiation Oncology Department has been the pioneer center in Northern Virginia in offering APBI to eligible patients since May, 2008. To date, over 140 patients have been successfully treated with APBI and the program continues to grow with success. The lack of standards in providing this relatively new technology has prompted the center to develop evidenced-based guidelines in using a multidisciplinary team approach in treating and caring for patients receiving accelerated partial breast irradiation starting from their initial consultation to completion and follow-up visits.

Purpose: The goal is to develop evidence-based guidelines focused but not limited on the following areas of care:

1. Infection prevention during and post treatment
2. Catheter care during treatment and skin care post treatment
3. Multidisciplinary assessments and support for patients and caregivers
4. Management of fatigue during and post treatment

Interventions: Development of guidelines for interventions was discussed during weekly staff meetings. Members of the interdisciplinary team became familiar with recognizing the need of the patients and the pathway of intervention based on the guidelines. The development of guidelines also paved the way in facilitating successful patient education programs and better management of adverse symptoms by staff caring for patients receiving accelerated partial breast irradiation.

The nurses, radiation oncologists, radiation therapists, physicists, social workers used a team approach in implementing the guidelines in responding to and foreseeing the needs of the APBI patients. Nurses' use of the guidelines facilitated effective management of adverse side effects such as fatigue, skin reactions; wound care that led to improved healing of surgical wound and a low incidence of infections. Wound care techniques contributed to good cosmetic outcomes thus improving patients' sense of wellbeing. The utilization of multidisciplinary assessment and intervention guidelines with patients and their families were seen in favorable results as reflected in the exemplary Press Ganey patient satisfaction scores of the department.

The staff would like to share practice techniques and outcomes that may be helpful in educating other practitioners in treating future patients by using accelerated partial breast irradiation to provide high standards of radiation oncology patient care.

## 4679

### **PALLIATIVE CARE FOR QUALITY OF LIFE AND SYMPTOM CONCERNS IN LUNG CANCER PATIENTS.** Tami Borneman, RN, MSN, CNS, FPCN, City of Hope, Duarte, CA; Betty Ferrell, PhD, FAAN, FPCN, City of Hope, Duarte, CA; Marcia Grant, DNSc, FAAN, City of Hope, Duarte, CA; Marianna Koczywas, MD, City of Hope, Duarte, CA

In 2009, new lung cancer diagnoses and deaths were projected to be 219,000 and 159,000 respectively. These individuals and their families experience numerous symptom and QOL concerns. Patient education is essential to support patients in coping with multiple physical symptoms, psychological concerns such as depression, social concerns such as family burden and spiritual issues associated with often advanced disease and poor prognosis.

This presentation will review a unique Program Project funded by the National Cancer Institute addressing the often neglected area of lung cancer. The project is guided by the City of Hope



QOL model and tests usual care versus a palliative care intervention encompassing a four component patient and family caregiver education intervention.

The intervention was established through two pilot projects demonstrating the unmet needs in lung cancer across QOL domains and the limited use of supportive care services by those with lung cancer. The patient and family interventions are delivered by an Advanced Practice Nurse based on input from an Interdisciplinary Team. The project includes distinct education interventions for early stage and late stage lung cancer and for family caregivers.

Outcomes evaluations of the project include assessment of the impact of the education on patient symptoms, QOL, and supportive resource use as well as family caregiver QOL, self care and skills preparedness for caregiving.

This project demonstrates the critical role of oncology nurses in education for the very significant demands of lung cancer.

## 4682

**GROWING INTO GREATNESS: A TRANSITIONAL SPECIALTY ORIENTATION FOR DEVELOPING AND MENTORING NEW ONCOLOGY NURSES.** Denise Henderson, MEd, RN-BC, Karmanos Cancer Center, Detroit, MI

Nursing schools do not prepare new graduates with the education needed to care for the varied needs of oncology patients and families. In 2007, the Karmanos Cancer Center became the only free standing cancer hospital in Michigan. The newly formed Nursing Education Department was charged with developing an orientation that went "above and beyond" the traditional, and highlighted oncology nursing as a high-tech and high-touch specialty. The orientation also had to be time and cost efficient.

Using the Oncology Nursing Society Standards of Nursing Practice, the Core Curriculum, and the life-cycle of plants as a guide, the Nurse Educators rose to the challenge and developed an orientation called "Growing into Greatness". A 3-pronged approach is used to grow successful oncology focused RNs; orientation, mentorship and oncology nursing education.

Orientees are assessed in 3 areas; core strengths, such as critical thinking and delegation; core knowledge of oncology nursing and care; and core skills, such as central venous access device care. To prevent disruption of unit activities, the 16 day orientation was designed to span 16 weeks. Monday's became "mentoring and learn" day. Every Monday, lunch is provided and orientees are given time to relax, discuss and critically evaluate the orientation process. Discussions, center on orientee growth, and incorporate the universal topics of goal setting, time management, delegation and conflict resolution. After lunch, the orientees receive experiential based learning on cancer center specific diagnoses, treatments, and available resources. Unit-based skills sets are practiced during this time.

Orientees are re-evaluated on core strengths, knowledge, skills at the end of orientation. Findings indicate that for the majority of orientees, core strengths scores may actually go down in the real world, highlighting that communication skills need improvement. Core knowledge and skills scores always improve.

The plan and budget were presented to the VP/CNO to emphasize how the additional orientation time, would, over time,

pay for itself with increased orientee satisfaction and retention. Two years of data indicate that the transitional specialty orientation has increased orientee knowledge, bedside skill and satisfaction. Retention rates are high, turnover rates are low.

## 4691

**APPLICATION OF THE FAILURE MODES AND EFFECTS ANALYSIS (FMEA) METHODOLOGY: IMPROVING CHEMOTHERAPY ADMINISTRATION PROCESSES, PATIENT FLOW, AND STAFF/PROVIDER/PATIENT SATISFACTION.** Anna Rodriguez, RN, MSN, MHA, OCN®, Mount Sinai Hospital, Chicago, IL

The Sinai Health System's cancer care center provides integrated services to approximately 350 new cancer patients each year. The Sinai Cancer Care Center (SCCC), located in an urban area serving a largely African-American and Latino community, offers comprehensive care throughout the cancer continuum. In an effort to improve and streamline process, the program applied the Failure Modes and Effects Analysis (FMEA) to identify areas for potential failure in current processes. Areas analyzed included patient scheduling and registration, physician ordering processes including chemotherapy order sheet, pharmacy order entry, pharmacy preparation, and medication administration.

The purpose of the analysis is to identify gaps in practice and potential failures in the current process. Interventions are then implemented to ensure patient safety; and improve patient, provider, and staff satisfaction.

An interdisciplinary team was convened with representatives from the nursing, pharmacy, information systems, quality, and risk managements. A physician representative was available as needed. A step-by-step analysis of processes and procedures was conducted to identify potential failure modes. The team brainstormed to identify all possible failure causes. For each failure mode- the severity, likelihood of occurrence, and likelihood of detection was rated on a 1-10 scale. The Risk Priority Number was calculated. Action plans were identified and implemented.

Application of the FMEA methodology assisted the program in identifying 19 possible failure modes in the patient registration, scheduling, chemotherapy order completion, pharmacy order entry, medication validation and administration. Corrective action plans were implemented to mitigate failure. The analysis also assisted in streamlining the patient registration and scheduling process, and eliminated redundancies. Ongoing improvements resulting from the FMEA include redesign of the chemotherapy order templates and administration records, development of oncology order sets, and creating outpatient nursing assessment documentation screens.

The application of the FMEA methodology in analyzing potential failures and gaps in practice demonstrates commitment to quality nursing care. Convening an interdisciplinary team facilitated collaborative problem solving. The FMEA resulted to streamlined processes and improved patient safety and satisfaction, as well as interdisciplinary team satisfaction.

pd-podium; ps-poster

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Carlson, J. (pd).....	4404	Herman, R. (ps).....	4349	Miller, E. (ps).....	4403	Sluis, J. (ps).....	4361
Carr, E. (ps).....	4495	Herman, R. (ps).....	4350	Miller, J. (ps).....	4535	Slusser, K. (pd).....	4523
Cawley, K. (pd).....	4575	Hester, J. (ps).....	4374	Misuraca, J. (ps).....	4601	Smiley, K. (pd).....	4166
Chen, L-M. (ps).....	4375	Hodgson, N. (pd).....	4317	Moore, A. (pd).....	4656	Smith, A. (pd).....	4328
Chen, M-L. (ps).....	4380	Houlihan, N. (ps).....	4647	Mosley, M. (ps).....	4182	Somayaji, D. (ps).....	4500
Cherwin, C. (ps).....	4411	Howe, C. (ps).....	4590	Mota, A. (pd).....	4547	Spiro, F. (pd).....	4303
Choflet, A. (ps).....	4579	Huffer, D. (ps).....	4389	Mullen, E. (ps).....	4213	Steele, C. (ps).....	4664
Christian, K. (ps).....	4478	Hunnibell, L. (ps).....	4343	Murphy, E. (ps).....	4187	Stegenga, K. (ps).....	4583
Conde, F. (pd).....	4161	Idell, C. (ps).....	4440	Nazareno, J. (ps).....	4353	Steinbauer, R. (ps).....	4310
Corcoran, S. (ps).....	4441	Ingwersen, K. (ps).....	4304	Nishimoto, P. (pd).....	4626	Stiner, V. (ps).....	4482
Correa, Z. (pd).....	4267	Innamarato, T. (ps).....	4394	O'Brien, C. (ps).....	4334	Suchy, S. (pd).....	4454
Cox, P. (ps).....	4294	Jindra, J. (ps).....	4419	O'Connor, D. (ps).....	4429	Suchy, S. (pd).....	4459
Crawford, J. (ps).....	4623	John, L. (ps).....	4558	Octaviano, J. (ps).....	4611	Swenson, K. (ps).....	4236
Culkin, A. (ps).....	4193	Johnson, A. (ps).....	4675	O'Leary, C. (ps).....	4248	Swisher, M. (ps).....	4146
D'Angelo, K. (pd).....	4450	Johnson, E. (ps).....	4518	O'Leary, C. (ps).....	4251	Tunon, L. (ps).....	4169
Dauteuil, J. (ps).....	4538	Johnson, L. (ps).....	4127	Oliver, S. (ps).....	4466	Van De Castle, B. (ps).....	4288
Dawson, G. (ps).....	4537	Johnston, T. (pd).....	4666	Ong, Y. (ps).....	4376	VanDyke, E. (pd).....	4183
DeGennaro, R. (ps).....	4563	Kaplan, G. (ps).....	4533	Ott, M.J. (pd).....	4313	Vanoni, N. (pd).....	4661
Dell, D. (ps).....	4176	Kasprzak, M. (ps).....	4409	Pacewicz, K. (ps).....	4233	Vecchio, M. (ps).....	4552
Dell, D. (ps).....	4176	Kawasaki, Y. (ps).....	4511	Palmer, P. (ps).....	4609	Voner, L. (ps).....	4133
Devandry, S. (ps).....	4421	Keane, K. (ps).....	4346	Palos, G. (pd).....	4593	Vos, R. (ps).....	4434
Devine, H. (ps).....	4322	Keen, S. (ps).....	4241	Paolilli, D. (ps).....	4412	Walker, D. (ps).....	4464
Dunleavy, K. (ps).....	4476	Keith, J. (pd).....	4277	Parise, S. (ps).....	4573	Ward, M. (ps).....	4190
Eaton, L. (ps).....	4185	Kelvin, J. (ps).....	4177	Pavone, J. (ps).....	4509	Warnke, J. (ps).....	4246
Ellsworth-Wolk, J. (ps).....	4295	Kershaw, M. (ps).....	4275	Peterson, M. (ps).....	4280	Wells, J. (pd).....	4358
Erickson, J. (ps).....	4200	Khawaldeh, A. (ps).....	4430	Plakovic, K. (pd).....	4301	Wickham, R. (pd).....	4566
Escaleira, D. (ps).....	4333	Kim, S. (ps).....	4514	Polovich, M. (ps).....	4368	Williams, I. (ps).....	4542
Faiman, B. (ps).....	4217	Klimmek, R. (ps).....	4364	Powers, K. (ps).....	4586	Wood, G. (ps).....	4457
Fennimore, L. (ps).....	4649	Kokal, J. (ps).....	4410	Purl, S. (ps).....	4665	Wood, S.K. (pd).....	4243
Field, K. (pd).....	4525	Kravits, K. (ps).....	4239	Rice-Farrand, F. (ps).....	4560	Wu, H-S. (ps).....	4606
		Krumm, S. (pd).....	4617	Ridner, S. (pd).....	4589	Wujcik, D. (ps).....	4581
		Krumm, S. (ps).....	4663	Robbins, M.A. (ps).....	4435	Yackzan, S. (ps).....	4499
		Kwekkeboom, K. (ps).....	4259	Robison, J. (ps).....	4642	Yu, S-Y. (ps).....	4391
		Lacasse, C. (pd).....	4386			Zandstra, F. (ps).....	4278