

# Oncology Nursing Society 33rd Annual Congress

## Podium and Poster Abstracts

Each abstract has been indexed according to first author and identified as a podium or poster session on page 560.

The abstracts appear as they were submitted and have not undergone editing or the *Oncology Nursing Forum* Editorial Board's review process. If any errors or omissions have been made, please accept our apologies.

Abstracts that are not being presented do not appear.

### 2561

**HEALING PATIENT PARTNERSHIPS IN CANCER CARE.** Jody Reyes, RN, BSN, OCN®, Naval Medical Center San Diego, San Diego, CA, USA; Preston Gable, MD, Naval Medical Center San Diego, San Diego, CA, USA; James Ellzy, MD, Naval Medical Center San Diego, San Diego, CA, USA; Janis Dymont, Naval Medical Center San Diego, San Diego, CA, USA; James Fitzpatrick, Naval Medical Center San Diego, San Diego, CA, USA; Sandra Gharabaghli, RN, Naval Medical Center San Diego, San Diego, CA, USA; and Arden Chan, Naval Medical Center San Diego, San Diego, CA, USA.

Navigating complex health systems when you are well is challenging enough, but when faced with a devastating diagnosis such as cancer, it is easy to become overwhelmed. We identified that many of our cancer patients weren't consistently receiving vital information to make informed decisions about their care. Clinicians were often reticent to discuss emotionally charged topics. Therefore, patients that could benefit from supportive services were often referred late or not at all.

This dilemma presented opportunities for improvement in care coordination. We created a unique 90-minute "Cancer 101" course, offered bi-monthly, where patients and their significant others receive valuable information on a variety of topics from an multi-disciplinary team to include an Oncology Social Worker, Oncology Nurse, Therapist, Registered Dietitian, and Chaplain.

We designed a curriculum for "Cancer 101," which introduced various support services, assisting patients as they navigate the world of cancer treatment. We developed marketing brochures for patients at an appropriate literacy level and a self-referral form for use after "Cancer 101," enabling the patient to self-identify services they need from a multitude of professional disciplines resulting in early support and intervention.

Since July 2006, over 500 participants have attended "Cancer 101," resulting in improved patient and family satisfaction as measured by post-class evaluation, and proved to be rewarding for members of the healthcare team.

We wanted to make a difference in our patients' lives – we did just that! Patients perceive greater control and are more engaged in their cancer care as a result of this new partnership with their multidisciplinary healthcare team. We improved coordination of care and services and thereby the quality of care for our cancer patients.

### 2565

**DEVELOPMENT OF AN INPATIENT HOSPICE PROGRAM IN A COMMUNITY-BASED HOSPITAL: A NURSE DRIVEN APPROACH.** Michele Gaguski, MSN, RN, AOCN®, CHPN, APN-C, Ocean Medical Center, Brick, NJ, USA; and Phyllis Begyn, RN, BSN, OCN®, CNA, Ocean Medical Center, Brick, NJ, USA.

Oncology nurses possess the knowledge and expertise to meet the needs of patients at the end of life. Prior to the development of the inpatient hospice program, patients who were imminently dying were transferred to an outside hospice facility. The creation of the program provided uninterrupted, continuous care in a familiar setting.

The Nurse Manager and Clinical Nurse Specialist, both ELNEC Trainers, identified the need to provide services that would meet the

care required by patients at the end of life. There are instances when terminally ill patients qualify for hospice, however they are unable to go home because there is no significant caregiver and/or the patient may not be able to qualify for acceptance into an outside hospice facility. A collaborative team was formed between nursing and hospice to develop an acute inpatient program. The goal was to improve quality of life through collaboration between the oncology nurses and the hospice team to provide multisymptom management at the end of life.

Screening guidelines, admission criteria, policies and procedures for coding and billing, nursing care guidelines, and standing admission orders were created, approved, and implemented. This practice change was accomplished through the multidisciplinary efforts of the medical director, pharmacy, oncology nurses, access services, finance, and hospice. Under the premise of shared governance, monthly meetings served as a forum for identification of process issues, feedback from nursing staff, progress towards goals, and educational planning. A nurse driven hospital wide educational plan was implemented by the team.

This practice change was embraced by the staff through their involvement in team meetings, publication on hospice topics in the unit based newsletter, and presentations at educational programs and Schwartz Rounds. The program has demonstrated a steady growth in patient admissions. Positive feedback from grateful families and professional commendations from hospice are other measures of success.

As part of the continuum of cancer care, oncology nurses are called upon to collaborate with other disciplines to address the needs of patients at the end of life who are unable to receive hospice care in the home care setting.

### 2566

**SPIRITUAL CARE DURING THE CHEMOTHERAPY EXPERIENCE.** Marilyn Halstead, RN, PhD, AOCNS®, Towson University, Towson, MD, USA.

Oncology nurses are mandated to assess and treat the person with cancer utilizing a holistic framework. JCAHO requires evidence that institutions provide training for nurses in the area of spiritual assessment. Researchers found that the majority of adults in the United States depend on spiritual resources such as prayer when facing illness. However, Silvestri et al. concluded that, although patients and families stated that faith in God influenced chemotherapy treatment decisions, many healthcare workers underestimate the importance of faith for patients and families.

The experience of chemotherapy is a time when patients may question long held, highly valued spiritual resources. Alternatively, many patients undergoing chemotherapy find their spiritual resources comforting and inspiring. This presentation will address the need for improved assessment and intervention of spirituality in patients undergoing chemotherapy. Ethical considerations in providing spiritual care during a period of increased vulnerability will be addressed.

An assessment model will be presented. Characteristics of spiritual well-being and spiritual need will be discussed. The goals of ethical spiritual care will be included. Interventions such as presence, listening, hearing stories, music, journaling, and supporting religious practices will be highlighted.

Outcomes for the chemotherapy patient, including enhanced spiritual well-being, decreased spiritual distress, maintaining hope and trust in a higher power, and at peace with self and/or health status will be delineated. Evaluation of the interventions will be considered according to individual patient goals.

Implications for the oncology nurse include increased confidence in assessing and addressing the chemotherapy patient's spirituality. Resources for additional information will enable nurses to discuss spiritual care with colleagues, thus addressing this mandated area of nursing care.

## 2568

**TIME CONSTRAINTS TO EDUCATE YOUR PATIENTS? DEVELOP A SELF-DIRECTED LEARNING MODULE!** Leah Scaramuzzo, MSN, RN, C, AOCN®, The Cancer Institute of New Jersey, New Brunswick, NJ, USA; and Jayne Camporeale, MS, RN, APN-C, OCN®, The Cancer Institute of New Jersey, New Brunswick, NJ, USA.

Oncology nurses within the radiation department recognized a need to provide high-quality patient education on radiation specific side effects. Yet, finding time to offer appropriate in-depth teaching several times each day is challenging in a fast-paced, high-volume setting. Patients and families new to radiation are often anxious and overwhelmed, which may impede their ability to process and retain information. Moreover, time constraints may not allow them to attend formal teaching sessions. In order to ensure that each patient receives accurate and consistent information, a radiation oncology specific education module was developed.

The purpose of radiation orientation module was to provide patients and families with an overview of the radiation process, side effects, self-care management strategies, and anticipatory care guidance. Adult-learning principles guided program structure, including self-directed interactive teaching strategies such as text, graphics, and audio. Evidence demonstrates that information empowers patients' decision-making, thus facilitating active participation in their healthcare. Improved patient satisfaction, coping, treatment compliance, and patient outcomes were critical program goals.

The curriculum was designed using evidence-based resources, sessions with interdisciplinary experts, and discussions with patients and families undergoing treatment. The content, which is presented in a narrative slide show, reviews principles of radiation treatment, logistics, roles of the healthcare team, anticipated side effects, self care management, support resources, and a virtual-tour. During consultation, patients and families receive the self-directed module; a packet with various resources and access to the slide show available on the Internet, CD-ROM, the Center's patient library, or downloadable to an iPod®. The self-learning module allows patients/families to review at their own pace, identify questions, and further clarify at future appointments.

The program has been well received by the multidisciplinary team. The module is being pilot tested in early 2008. A Spanish version is under development.

As the nursing shortage reduces time available for patient education, oncology nurses are in vital positions to enhance teaching by developing self-learning modules. This cost effective, low-budget module is currently being adapted for new surgical patients and those entering the survivorship program.

## 2570

**AWARENESS IS THE KEY.** Susan Hampton-Ash, RN, OCN®, St. Joseph Hospital, Orange, CA, USA.

A patient experience led to creation of a nurse-led outreach program for testicular and breast cancer awareness in adolescents. Specifically, a man in his twenties who received inpatient chemotherapy for testicular cancer told nurses that he would have "sought help sooner if he had known what to do." Nurses questioned why someone might not know what to do with a swollen testicle or lump?

Based on cancer statistics, testicular cancer mainly affects men 15–35 years of age. Although breast cancer is rare in this age group, early detection is key, so young women should know about early detection.

The program aimed to teach adolescents how to perform self testicular and breast exams.

Begun in 2005 the education consists of a presentation given by 3 oncology nurses at our hospital to high school health classes in 1 school district. Students receive a handout of key information, including statistics about testicular and breast cancer, how to perform self examination, and rationale

for early detection. A hands-on portion of the instruction allows students to know what a tumor may feel like using balloons filled with flour and a bean. Small brochures explain the self examination process; students are encouraged to use these when they try the methods at home.

To date, 75 classes have been reached by 9 nurses. The exact numbers of students are not known since we have not formally evaluated this effort due to human subjects issues. Students ask many questions, and appear engaged. Responses from health class instructors have been positive, resulting in repeat invitations. Nurse responses have also been positive, allowing inpatient nurses to reach out to a healthy population. There is a waiting list for nurses to become involved.

A community outreach program involving inpatient nurses teaching high school students about testicular and breast examinations has been positively accepted in health classes in local high schools. Students reached may be more attuned to their own bodies, discussing cancer-related issues with family members. Nurses experience positive outcomes from dealing with preventive oncology, which can enhance professional satisfaction. Formal evaluations of students and nurses involved are warranted.

## 2577

**PACTS—PROFESSIONAL ACTION COORDINATING TEAMS.** Deborah Cline, RN, BSN, OCN®, University of Texas M.D. Anderson Cancer Center, Houston, TX, USA; and Patricia Johnston, MS, BSN, RN, OCN®, University of Texas M.D. Anderson Cancer Center, Houston, TX, USA.

The Nursing Practice Congress (NPC) and use of Professional Action Coordinating Teams (PACTs) have empowered clinical nurses at a large comprehensive cancer center to have control over their practice.

Based on a shared governance congressional model, 36 peer-elected delegates have been presented with over 70 clinical nursing issues. Issues are evaluated by the NPC and in the absence of an existing committee to resolve the issue, a Professional Action Coordinating Team (PACT) is formed. Each PACT is a short term, multidisciplinary committee, charged with resolving the issue within a timeline formulated by the group. In addition to a meeting structure designed by the PACT to encourage attendance, PACTs use an electronic bulletin board to increase the participation of off-shift staff and those who work at off-site locations.

Nurses with varying levels of leadership experience are guided to lead PACTs, using tools developed by the founding NPC group members; mentors are available to support nurses with little or no leadership experience.

Each new PACT chair is given a PACT Chair Guide, provided a thirty minute in-service, and a mentor is identified if necessary. The PACT Chair takes the responsibility to lead its members to issue resolution. Members are identified by an institutional call-out posted weekly on the electronic nursing news Web site. Interested parties e-mail the NPC program coordinator and are provided with feedback regarding the PACT chair, and their manager is notified. The PACT chair uses the PACT Member Selection Tool and identifies the stakeholders.

A comparison of 2007 and 2008 PACT participation will be shown. Samples of issues submitted for resolution will be outlined with various outcomes identified.

The short term (3–24 month) commitment needed to join a PACT has increased participation of nursing staff throughout the institution. The staff is able to determine what interests them and they can volunteer for the PACT of their choice.

The NPC is supporting autonomy, innovation, and nurse empowerment of the clinical nurse by providing opportunity for control and influence over nursing practice as well as developing future nursing leaders within the institution.

## 2587

**DISSEMINATING ELNEC ONCOLOGY CORE CURRICULUM AT A NATIONAL CANCER INSTITUTE DESIGNATED COMPREHENSIVE CANCER CENTER WITH MULTIPLE REGIONAL SITES.** Anne Kolenic, BSN, RN, OCN®, University Hospitals Ireland Cancer Center, Cleveland, OH, USA; and Polly Mazanec, MSN, APRN, BC, AOCN®, University Hospitals Case Medical Center, Cleveland, OH, USA.

End of life (EOL) care is an essential component of oncology nursing practice, yet research shows that nurses receive very little formal education about EOL care. The End of Life Nursing Education Consortium (ELNEC) provides a curriculum which is an effective tool to fill the edu-

cation gap. Multiple challenges continue to limit the ability to disseminate this information at a large comprehensive cancer center. Creative strategies are needed to provide the ELNEC curriculum to nurses.

The purpose of this project is two fold:

1. To disseminate the ELNEC curriculum to the maximum number of nurses at a cancer center with multiple regional sites, and
2. To mentor and support new ELNEC trainers in their effort to improve EOL care and education.

The cancer center's administration supported an initiative from the Office of Education to host a regional ELNEC conference. Twenty seven nurses from the hospital attended and accepted the responsibility to become trainers at individual clinical sites. These nurses worked together under the leadership of a senior oncology nurse to plan the module presentations, learn effective teaching strategies and support one another. Trainers selected a module to teach. The modules were presented over an 11 month period with one module repeated five different times a month at 3 sites. Contact hours were awarded for each one to two hour presentation.

The eleven month program was evaluated by the trainers and each presentation was evaluated by the attendees. Attendance at each module was tracked to identify nurses who completed all nine modules.

Although nurses are receptive to EOL information, the format for disseminating it is challenging. Staffing numbers, schedules and multiple shifts were primary barriers to the monthly module presentations at the main campus. However, this schedule worked well at the smaller sites. The format needs to be tailored to individual sites and units of a large cancer center. The establishment of the trainers group has been critical to the sustainability of the project and for the growth and development of the new trainers. Comments from both participants and trainers will be used to refine the program for 2008.

## 2594

**A TEAM-CENTERED MODEL FOR DEVELOPING A MISSION STATEMENT IN A HEALTHCARE ORGANIZATION (LDI PROJECT).** Inga Aksamit, RN, MBA, OCN®, McKesson Specialty, San Rafael, CA, USA; Lyssa Friedman, RN, MPA, OCN®, McKesson Specialty, San Rafael, CA, USA; Julie Wilson Ganz, PharmD, McKesson Specialty, San Rafael, CA, USA; Cindy Baker, PharmD, McKesson Specialty, San Rafael, CA, USA; Kimberly Bardel Whitlock, PharmD, McKesson Specialty, San Rafael, CA, USA; Steven Angelides, McKesson Specialty, San Rafael, CA, USA; and Norma Martinez, McKesson Specialty, San Rafael, CA, USA.

The National Oncology Alliance, a community oncology group-purchasing organization, was acquired by McKesson in 2006. Our clinical team of oncology nurses and pharmacists, who had functioned as content developers for oncology practices, was incorporated along with technology and business development teams into a multitherapeutic business strategy group. This resulted in a need to adapt to a new culture as well as to broaden our knowledge and skill set. Staff expressed concerns about how to prepare for future demands and establish priorities.

This Leadership Development Institute (LDI) project was designed to develop a shared vision for our multidisciplinary clinical team in order to create alignment around our purpose within the larger organization and provide a foundation for strategic planning and organizational change.

We convened a series of three staff meetings over a two month period. We conducted strategic planning exercises, crafted an outline, circulated five drafts containing components of the mission statement via email, and reviewed modified versions until consensus was achieved. The final product consists of a mission statement and summaries of our vision, values, team description and strategic goals for the year.

We succeeded in creating our vision, including a statement of our values, mission, description of our team and goals. Feedback from the clinical team regarding the process was positive and indicated that this was an important step in achieving consensus about our direction. The process allowed the team to coalesce around a shared mission and gain confidence in our ability to change and succeed.

After going through a significant organizational change, developing our mission statement helped us redefine ourselves as a team and establish our locus in the new organization. This was accomplished in the relatively short time frame of two months, which could easily be

replicated in staff meetings in a variety of nursing settings. This can have applications in any number of nursing settings where change is taking place. This activity is not one that is often conducted in nursing settings, and if utilized more often could provide strong inspiration and motivation to an engaged staff.

## 2597

**BEST OF ONS.** Marty Weiner, RN, MS, CCRC, Cancer Treatment Centers of America, Philadelphia, PA, USA; Louise Baca, RN, MSN, CCRP, AtlantiCare Cancer Care Institute, Galloway, NJ, USA; and Cathy Belt, RN, MSN, AOCN®, CNA, Hospital of the University of Pennsylvania, Philadelphia, PA, USA.

Best of ONS was conceived and developed at a Leadership Development Institute (LDI) in 2004 by a member of the South Jersey ONS Chapter. The project was designed to establish a consortium of ONS chapters in the tri-state area (NJ/PA/DE), which would enable them to collaborate on an educational conference for local oncology nurses.

Of the 31,000 members of ONS, approximately only 6,000 attend Congress each year. The purpose of Best of ONS was to provide nurses in the region who are unable to attend Congress, an opportunity to hear selected speaker presentations from that conference. Of primary concern to the Planning Committee was that the Best of ONS be an affordable and centrally located event.

Volunteers from seven local chapters were invited to join the Planning Committee. After an initial face-to-face gathering, monthly meetings were held via conference call. Nurses from the region who had been invited to speak at Congress were contacted to determine their interest in speaking again at Best of ONS. Speakers were offered honorariums. Grant requests were submitted to numerous pharmaceutical companies, and vendors were solicited to set up small displays in an exhibition room. Each member of the Planning Committee assumed a specific role, e.g. recruiting vendors, creating a flyer, liaison with venue site and speakers coordinator. Marketing of this event includes distributing 700 flyers to oncology nurses in the tri-state region.

In order to be awarded CEUs, attendees are required to submit an evaluation developed according to ONS guidelines. Evaluations have been overwhelmingly positive and speakers' goals and objectives have consistently been met. Attendees are attracted by the quality and variety of speakers, the affordability of the conference and the awarding of CEUs.

Best of ONS has been a huge success and has become an annual occurrence. Each year the event is held in a centrally located venue within the tri-state region. In each of the past three years approximately 100 nurses have attended. Entering its fourth year, Best of ONS 2008 is scheduled for May 31, 2008.

## 2598

**FACILITATING THE EARLY DETECTION OF LUNG CANCER WITH A NURSE NAVIGATOR PROGRAM.** Teri Parker, RN, MSN, OCN®, OhioHealth Doctors Hospital, Columbus, OH, USA; and Melanie Boren, BSN, RN, OCN®, OhioHealth Doctors Hospital, Columbus, OH, USA.

The earliest indication of lung cancer may be an incidental finding on radiographic imaging performed for an unrelated problem. However, due to the complex health care system, patients can become lost in the maze and incidental findings may not be evaluated expediently. The need exists for oncology nurses to help patients navigate the system and to assist with efficient evaluations.

The Nurse Navigator (NN) program at Doctors Hospital in Columbus, Ohio provides a single point of access to coordinated and comprehensive care for lung cancer. The NN coordinates care, ensures communication between the primary care physician (PCP) and specialists, and provides patient advocacy and teaching. A primary objective is to reduce the interval between presentation of lung cancer and diagnosis in order to begin treatment quickly.

The multidisciplinary team of specialists selected radiology alerts to capture abnormal radiographic findings in all patients who undergo chest imaging. The NN reviews these cases with the medical director and offers fast-tracked next steps to the PCP. The objectives of quality, timeliness and communication guide the NN's decision-making process related to patient flow. Her extensive oncology knowledge and her skills that provide education, advocacy and communication are critical.



It is impossible to anticipate all of the many different patient scenarios; but the commitment of the NN and physicians is paramount. Of the 156 referrals the NN received in the first 7 months, 13 previously unsuspected cancers and 7 other significant pathologies were identified. 35% of the patients are being monitored serially for possible malignant changes. The remaining patients either required no additional work-up or the PCP opted out. Patient satisfaction surveys and informal physician feedback were extremely positive. The sample is still too small for statistical analysis of trends.

We found that our oncology NN facilitates the process for early detection of lung cancer, making valuable contributions to patient experiences and to their physicians. Although the NN model is successful at this 240-bed hospital, a different model may be needed at hospitals with larger patient volumes. Nevertheless, the basic point person model would be beneficial for many different diseases.

## 2601

**IMPROVED CONTINUITY OF CARE THROUGH EVIDENCE BASED CHARTING FOR CHEMOTHERAPY PATIENTS.** Gaye Swanson, RN, OCN®, Atlantic Health System, Morristown, NJ, USA.

The patient population at our Cancer Center has doubled in the past two years. Our staff has increased accordingly. Our team of nurses realized the patient charting was fragmented and did not enable easy communication of the barriers the patients were facing. The flow sheet was not easy to read and not consistently used. There were no guidelines for assessing the patient's side effects. We wanted to develop a better tool for recording treatments the patient had previously received. We also wanted to develop a Patient Progress Report which insured a standardized reporting of the patient's baseline and the side effects they experienced during treatment.

Our goal was to provide uniform charting tools for our chemotherapy patients. We focused on consistent assessment of patient's side effects as well as improved documentation of medications administered and education provided. During the process we realized our charting did not always fulfill the Joint Commission guidelines; we sought to remedy this.

A new assessment form and flow sheet were developed by the nurses in our unit. Since many of our nurses have worked in other Cancer Centers previously, we drew from those experiences while developing tools appropriate for our facility. The assessment form targeted nine common side effects which require constant monitoring. Assessment guidelines were developed based on NCI guidelines, side effects are now graded 0–4. A new Intake form was developed. Medication Reconciliation and Patient Education forms that had been developed by hospital committees were added to our charts.

The newly developed evidence-based tools were implemented in the clinical setting with a plan for ongoing evaluation. Revisions are made as needed. The nurses rotate the task of monthly chart review for compliance. These tools were developed by the complete nursing staff giving everyone the pride of ownership.

Oncology nurses have a responsibility to their patients, their profession and the health care team to provide safe, consistent treatment. These evidence-based tools allow us to identify and act upon the trending of side effects and social needs that may provide barriers to the successful completion of chemotherapy.

## 2607

**DECISION-MAKING ISSUES WITH PROSTATE CANCER SCREENING AMONG AFRICAN AMERICANS.** Randy Jones, PhD, RN, University of Virginia, Charlottesville, VA, USA; Ishan Williams, PhD, University of Virginia, Charlottesville, VA, USA; and Richard Steeves, PhD, RN, FAAN, University of Virginia, Charlottesville, VA, USA.

African American men are 1.5–2 times more likely to be diagnosed with prostate cancer than Whites. Cultural beliefs play a major role in screening behaviors. These beliefs may assist in the decision whether or not to be screened for prostate cancer. To provide culturally sensitive care, healthcare professionals must be aware of these beliefs.

The purpose of this study was to understand prostate cancer screening decision-making among rural African Americans. The study's goal was to conduct an in-depth analysis of beliefs on prostate cancer screening among rural African Americans. How these beliefs and attitudes may or may not have influenced their health decision-making process were explored also.

This study used a qualitative design. The analyzed data utilized the hermeneutic/phenomenological approach to explore the "lived experiences" of the participants. The "lived experience" are associated with participants' views on prostate cancer screening. The investigators used an iterative approach to enhance the examination of the responses from the interviews.

The sample (N=17) included age 40 and older African American men who never been diagnosed with prostate cancer, but may or may not have been screened. Participant recruitment took place at rural community centers (i.e. barbershops and churches). Semi-structured interviews explored health status, demographics, prostate cancer screening knowledge, healthcare providers and family interactions, and religious beliefs. Data collection was terminated upon moment of data saturation. Data was analyzed using qualitative and descriptive methods.

Three main themes emerged from the collected data.

1. Men had a limited amount of education on prostate cancer.
2. Family and friends played an important role in the decision-making process.
3. It was necessary for the men to have a trusting relationship with their healthcare provider.

In addition, these men reported it was much later in life until they heard about prostate cancer.

The results will give healthcare providers clues in how to sustain and improve care they deliver to this vulnerable population. The findings will aid in the development of a culturally-sensitive decision aid. The study has great promise to improve interactions between healthcare providers and patients and promote unity among the community and healthcare systems.

## 2609

**THE DEVELOPMENT OF AN INTERDISCIPLINARY EXERCISE PROGRAM FOR PATIENTS REPORTING FATIGUE RELATED TO CHEMOTHERAPY OR RADIATION THERAPY.** Jeanette Barefoot, RN, MSSL, OCN®, Aptium Oncology–Trinitas Comprehensive Cancer Center, Elizabeth, NJ, USA; Carol Blecher, RN, MS, AOCN®, APN, C, Aptium Oncology–Trinitas Comprehensive Cancer Center, Elizabeth, NJ, USA; James Dunleavy, PT, MS, Trinitas Hospital, Elizabeth, NJ, USA; and Donna Filocamo, LCSW, ACSW, Aptium Oncology–Trinitas Comprehensive Cancer Center, Elizabeth, NJ, USA.

Fatigue is frequently an issue for patients undergoing treatment for a cancer diagnosis. It is well documented that fatigue can have deleterious effects on quality of life affecting the person's sense of well being, personal relationships and their ability to cope. Exercise has been shown to be of benefit in the management of fatigue in studies of breast cancer patients, as well as patients with other solid tumors. Based on this data we began developing a program to educate staff, patients and significant others regarding fatigue and to provide an evidence based intervention designed to relieve fatigue and improve quality of life.

This interdisciplinary program involving oncology and rehabilitation medicine is designed to increase staff, patient and significant other awareness regarding fatigue. It will provide for a systematic and effective means for screening of all patients undergoing therapy at the cancer center and an evidence based intervention to improve the lives of these patients.

A staff education program regarding fatigue will be presented including the staff of the cancer center and the rehabilitation department. The patients/significant others receive information regarding fatigue during their treatment education sessions. Fatigue is assessed on a 0–10 scale at each visit. Fatigue that is rated as five or greater will be reported to the physician and an exercise intervention will be discussed. The patient will complete the FACT F questionnaire and a quality of life survey. They will be referred to rehabilitation medicine for an evaluation and the development of an exercise program.

Patient evaluation of the program includes the completion of a FACT F, quality of life survey and a patient satisfaction questionnaire at the end of a three month period and upon completion of treatment.

Evaluation of program effectiveness will be based on chart surveys and number of patients referred to the program based on our initial survey of patients which indicated that forty percent of patients reported moderate to severe fatigue.

This program is designed to provide evidence based interventions to manage fatigue in our oncology patient population. It will also enhance our goals of comprehensive cancer services, service and clinical excellence.

## 2610

PERCEPTIONS OF COLLABORATION AND COMMUNICATION BETWEEN THE RN-MD RELATIONSHIP IN AN ONCOLOGY ICU. Barbara Stewart, RN, BSN, CCRN, Fox Chase Cancer Center, Philadelphia, PA, USA.

According to the American Association of Critical Care Nurses (AACN), six standards must be met to maintain a healthy work environment. If one standard is weak, then a healthy work environment is compromised. Nurses at this comprehensive cancer center complete the National Database of Nursing Quality Indicators Nurses' Satisfaction survey annually. ICU nurses have consistently rated the RN-MD relationship low. They verbalized that this is due to lack of true collaboration and effective communication which are two of the six AACN standards. Physicians have never been asked their perceptions of their working relationship with the ICU nurses. Nurses felt that this information was needed before effective recommendations for improvement could be developed.

To find a survey tool designed specifically to evaluate ICU nurses' and physicians' perceptions of their working relationship. To determine any differences in perceptions, identify problem areas and develop specific interventions for improvement.

After a thorough review of the literature, the "ICU RN-MD Satisfaction Questionnaire" was chosen. This is an evidenced based survey. This tool uses a 1-5 Likert scale. It evaluates relationships and communication, teamwork and leadership, perceived effectiveness, managing nurses and physicians, authority of nurse manager and medical director, and job satisfaction. All physicians, PAs and nurses practicing in the ICU were asked to complete it. A poster was created to present composite level results, benchmarking and conclusions. The findings have been submitted to ICU committee to develop interventions.

Forty-two of 111 physicians/PAs and 15 of 25 nurses completed the questionnaire. A difference in the perceptions regarding communication, conflict management and collaboration was evident. The physicians/PAs wrote helpful comments and suggestions. Interestingly, they viewed the treatment of medical and surgical patients to be different. Nurses did not elaborate on their surveys.

The response of physicians indicated that they appreciated the opportunity to share their thoughts, valued their relationships with the nurses and were willing to collaborate to improve the work environment. The objective identification of the differences in perception will be the basis for an interdisciplinary group to develop specific targeted interventions to improve nurse-physician communication and collaboration and create a healthier work environment.

## 2619

THE MAMMOSITE RADIATION THERAPY SYSTEM EXPERIENCE; THE PATIENT'S PERSPECTIVE. Julia Powers, RN, MSN, CCRP, Memorial Hermann Southwest Hospital, Houston, TX, USA; Arlene Ricardo, MD, Memorial Hermann Southwest Hospital, Houston, TX, USA; and Kathleen Shadle, MD, Memorial Hermann Southwest Hospital, Houston, TX, USA.

In 2002 the FDA gave clearance to the MammoSite Radiation Therapy System, a device for delivering intracavitary brachytherapy following breast-conserving surgery. There have been relatively few studies that have reported long-term overall patient satisfaction and understanding in addition to toxicities and cosmesis.

The objective of this study was to assess long-term overall patient satisfaction and understanding of the MammoSite Radiation Therapy System as well as evaluate toxicities and cosmetic results.

A fourteen item MammoSite Therapy Questionnaire was developed by the authors and sent out to thirty-four patients who received treatment for breast cancer with the MammoSite Radiation Therapy System following breast-conserving surgery. All patients had been post treatment for a period of between 12 to 24 months.

The questionnaire addressed patient understanding of the treatment system, levels of pain upon insertion and removal of the catheter, ease of catheter care, adverse events, cosmetic results, overall satisfaction, willingness to recommend to others and factors influencing the decision to receive MammoSite Radiation Therapy System. Data was analyzed utilizing descriptive statistics.

Thirty of the thirty-four patients who had received treatment with the MammoSite Radiation Therapy System responded to the questionnaire. All participants were between 12 and 24 months post-treatment at the

time of questionnaire completion. The age range of participants was 46-76 years with a mean age of 60 years. Twenty-seven of the thirty participants were ER/PR+ and all thirty had negative nodes. Tumor size ranged from .5cm to 2.5cm with a mean of 1cm.

MammoSite Radiation Therapy System treatment for early-stage breast cancer was found to be well tolerated with minimal adverse effects. Patients were well informed and found the treatment regimen to be quite convenient and catheter care posed no problems.

Overall satisfaction regarding the treatment regimen and cosmetic result was high and participants were likely to recommend this treatment to others. Satisfaction remained high at one year or longer post treatment and the majority of the participants found the shorter treatment regimen to be the influencing factor in their decision to have MammoSite Radiation Therapy.

## 2624

DEFINING FATIGUE: THE EXPERIENCE OF PATIENTS WITH CANCER RECEIVING RADIATION THERAPY. Loretta A. Williams, PhD, RN, AOCN®, University of Texas M.D. Anderson Cancer Center, Houston, TX, USA; V. Shannon Burkett, PhD, Heritage Behavioral Health, Houston, TX, USA; Margaret H. White, BA, University of Texas M.D. Anderson Cancer Center, Houston, TX, USA; Ibrahima Gning, MPH, University of Texas M.D. Anderson Cancer Center, Houston, TX, USA; and Charles S. Cleeland, PhD, University of Texas M.D. Anderson Cancer Center, Houston, TX, USA.

Fatigue is the most common and distressful cancer-related symptom, affecting 65-100% of patients receiving radiation therapy. There is no single, widely-accepted definition of fatigue. Defining the patient's experience of a symptom is critical to assessing and managing the symptom. The assessment and management of symptoms, including fatigue, is a primary role of oncology nurses. Using qualitative research to define a symptom assures that symptom aspects most important to persons experiencing the symptom are included.

The purpose of this study is to develop a detailed description of the experience of cancer-related fatigue during radiation therapy to guide fatigue assessment. This study addresses the content area of Research in Cancer Symptoms and Side Effects of the ONS 2005-2009 Research Agenda.

The qualitative philosophical framework for this study is Story Theory. Using Story Theory, the researcher allows the participant to share the experience of a complicating health challenge in a clear and understandable way.

This is a qualitative, cross-sectional study. A purposive sample of 21 participants receiving radiation therapy at a comprehensive cancer center in the southern United States described their experiences of fatigue in single audiotaped, story-based dialogues. Using an exploratory descriptive method, the researcher analyzed verbatim transcripts of the dialogues and developed themes of the fatigue experience, which were reviewed and confirmed by 2 other researchers. The themes were used to construct a definition of fatigue.

Three main themes surrounding the experience of fatigue were identified.

1. Loss of strength or energy
2. Major effects of fatigue
3. Sensations associated with fatigue

Loss of energy or strength included feeling tired, weak, and exhausted and having a lack energy and stamina. Fatigue during radiation therapy is defined as tiredness and lack of energy which progresses to exhaustion as it becomes more severe. Because of fatigue, patients may be unable to perform usual activities and may become frustrated or sad. In practice or research, fatigue, which can be alternately defined as tiredness or lack of energy, is best measured by soliciting patient ratings on a severity scale. Interference of fatigue with usual activities and mood is also important to assess.

**Funding source: Cephalon, Inc.**

## 2626

DIABETES PATIENT EDUCATION IN HOSPITALIZED ONCOLOGY PATIENTS. Ashley Leak, RN, MSN, OCN®, Duke University Health System, Durham, NC, USA; and Ellen D. Davis, MS, RN, CDE, Duke University Health System, Durham, NC, USA.

Diabetes, a chronic disease, affects more than 21 million adults and is a big problem in hospitalized cancer patients. An estimated 25% of hospi-

talized patients have diabetes or hyperglycemia. Oncology patients have a unique situation in which many of their treatments increase their risk of hyperglycemia. The management of comorbid diabetes in cancer patients is a rising epidemic with impact on health care. It is not uncommon for nurses to care for hospitalized patients with cancer and diabetes. Diabetes patient education is the center of diabetes care. In diabetes research, effective education has lowered hemoglobin A1C, has improved glycemic outcomes, and more importantly it has improved quality of life.

The purpose is to assess staff nurses knowledge of diabetes patient education and then provide appropriate resources.

Diabetes educators provide up to date information to oncology nurses. The American Association of Diabetes Educators (AADE) promotes seven self care behaviors for health care providers to educate patients. These include healthy eating, being active, monitoring, taking medication, problem solving, reducing risks, and healthy coping. An institutional pre-test of diabetes self-care knowledge for nurses will assess the nurses' knowledge. After the pretest, staff nurses will be provided with the online program, unit diabetes education classes, and a health system-wide diabetes inpatient nursing conference.

An on-line post-test will be completed to evaluate the staff nurses understanding of diabetes patient education after the educational interventions. Analysis will be conducted and disseminated to the nurses and management team.

As diabetes patient education is known to be central to glycemic outcomes, the next question becomes how to best impart diabetes self-care information to patients. Empowerment-based diabetes patient education techniques and motivational interviewing in diabetes provide the evidence-based methods of education. No longer are teacher-centered, nurse driven agendas the way to help patients; the AADE seven self-care behaviors frame the content for patients that have shown positive results. Our future plans involve bringing these new methods to oncology nurses to teach patients with diabetes.

## 2628

**PILOT STUDY OF A SEATED EXERCISE INTERVENTION FOR LUNG CANCER PATIENTS: CLINICAL SIGNIFICANCE.** Lauri John, PhD, RN, CNS, University of Texas at Arlington, Arlington, TX, USA.

Fatigue has been implicated as a distressing effect of lung cancer and its treatment that negatively affects quality of life (QOL). Studies have shown that walking programs reduce fatigue and improve general well-being in women with breast cancer; however, there are no studies of the effects of modified exercise programs on QOL in lung cancer patients, whose participation in a walking program might be limited due to climate, safety, and/or scheduling concerns.

The purpose of this pilot study was to determine the feasibility of a major research study to determine the effects of a seated exercise program on QOL and fatigue in lung cancer patients.

The conceptual model for the study was Roy's Adaptation Model.

The design used for the study was a randomized clinical trial with repeated measures. Ten lung cancer patients beginning outpatient chemotherapy with or without radiation therapy were recruited for the study from oncology clinics in central Texas. All participants received standard instructions about fatigue management; maintained a daily activity diary; and completed the Functional Assessment of Cancer Therapy-Lung [FACT-L], which measures QOL in lung cancer patients, and the Fatigue Subscale of the FACT, which measures fatigue, every two weeks for three months. Participants randomized to the intervention group were given a videotape of a low to moderate intensity seated exercise program and individualized instructions about how to modify exercise intensity and were encouraged to perform the exercises at least three times per week. Qualitative data regarding all participants' perceptions of QOL and fatigue as well as strategies used by lung cancer patients to maintain or promote QOL were assessed at the end of the three-month study period.

Although the sample size of this pilot study was too small to find statistically significant differences between the control and intervention groups, the qualitative data suggest clinically significant findings. Inclusion of a tailored exercise program in chemotherapy teaching for patients with lung cancer may improve quality of life, reduce fatigue, and improve treatment tolerance.

**Funding source:** ONS Foundation/Ortho Biotech Research Grant

## 2630

**CARING FOR PATIENTS RECEIVING CHEMO/RADIATION FOR PANCREATIC CANCER.** Lorraine Drapek, RN, MSN, OCN®, Massachusetts General Hospital, Boston, MA, USA; and Esther Odette, RN, BSN, Massachusetts General Hospital, Boston, MA, USA.

Pancreatic cancer occurs in 2% of all cancers. Yet, each year as many patients die from pancreatic cancer as die from breast cancer. Patients are treated aggressively to maintain quality of life and prolong survival. Chemo/radiation of the pancreatic cancer patient presents several challenges to oncology nursing. The challenges of nutrition, GI disturbances, fatigue, and the emotional challenge of a devastating diagnosis are faced by patients, families, and nurses on a daily basis. Because patients are receiving both chemotherapy and radiation concurrently, nurses in medical oncology, infusion unit, and radiation oncology must attempt to create a seamless transition from unit to unit to facilitate trusting relationships, manage effects of treatment, and decrease patient stress.

"Combined Chemotherapy and Radiation for Patients with Pancreatic Cancer," is a teaching tool for the pancreatic patient used by nurses in the Cancer Center at this major academic teaching hospital. It was developed to educate patients regarding expectations in terms of treatment, side effects, and managing side effects during their course of chemo/radiation. This tool was developed to help patients understand and cope with the day to day routine of receiving chemo/radiation. It was also developed to demonstrate that medical oncology, infusion unit, and radiation oncology staff all communicate with each other on behalf of the patient.

This tool is used when patients are beginning the chemo/radiation process and during the entire course of treatment to reinforce side effects and management. The medical oncology, infusion, and radiation oncology staff all use this same teaching tool to reinforce consistent patient information.

The outcomes help oncology nurses in all areas of the Cancer Center to be able to keep a global perspective of what is affecting pancreatic cancer patients as they undergo chemo/radiation. This will assist them in planning, assessment and intervention. Outcomes include decreased confusion and anxiety, increased self-care behaviors, treatment compliance, and patient satisfaction.

Oncology nursing practice includes anticipating patient problems, needs, and concerns. Various studies have been done demonstrating the positive impact of patient education, especially in the oncology patient population. Measures to prevent and minimize side effects can also be put into place, with the goal of preventing inpatient admission and maintaining the patient's quality of life at home.

## 2634

**LEARNING NEEDS OF ONCOLOGY NURSES: THEN AND NOW.** Barbara Van De Castle, RN, MSN, APRN, BC, OCN®, Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, MD, USA; Nicole Mills, BSN, RN, Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, MD, USA; and Susan Sartorius-Mergenthaler, BS, RN, Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, MD, USA.

As the multidimensional role of the nurse continues to expand, it is imperative that nurse educators promote optimal nursing practice through a variety of creative educational opportunities. In 1999, a paper-based learning needs survey (LNS) was completed at an NCI designated Comprehensive Cancer Center to ascertain educational needs of the nursing staff (n=11). In 2007, a new LNS was conducted using Internet survey software using the same categories and questions. The categories in both surveys included: Application of Knowledge, Professional Development, Managing Resources, Preferred Learning Approaches and Other Topics/Suggestions.

The purpose of this presentation will be to discuss learning needs of the current oncology nurse and assess trends in education based findings from both learning needs assessments.

A 19-question online software survey was e-mailed to the staff in October 2007. All inpatient, outpatient and radiation oncology nurses (n = 255) received the survey via a hyperlink in an email. The hyperlink brought them to an online survey where they could anonymously answer the survey.

27% (n = 69) of the nurses responded to the online survey. Emergency Situations remain the most frequently selected topic in both surveys; in



2007 Oncology Specific Emergencies were cited, whereas in 1999 it was Managing Clinical Emergencies. Leukemia was the current most requested cancer education need vs Lymphoma in 1999. Stress Management and Presentation and Computer Skills were the most requested Professional Development need in 1999 compared to Stress Management and Critical Thinking in 2007. Mentoring continues to be the greatest Managing Resources need and "Hands-on" education is rated the highest Preferred Learning Approach from both surveys.

Emergency Situations continue to be the greatest area of need for our nurses. Due to the unpredictable nature of these events, this need will unlikely change over time. Other findings of interest are preferred location of education and methods of learning. All findings will be taken into consideration when planning educational topics for the future. The benefits of this online evaluation methodology will permit regular, efficient opportunities to assess learning needs and keep clinical nursing education programs relevant to the needs of practicing nurses.

## 2637

**ABCs OF PRACTICE BASED EDUCATION IN ONCOLOGY NURSING.** Cynthia Chernecky, RN, PhD, AOCN®, FAAN, Medical College of Georgia, Augusta, GA, USA; and Deborah A. Smith, DNP, RN, Medical College of Georgia, Augusta, GA, USA.

The importance of clinical learning is recognized by many nursing organizations (AAN, AACN, ONS). A framework is necessary for structuring and organizing teaching to students and nurses so the clinical environment can be enriched. Structure assists students in working collaboratively with nurses in the practice setting. The ABC pedagogy (A = Anatomy & physiology, B = Best care, including assessment and interventions, C = Complications) is an author-developed format used for learning about diseases/conditions (CML), signs/symptoms (CINV), medications (Trisenox®), research updates (Hairy cell leukemia treatment). This consistent approach, used for 5-years, has excellent student and nurse feedback. Learning and competence in clinical practice has been enhanced.

Nursing as a practice-based profession demands quality learning based on integration of theory and practice to prepare for relevant practice in today's world. The ABC format yields information used specific to patient care settings and is an ideal opportunity to discuss nursing diagnoses, issues and problems with students and to render feedback. For undergraduates, the area most in need of assistance is identifying complications and the assessment and interventions necessary for those complications. For staff and advanced practice (APN) nurses the ABCs provide a consistent format for updates on research and improving clinical practice. For graduate students the inclusion of current research in Best Care is required.

Students choose learning areas related to their patient, write ABCs and eventually present ABCs verbally. This aids in clinical discussions, knowledge synthesis and individualized patient care.

Students and nurses in hospitalized specialty units rated the ABC format on a 1–5 Likert scale (1 = excellent way to learn to 5 = very bad way to learn). Results for undergraduate students (N = 37) included 98% rated excellent, 2% very good. Graduate students (N = 8) 88% excellent, 12% very good. Staff nurses and APNs (N = 17) 88% excellent, 6% very good, 6% neither good nor bad.

The ABC approach is an excellent format for learning by students and nurses in the clinical setting. Discussion with APNs revealed that bold type or highlights would enhance the format for research and medication updates.

## 2645

**MULTISPECIALTY PALLIATIVE CARE CLINIC: ONE STOP FOR PATIENTS.** Alice Matthews Beers, BSN, RN, OCN®, Washington Hospital Center, Washington, DC, USA; Christine E. Rocchio, BSN, MSN, AOCN®, FNP, Capital Palliative Care Consultants, Manassas, VA, USA; Michelle Timmer, BSN, RN, Capital Palliative Care Consultants, Manassas, VA, USA; and J. Hunter Groniger, MD, Capital Palliative Care Consultants, Manassas, VA, USA.

Providing comprehensive symptom management is a challenge for every member of the oncology patient care team and is special consideration in cancer centers with high patient volume. Inadequate symptom management can adversely affect quality of life as well as compliance

with treatment. Although many institutions provide palliative care, pain management, oncology rehabilitation and psychosocial support, utilization of these services is often not well coordinated and frequently requires multiple appointments. Consolidating access to these services can decrease expenditure of patients' time, transportation costs and physical energy and improve patient outcomes. As the largest segment of oncology practitioners and the group that spends the most time with patients and families, nurses are in a key position to identify a need for improved organization of services.

In order to provide a comprehensive and convenient management approach for patients and families, our palliative care team proposed a targeted strategy to combine supportive care services under the auspices of a coordinated palliative care service (PCS).

Through the PCS, the nurse/NP/physician on the team partner with pain medicine, oncology rehabilitation, and psychosocial counseling to provide patients with a "one-stop" visit. During any given appointment, patients may see one or more of the participating specialists. Referrals for PCS can be initiated by nursing or medicine. A computer based ordering system allows for the identification of specific needs for the patient and family.

A total of 256 referrals have been made to PCS since February 2007. The nursing staff has evaluated the PCS as an invaluable addition to our cancer program. The opportunity for patients to see multiple practitioners during one visit lessens the physical and financial toll on patients/families and has been well received. Collection of patient and practitioner satisfaction data is an on-going part of the project.

Nursing awareness and willingness to recommend supportive services to patients/families is pivotal in fostering acceptance and utilization throughout the continuum of cancer care. At present, our approach to multi-specialty palliative care is unique to our institution. However, our model can serve as an example to other oncology institutions as they address efforts to enhance the quality of their care and improve patient satisfaction and outcomes.

## 2648

**IMPROVING DOCUMENTATION: CREATING A BMT-SPECIFIC NURSING CARE PLAN.** Sarah Thirlwell, RN, MSC, MSC(A), CHPN, OCN®, Moffitt Cancer Center, Tampa, FL, USA; Amy Jones, RN, BSN, OCN®, Moffitt Cancer Center, Tampa, FL, USA; and Terry Sylvanus, RN, MSN, APRN-BC, AOCN®, Moffitt Cancer Center, Tampa, FL, USA.

Accurate, thorough documentation is a crucially important oncology nursing activity that helps ensure quality patient care and demonstrate accountability for care delivery. As noted by the American Nurses Association, challenges arise when documentation becomes a burden and time spent documenting actually compromises quality patient care. Audits revealed that Blood and Marrow Transplant (BMT) staff nurses were inconsistently or incompletely documenting the comprehensive, holistic, family-centered care they were providing for patients receiving high dose chemotherapy and stem cell transplant. Concerns were also raised that our institution's narrative "Assessment-Plan-Intervention-Response" format presented barriers to proper documentation.

Our BMT-unit-based Continuous Quality Improvement and Education Committees collaborated to evaluate these challenges and proposed a new format for documentation of nursing care to meet national and institutional standards. Our goal was to create a simplified, structured format that would decrease the burden of documentation and reflect the unique elements of BMT nursing care delivery.

Our committees decided to base the new chart form on traditional NANDA-based Nursing Care Plans. Selection of appropriate BMT-specific problems, goals, interventions and responses for inclusion in a checklist-based form was based on reviews of current literature and oncology nursing standards, as well as frequent input from all staff members. Additional space for narrative documentation of variances from expected outcomes was also included. A three-month demonstration project was initiated in December 2007 to evaluate this new documentation tool.

The BMT Nursing Care Plan is being audited monthly to determine if documentation standards are met, if documentation is complete and consistent, and if the plan of care is clear and continued across shifts. Feedback on the new form is also regularly solicited from nursing staff and other disciplines. Preliminary results indicate improved outcomes,

including consistent, thorough documentation of time-sensitive nursing outcomes. In addition, BMT nurses express increased satisfaction with the new form and decreased burden of documentation.

Creation by staff nurses of a unique, evidence-based form for BMT nursing documentation is an important part of ensuring quality oncology care. Future directions include adapting the form to electronic medical record format and creation of similar documentation forms for other units in our institution.

## 2650

**ONCOLOGY PATIENTS' PERCEPTION OF THE QUALITY OF NURSE PRACTITIONER CARE DURING AN AUDIT AND FEEDBACK INTERVENTION TO IMPLEMENT CLINICAL PRACTICE GUIDELINES FOR CANCER PAIN.** Dorothy Dulko, PhD, AOCNP®, Institute for Medical Education and Research (IMER), Miami, FL, USA; Jennifer Bacik, MS, Memorial Sloan Kettering Cancer Center, New York, NY, USA; Elisheva Hertz, BS, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY, USA; Jerelyn Julien, BS, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY, USA; and Kathleen Mooney, PhD, FAAN, University of Utah College of Nursing, Salt Lake City, UT, USA.

Research has suggested that perception of care is a more promising indicator of healthcare quality than satisfaction. Oncology nurse practitioners (NP) provide direct healthcare to meet the acute and palliative care needs of cancer patients. Despite the fact that NPs have the potential to impact on outcomes, studies reveal that healthcare consumers relegate little importance to the NP.

Oncology patients' perception of healthcare is affected by symptoms and clinicians' response. Sequelae of cancer and its treatment makes supportive care imperative. The evaluation of NP interventions is necessary to determine the potential effect on perception of care provided.

Audit and feedback (A&F) incorporates data collection relevant to performance with a summary given to providers. An A&F intervention was implemented to determine effect on hospitalized patients' self-report of pain and perception of care received from NPs. The Oncology Patients' Perception of Quality of Nursing Care Scale (OPPQNCs) was used to measure perception of care. The Brief Pain Intensity was used to measure pain intensity and interference. Association between extent of disease, current treatment, change in pain severity, or change in pain interference scores and perception of NP care were determined.

Results did not demonstrate a statistically significant difference in perception of NP care as a result of the intervention despite a decrease in interference of pain on function. All patients who provided OPPQNCs data perceived NP care as high quality. More than 80% of participants rated NP care as "excellent." Although quality of life (QOL) was not measured, high OPPQNCs scores support prior research indicating that satisfaction with care is likely related to subjective (QOL) versus objective factors (disease stage).

Self-reported health status may be more important than clinical variables in understanding patient perception of healthcare. Although survival and disease recurrence are the usual measured outcomes in cancer, satisfaction with treatment and perception of care represent important intermediate outcomes that can facilitate continuity of care and increase treatment compliance. Future study that evaluates the association between perception of care and symptoms may be valuable in delineating the contribution of NPs to the provision of supportive care throughout the cancer continuum. Expressing dissatisfaction with care may be important for patients, regardless of the usefulness of their opinions for quality improvement interventions.

## 2651

**THE SAFETY PROFILE OF PANITUMUMAB MONOTHERAPY IN PATIENTS WITH METASTATIC COLORECTAL CANCER (mCRC) ACROSS 10 CLINICAL TRIALS.** Teresa Knoop, MSN, RN, AOCN®, Vanderbilt Ingram Cancer Center, Nashville, TN, USA.

Panitumumab, a fully human monoclonal antibody directed against the epidermal growth factor receptor (EGFr), is indicated as monotherapy in patients with EGFr expressing mCRC refractory to chemotherapy. The safety profile for EGFr inhibitors is unique and based on molecularly targeted activity, manifesting in skin toxicities of varying degrees of severity as common side effects. In addition, administration of mono-

clonal antibodies can result in infusion reactions, which are rare, but can be severe.

It is important for oncology nurses to know safety data associated with EGFr inhibitor administration to properly manage their patients. This presentation provides a summary of panitumumab monotherapy safety in mCRC patients.

Data from 10 clinical studies (including 2 extension studies) of panitumumab monotherapy were pooled. Patients received at least one dose of panitumumab at 2.5 mg/kg once per week (QW), 6 mg/kg every 2 weeks (Q2W), or 9 mg/kg every 3 weeks (Q3W). Adverse events (AEs) were graded using the NCI CTCAE version 2, except certain dermatologic toxicities graded using the NCI CTCAE version 3.

In this analysis, 966 mCRC patients were included (59% male; median age [range]: 61 [20–88] years). Most (81%) patients received panitumumab 6 mg/kg Q2W. A total of 7618 panitumumab infusions were administered; (median [range]: 5 [1–94] infusions/patient). Treatment related AEs were experienced by 94% of patients, 20% had grade 3/4 AEs. Skin related toxicities (any grade, = or > grade 3) included: pruritis (54%, 2%), erythema (53%, 5%), dermatitis acneiform (53%, 6%), rash (38%, 3%), and paronychia (20%, 0%). 1% of patients discontinued panitumumab because of skin related AEs. There were rare severe infusion reactions: 4 (0.4%) patients had grade 3; no patients had grade 4. Overall, only 11 patients (1.1%) had infusion reactions of any grade (1–4).

Oncology nurses involved in the assessment and management of AEs benefit from ongoing safety information updates on oncology therapeutics. In this analysis, most AEs were mild to moderate with an expected skin toxicity profile that infrequently resulted in discontinuation of panitumumab administration; furthermore, infusion reactions of any grade were rare.

## 2652

**END-OF-LIFE CONTENT IN THE CURRICULA OF BACCALAUREATE NURSING PROGRAMS.** Mary Schueller, RN, MSN, OCN®, CHPN, St. Nicholas Hospital, Sheboygan, WI, USA.

Registered nurses care for individuals at the time of birth and at the time of death. All nursing curricula contain education on obstetrical care, but education on end-of-life care is not as prevalent. Several key nursing organizations have declared that content on end-of-life care must be integrated into the curricula of every basic nursing program.

The purpose of this descriptive study was to identify the end-of-life content in the curricula of baccalaureate nursing programs in the state of Wisconsin. Jerome Bruner's Constructivist Theory, which focuses on learning as an active process in which learners construct new ideas or concepts based upon their current and past knowledge, was the theoretical framework utilized for this study.

The survey instrument was researcher-developed, based on the ELNEC (End-of-Life Nursing Education Consortium) model, and contained nine topical areas. The survey was mailed to the 16 baccalaureate nursing programs in the state of Wisconsin that are accredited by the CCNE (Commission on Collegiate Nursing Education) or NLNAC (National League of Nursing Accrediting Commission). Twelve of the surveys (75%) were returned.

Findings revealed that 30 of 44 (68%) of the subtopics from the ELNEC model are minimally, moderately, or extensively included in the curricula of each of the responding nursing programs. The topical areas of Pain Management and Communication in End of Life Care were found to be extensively included in curricula. Achieving Quality Care at End of Life and Preparation and Care for the Time of Death were topical areas found to be minimally included in curricula.

Now that end-of-life content has been identified in the curricula of the nursing programs, a logical next step would be to further examine how the content is delivered. Recommendations for the future include involving registered nurses in identifying the end-of-life content areas, in addition to the ones from the ELNEC model, that are most crucial to oncology nursing practice today, utilizing the study findings to design staff development programs, and examining the impact of the 44 subtopics of the ELNEC model on patient outcomes.

## 2654

**CAN CENTRAL VENOUS CATHETER EXIT SITE INFECTIONS USING THE BIOPATCH® BE LINKED TO EPISODES OF FEBRILE NEUTROPE-**



NIA? Carrie Maxwell, BSN, RN, Medical University of South Carolina, Charleston, SC, USA.

The Centers for Medicaid and Medicare have recently released information stating that they will no longer reimburse for health care associated infections. Episodes of febrile neutropenia lead to antibiotic use and increased length of stay. Blood stream infections have been identified as a major source of infection for cancer patients, but few studies on exit site infections have been done. Cancer patients are highly susceptible for infections related to decreased circulating white blood cells. The CDC estimated that approximately 14 % of central line infections are related to faulty health care practice. The Biopatch<sup>®</sup> dressing is a chlorhexidine gluconate product which is currently marketed to prevent any bacterial colonization.

This pilot study will determine associations between the use of the Biopatch<sup>®</sup> in central line dressing changes to the increased risk of exit site infection. This study aims to link organisms cultured from the Biopatch<sup>®</sup> to episodes of febrile neutropenia.

The clinical model for the chain of infection is the foundation for this study.

To review data from patients who experienced an episode of febrile neutropenia, and had a culture sent from a central venous catheter exit site. This study seeks to establish the unique characteristics of cancer patients related to organisms normally sensitive to chlorhexidine.

Secondary analysis of data provided by microbiology reports on 20 consecutive neutropenic patients on a medical oncology inpatient unit who have exit site cultures reports from an episode of fever. The evaluation will classify organisms most frequently occurring in this population.

This pilot study has the potential to establish that further testing is needed for the Biopatch<sup>®</sup> in a neutropenic population. Resistance to chlorhexidine caused by long term antibiotic prophylaxis in bone marrow transplant patients can impact hospital reimbursement. Substantial proof that cancer patients are a unique population and that risk of infection can be linked to other circumstances other than poor health care might lead to a change in reimbursement procedures for this vulnerable population.

## 2659

**AVOIDING CAREGIVER BURNOUT: STAYING WELL IN HEALTH CARE.** Rachel Behrendt, MSN, RN, APN-C, AOCNS<sup>®</sup>, Robert Wood Johnson, New Brunswick, NJ, USA.

Nurses play a primary role in caring for dying individuals. That oncology nurses, regardless of setting, must deal with death is indisputable. The coping mechanisms and attitudes expressed may influence both the nurses themselves with regard to burnout and caregiver fatigue as well as the care rendered to the patients and their families. Sherman indicates that dealing with death, dying, and bereavement can, through focusing attention on the topic of death, lead to increased stress and anxiety. Understanding how nurses in cope can improve professional support and interventions leading to better nursing retention. These interventions may ultimately improve care of patients.

This lecture will: provide data regarding burnout and compassion fatigue; offer insight into understanding the differences between them; and review current best-practices to prevent both and thus support oncology nursing staffs.

Developing and maintaining competent and passionate oncology nurses is a top priority for oncology nurse leaders. Retaining nurses who remain compassionate and committed can be a challenge as nurses experience burnout due to prolonged exposure to patient suffering, death and dying. The coping mechanisms and attitudes expressed toward death, dying and dealing with the grieving experienced by patients and their loved ones influences both the nurses themselves with regard to burnout and caregiver fatigue as well as the care these nurses render to patients and their families. Identifying ways in which burnout can impact care delivery and developing a resilient work force by creating a healthy work environment will be discussed. Included will be the keys to effective peer and self-support and understanding how enhancements in these areas will ultimately improve employee satisfaction and retention, as well as care delivery and patient satisfaction.

Project goals are not evaluated according to specific measures. Rather, improved retention, nurse satisfaction and patient satisfaction are expected outcomes of implementing interventions to reduce/avoid nurse burnout and compassion fatigue.

Discussion of methods to avoid burnout, create a healthy work environment and ensure resiliency will be the major foci of the lecture.

## 2661

**WHEN ENOUGH IS ENOUGH: BMT NURSES' ROLE IN INTEGRATING CONCEPT OF PALLIATIVE CARE.** Maria Encarlita Tee, BSN, RN, OCN<sup>®</sup>, University of Texas M.D. Anderson Cancer Center, Houston, TX, USA; and Myra A. Granada, BSN, RN, OCN<sup>®</sup>, University of Texas M.D. Anderson Cancer, Houston, TX, USA.

In the Bone Marrow Transplantation (BMT) setting, nurses administer complex treatment orders, assess patients' response to treatment, and manage treatment side effects before, during, and after transplant. Because of the longevity of BMT treatment and recovery, nurses often develop well-established, personal rapport with patients and caregivers. For some patients, BMT provides a final treatment option; and therefore, while striving for remission, patients must be informed of the possibility of unfavorable response to treatment. Discussions about futile treatment options can be difficult for some healthcare providers. Often these discussions are not initiated prior to treatment, but are addressed only after patients' healthcare status deteriorates. However, because healthcare providers have ethical and legal obligations to ensure patient rights for informed decision-making regarding treatment options and plan of care, end-of-life discussions need to occur at treatment initiation while patients are able to ask questions and determine personal preferences.

To provide a forum for patients and caregivers to proactively discuss stages of the BMT process and options in the event of treatment failure.

Patient care conferences were initiated by nurses and healthcare team members to provide opportunities for patients and families to openly discuss their feelings and desires regarding treatment goals and actions to be taken in the event of treatment failure. Accurate assessment and discussion of patients' awareness and understanding of possible treatment failure provided opportunities to include advance directives, durable power of attorney, palliation, and other comfort care as options to assure optimal quality of life throughout the BMT experience.

The multidisciplinary conferences provided a forum for enhanced communication about treatment options, informed decision-making about treatment, and documentation of patients' wishes in the medical record. Nurses described positive experiences with opportunities to express concerns about individual patients' responses to care. Positive feedback from families regarding support of their family members' end-of-life care decisions also confirmed appropriateness of the intervention.

Nurses have an important role in advocating patient rights to participate in end-of-life decision-making. Facilitating early discussions of options in the event of treatment failure supports patients' participation and informed decision-making about their plan of care.

## 2663

**GLYCEMIC LEVELS IN HEMATOPOIETIC STEM CELL TRANSPLANT RECIPIENTS—AN INDICATOR FOR INFECTION STATUS AND MORTALITY?** Marilyn Hammer, DC, MN, RN, University of Washington School of Nursing, Seattle, WA, USA.

Many patients with hematological malignancies who fail standard therapies and/or relapse can be rescued through hematopoietic stem cell transplantation (HSCT). Among the serious adverse outcomes, infections can be one of the most life-threatening. HSCT is an effective therapy that can lead to prolonged survivability when the pernicious risks can be circumvented. Patients with hematological malignancies who are also diabetic and/or become hyperglycemic due to treatments associated with HSCT appear to have a higher incidence of infections, have greater infection-related complications, and higher mortality rates than normoglycemic patients. Glycemic status in HSCT recipients has not been well described in the literature.

The purpose of this study was to describe glycemic status in HSCT recipients prior to, during, and following the stem cell transplant process.

The theory of cancer immune surveillance describes the relationship between cancer and an immunocompromised system. The role of immune function sequela to hyperglycemia in patients with hematological malignancies receiving HSCT is a portal of this conceptual framework.

A descriptive, retrospective, cohort study was conducted to describe glycemic status throughout the HSCT process. Patient data that were recorded in the Fred Hutchinson Cancer Research Center stem cell transplant database, Seattle, WA from transplants given between March, 1998 and April, 2006 were evaluated 25 days prior to transplant through day 100 post transplant.

Among the 1,968 patients analyzed, 57.3% were hyperglycemic ( $> 126$  mg/dl) at one or more time points throughout the transplant process. Of significance, 76% of the hyperglycemic patients showed elevated serum glucose levels post transplant. Further, median hyperglycemic trends increased and peaked on days 46–50 post transplant, coinciding with increasing post transplant infection incidence rates noted in the literature. Implications for future research include evaluation of infections incurred at various glycemic levels and the contribution of glycemic status to mortality as mediated by infection. Future investigation also needs to focus on determining predictive measures for infection incidence base on glycemic levels and implementing protocols for tighter glycemic control. Translation of this research to nursing practice would include closer monitoring, implementation of new protocols, and enhanced patient education.

## 2664

**COMPUTER-BASED TESTING OF THE BRADEN SCALE FOR PREDICTING PRESSURE SORE RISK®.** JoAnn Maklebust, MSN, APRN-BC, AOCN®, FAAN, Karmanos Cancer Center, Detroit, MI, USA; and Morris A. Magnan, PhD, RN, St. Joseph Mercy Health System, Pontiac, MI, USA.

This research evaluated the effect of web-based Braden Scale training on nurses' knowledge of pressure ulcer risk assessment and prevention. Advanced Practice Nurses (APNs) observed that staff nurses rated patients higher on the Braden Scale than was warranted by patient assessment data.

It was thought that educating staff nurses about correct use of the Braden Scale might lead to more reliable Braden Scale assessments.

The method was a quasi-experimental design. Study participants were Registered Nurses ( $N = 1392$ ) working at three medical centers located in Michigan. Nurses at participating hospitals completed web-based Braden Scale training consisting of pressure ulcer assessment and prevention content as well as case study exemplars. Five case studies with associated quizzes were designed to reflect acute care patients with conditions that placed them at pressure ulcer risk: generally not at risk, mild risk, moderate risk, high risk, or very high risk. Each case study quiz required nurses to use case study data to complete a Braden Scale risk assessment and answer questions related to pressure ulcer prevention. Outcomes of interest included reliability and competence associated with using the Braden Scale for pressure ulcer risk assessment and selecting appropriate preventive interventions.

After training, nurses correctly rated Braden Scale levels of risk 82.6% of the time. Numeric ratings assigned to Braden subscales were more reliable when case study data indicated extreme levels of risk than when data indicated mid-levels of risk. Nurses' knowledge of appropriate risk-based prevention interventions was high, but correlated poorly with ability to correctly assign numeric ratings to Braden subscales.

Web-based training alone may not be sufficient to ensure reliable estimates of pressure ulcer risk for patients at all risk levels. New users of the Braden Scale improved their risk assessment scores after training but regular users of the Braden Scale did not. Regular users of the Braden Scale may need additional strategies to ensure reliable risk assessments such as annual updates and clinical practice with expert supervision. Further research is needed to clarify linkages between ability to correctly score Braden subscales and the process of selecting risk-based prevention interventions.

**Funding source: Blue Cross Blue Shield Foundation of Michigan**

## 2667

**CONTINUATION OF COMMUNITY ACQUIRED EXTERNAL CHEMOTHERAPY PUMP DURING HOSPITALIZATION.** Jane Caplinger, RN, OCN®, William Beaumont Hospital, Royal Oak, MI, USA; Jennifer Martens, RN, BSN, OCN®, William Beaumont Hospital, Royal Oak, MI, USA; and Janice Ditri, RN, ADN, OCN®, William Beaumont Hospital, Royal Oak, MI, USA.

There has been an increase in the number of oncology patients being admitted to the hospital with community acquired external chemotherapy pumps infusing. Current hospital policy dictated that external chemotherapy pumps be stopped on the patients' admission. The medication had to be reordered and dispensed from pharmacy. This resulted in an interruption in the chemotherapy protocol, difficulty in calculating how much of the drug needed to be ordered, and an additional cost for replacing the original

chemotherapy infusion. To better meet the needs of our patients, a new policy/procedure for patients entering the hospital with external chemotherapy pumps had to be developed. Oncology nurses are responsible for the safe and efficient administration of chemotherapy.

The purpose of this project was to develop a policy/procedure that would allow competent, oncology patients to continue their chemotherapy administration in the hospital through a community acquired external pump. An increase in the number of patients receiving chemotherapy through external pumps at home made it necessary for us to better manage these patients when they entered the hospital.

An interdisciplinary team of nurses, physicians, biomedical engineers and pharmacists was formed. A literature review was completed. Case studies were analyzed to identify strengths and weaknesses in our current handling of community acquired external chemotherapy pumps. A policy/procedure and waiver were developed to allow competent patients admitted to the hospital to continue their chemotherapy infusion that had begun as an outpatient.

Oncology patients will be surveyed to determine their satisfaction with the new policy/procedure. Case studies will be reviewed and interpreted. The cost savings realized from allowing the outpatient chemotherapy infusion to continue will be calculated.

New guidelines for the management of patients receiving chemotherapy through community acquired external pumps will empower the patient and oncology nurse by providing the necessary information for prompt, safe and effective chemotherapy administration. This will enhance the quality of patient care and improve patient satisfaction. This policy/procedure will be adapted for use throughout the corporation for all adult oncology patients.

## 2668

**A COMPARISON STUDY OF COAGULATION TESTS OBTAINED FROM VENIPUNCTURE AND CENTRAL VENOUS ACCESS DEVICES IN ADULT ONCOLOGY INPATIENTS.** Zu-Kei (Ruth) Lin, RN, MSN, AOCN®, APN-C, Morristown Memorial Hospital, Morristown, NJ, USA; Craig Dise, MD, PhD, Morristown Memorial Hospital, Morristown, NJ, USA; and Susan Fowler, RN, PhD, CNRN, FAHA, Morristown Memorial Hospital, Morristown, NJ, USA.

Coagulation blood samples drawn from venous access devices (VAD) may differ from those drawn via peripheral venipuncture. Prior studies have shown inconsistent results of coagulation tests such as prothrombin time (PT), activated partial thromboplastin time (APTT), and international normalized ratio (INR) in samples drawn from VADs compared with those from peripheral venipuncture. Consequently current guidelines from the Oncology Nursing Society do not exist. ONS recognizes using VADs for coagulation studies remains controversial and further research investigating blood sampling is needed.

To compare PT, APTT, and INR in blood samples collected from VADs with blood collected from peripheral venipuncture.

A descriptive comparative study was used to evaluate coagulation blood sampling.

1. One hundred and fifty six blood samples were collected from 39 oncology inpatients in the following manner. After a 24 hour intravenous crystalloid solution infusion through the VAD, one blood sample was obtained through venipuncture and three blood samples of 3ml each collected from the VAD after discarding an initial 6ml. Each sample was sent for determination of PT, APTT, and INR.
2. The Spearman's Rank Correlation Coefficient ( $r$ ) was used to determine the correlation of PT, APTT, and INR between the venipuncture sample and the three individual VAD samples. Agreements of sampling results between the venipuncture sample and the three individual VAD samples were measured as bias + standard deviation.

There is high correlation between blood samples from peripheral venipuncture and VAD for all coagulation tests ( $PT\ r > 0.98$ ,  $p < 0.001$ ;  $APTT\ r > 0.96$ ,  $p < 0.001$ ;  $INR\ r > 0.98$ ,  $p < 0.001$ ). There was no difference in coagulation test results among the three VAD samples, indicating 6 ml is an adequate discard volume prior to blood sampling from the VAD. These findings indicate that coagulation test results of blood samples taken from a VAD after a 24 hour intravenous crystalloid solution infusion are as reliable as those from peripheral venipuncture. This change of the practice limits unnecessary venipunctures which can be uncomfortable for patients and, in some cases, very difficult due to the size and integrity of patients' veins.

## 2669

**SUCCESSFUL RECRUITMENT OF AFRICAN AMERICAN BREAST CANCER PATIENTS FOR TELEPHONE GROUP INTERVENTION.** Sue Heiney, PhD, RN, CS, FAAN, Palmetto Health South Carolina Cancer Center, Columbia, SC, USA; Linda Wells, RN, MA, Palmetto Health South Carolina Cancer Center, Columbia, SC, USA; and Hiluv Johnson, BA, Palmetto Health South Carolina Cancer Center, Columbia, SC, USA.

African American (AA) women are underrepresented in research. Many factors including the Tuskegee Study and lack of trust in the medical system have been proposed to explain low participation rates. Based on previous analyses of barriers to recruitment, we developed the Heiney-Adams Recruitment Framework (H-ARF) to improve recruitment in a population with low literacy and high levels of health disparities, especially among AA.

The purpose of this abstract is to report on an evaluation of the H-ARF in a sample of AA women with breast cancer (AAWBC) being recruited to the NCI funded study, Teleconference Group: Breast Cancer in African Americans (RO1 CA 107305) subtitled STORY (Sister Tell Others and Revive Yourself).

The H-ARF combines social marketing from marketing theory and relationship building from person centered counseling theory. Relationship building, especially in AA's increases trust, identifies benefits and creates a partnership between the patient and study staff. Social marketing includes identification of target groups and market segments using community feedback, assessing media availability and production of materials and emphasizes cultural sensitivity of messages and materials.

IRB approval was obtained for the larger study. Printed materials were developed using social marketing strategies. The recruitment script utilized principles from person centered counseling. Recruitment data on all potential patients were entered into a tracking database. Descriptive statistics were computed to determine effectiveness of overall recruitment strategies as well as by referral source. Since we recruited for patients in multiple replicate sets ("waves"), we also analyzed results by wave.

We report on recruitment of the first five waves of patients ( $n = 309$ ). Recruitment rates averaged 66% for eligible AAWBC and range from 52 to 80% within the five waves. Among referral sources, recruitment ranged from 33 to 100%. Less than 3 % of patients were unable to be contacted and 65% were not eligible. The implementation of our framework was very effective in recruiting AAWBC into a psychosocial intervention study. Given the high cost of recruitment, future researchers should consider using a framework for development of a recruitment plan so that success can be measured and strategies modified if needed.

## 2670

**MANAGEMENT OF HYPOMAGNESEMIA IN PATIENTS TREATED WITH ANTI-EPIDERMAL GROWTH FACTOR RECEPTOR THERAPIES.** Andrew Guinigundo, RN, APRN-BC, MSN, Oncology/Hematology Care, Inc., Cincinnati, OH, USA.

Hypomagnesemia, or low blood magnesium, is a common side effect of cancer therapies that target epidermal growth factor receptor (EGFr), such as panitumumab and cetuximab. This class of drugs appears to compromise renal magnesium retention, leading to hypomagnesemia in approximately half of patients receiving panitumumab and cetuximab in clinical trials. In clinical practice, however, virtually all patients will develop the condition to some degree. Oncology nurses are already adept at monitoring lab results, putting them in a unique position to follow metabolic testing, such as magnesium and calcium levels, in these patients.

The clinical objectives are to promote nursing recognition of increased risk of hypomagnesemia in patients receiving anti-EGFr therapies, identify patients with additional risk factors for hypomagnesemia, specify signs and symptoms of hypomagnesemia, and define management strategies for patients with hypomagnesemia.

The oncology nurse needs to follow a systematic approach to managing patients in this clinical setting. In addition to receipt of anti-EGFr therapies, additional clinical risk factors for hypomagnesemia include age, baseline magnesium concentration, and duration of therapy. Baseline and routine monitoring of all electrolytes permits detection of magnesium values that fall below normal. Interventions could be more effective when magnesium is at a National Cancer Institute Common Toxicity Criteria for Adverse Events grade 1 rather than grade 2–4. The signs and symptoms of severe hypomagnesemia include hypocalcemia, hypokalemia, tetany, positive Chvostek and Trousseau signs, changes in electrocardiogram readings,

and ventricular dysrhythmias. Patients can be effectively managed by replacement with oral or intravenous magnesium.

The severity and duration of hypomagnesemia events in patients receiving anti-EGFr therapies would be expected to decrease with concerted efforts to identify the onset of hypomagnesemia and aggressively treat patients with the condition.

Hypomagnesemia in patients receiving anti-EGFr therapies is predictable and manageable. Oncology nurses are in a position to proactively manage this adverse event in this patient population. Future research should focus on the frequency of laboratory blood draws, when to use oral or intravenous magnesium, and the dosing of various magnesium supplements. The formulation of guidelines would assist the oncology nurse by formalizing interventions.

## 2675

**A FEASIBILITY STUDY OF LOW-COST PATIENT-ADMINISTERED SKIN CARE INTERVENTION AMONG HEAD AND NECK CANCER PATIENTS RECEIVING CHEMO-RADIATION.** Mimi Bartholomay, RN, MSN, AOCN®, Massachusetts General Hospital, Boston, MA, USA; Catherine Mannix, RN, MSN, OCN®, Massachusetts General Hospital-MGH Cancer Center (MGHCC), Boston, MA, USA; Margaret Barton-Burke, PhD, RN, Consultant-Massachusetts General Hospital-MGHCC, Boston, MA, USA; Mary Liz Bilodeau, RN, MS, CCRN, CCNS, CS, BC, Massachusetts General Hospital-MGHCC, Boston, MA, USA; Robin Delaney, RN, BSN, OCN®, Massachusetts General Hospital-MGHCC, Boston, MA, USA; Carol Doherty, RN, BSN, OCN®, Massachusetts General Hospital-MGHCC, Boston, MA, USA; and Maryellen Lewis, RN, BSN, OCN®, Massachusetts General Hospital-MGHCC, Boston, MA, USA.

Research on management of skin reactions to date is limited with equivocal interventions, populations and outcomes, making effective evidence-based interventions difficult to ascertain. The small sample sizes, variety of interventions, methodologies, tumor sites, radiation regimens, and clinical outcomes measured, leave substantial gaps in knowledge about skin reactions. Head and neck cancer patients receiving chemoradiation are particularly vulnerable to disruptions in skin integrity, which can lead to treatment delays, increased risk for infection, and cause pain for the patient. Additionally, impaired skin integrity can require intensive wound management that is costly to the patient in terms of both time and money.

The purpose of this study is to minimize skin toxicity experienced by head and neck cancer patients undergoing chemoradiation through a low-cost, patient-administered skin care intervention. We will explore patient compliance with a patient-administered intervention, and the impact on skin toxicity. Furthermore, we will evaluate whether pre-selected socio-demographic and clinical effect modifiers (including tumor location, stage, treatment, age, co-morbidities, education, income, insurance, drug coverage, marital status, and other clinical information) influence the degree of toxicity experienced as measured by NCI skin toxicity grade.

The study is guided by theoretical and conceptual underpinnings of the Model of Symptom Management.

This prospective study uses a quasi-experimental design. Patients are recruited from Radiation Oncology at a tertiary academic medical center. Anticipated enrollment is 150 patients. Enrollment criteria includes: male and female, English-speaking, age 21 years or older, diagnosed and being treated with concurrent chemoradiation for head and neck cancer. Data collection, chart review and serial photographs will be done at baseline and weekly throughout the course of radiation, as well as first follow-up visit after treatment completion. Patients receive a standardized skin care product kit including: unscented, hypoallergenic, fragrance-free moisturizing soap, moisturizing lotion containing *avena sativa* (oat), lip emollient, sun-block containing SPF 30, and specific skin care instructions. Patients complete a weekly skin care diary to determine compliance with self-administered skin care regimen. Data analysis will include standard graphical summaries, descriptive statistics and bivariate analyses.

Patient enrollment started in December, 2007 and data collection is ongoing.

## 2678

**NEUTROPENIC RISK ASSESSMENT AND RELATIVE DOSE INTENSITY OF CHEMOTHERAPY RECEIVED.** Theresa Degennaro, RN, Montefiore Medical Center, Bronx, NY, USA; Mary McPartland, RN, BSN, Mon-



tefiore Medical Center, Bronx, NY, USA; Susan Sakalian, RN, BSN, Montefiore Medical Center, New York, NY, USA; and Una Hopkins, APRN, Montefiore Medical Center, New York, NY, USA.

Chemotherapy induced neutropenia (CIN), as a major dose limiting toxicity in chemotherapy administration has been identified as a major contributor to patients receiving suboptimal doses of chemotherapy. Patients receiving decreased relative dose intensity (RDI) have been associated with poorer patient outcomes in the literature. Nurses are in a unique position to identify those patients at a higher risk of experiencing neutropenic dose delays and reductions that compromise relative dose intensity (RDI).

To determine if the implementation of nurses' routine, systematic assessment of neutropenic risk in patients initiating a new chemotherapy regimen will impact the RDI achieved in that regimen.

A neutropenic risk assessment tool was developed by the nursing staff referencing national oncology practice guidelines and implemented with all patients starting a new regimen starting January 2008. As per the assessment tool, patients identified as being at risk will be presented to the prescribing practitioner as a potential candidate for prophylactic growth factor.

Relative dose intensity achieved by a randomly selected group of patients before and after implementation of the tool will be evaluated.

It is important to identify nursing interventions that impact patient outcomes. The role of oncology nurses is clarified by documenting and reporting nursing interventions and related nurse sensitive patient outcomes. This project will help to define the relationship of nursing interventions for the prevention of neutropenia and the patient outcome of RDI.

## 2679

**AN EVIDENCE-BASED APPROACH TO CANCER PATIENT CARE: THE ROLE OF THE NURSE NAVIGATOR.** Jay Swanson, RN, BS, BSN, OCN®, St. Elizabeth Regional Medical Center, Lincoln, NE, USA.

Oncology nurses have long struggled to provide adequate education and emotional support for their patients. Time constraints, reduced nurse-patient ratios and increased documentation requirements allow less time for the oncology nurse to spend with their patients. The Nurse Navigator position is being developed across the nation, seeking to fill these needs of the oncology patient.

This presentation will describe interventions the Nurse Navigator can employ to enhance patient quality-of-life following a new or recurrent diagnosis, assist with breaking down barriers to patient care, and serve as a resource for the cancer patient post-discharge.

A review of the literature will be presented summarizing evidence of nursing interventions that effectively improve quality of life for patients with cancer and describe how the Nurse Navigator role can be implemented to support those needs. The role of the Oncology Nurse Navigator as a member of the interdisciplinary team will be described in relation to meeting the needs of this patient population across the continuum of care.

Data gathered using the Distress Thermometer quantifies the individual's Practical, Family, Emotional, Spiritual, and Physical distress. Based on the individual's scores, the Nurse Navigator formulates a plan with a goal to reduce patient distress scores. The literature suggests that reduced distress scores contribute to greater adherence to treatment plans and decreases hospital admissions. Information empowers patients and access to community resources allows them to feel in control of their care and better able to advocate for themselves.

The National Comprehensive Cancer Network guidelines identify the Distress Thermometer as essential for patient care and it has been found to be a reliable data collection tool. The Nurse Navigator is able to employ the tool to guide care planning relative to needs for information and empowerment. Research has shown that independently, information and empowerment result in improved patient satisfaction scores; however there is no evidence to assess the effect of addressing these needs in combination. It is our assumption that addressing information and empowerment in combination will produce synergistic effects, resulting in a more comprehensive, concise and compassionate approach to patient care as evidenced by reductions in Distress Thermometer scores.

## 2680

**IDENTIFYING BARRIERS TO CLINICAL TRIALS—A PILOT ASSESSMENT SURVEY IMPLEMENTED BY THE TREATMENT COMMITTEE OF THE CONNECTICUT COMPREHENSIVE CANCER CONTROL PLAN,**

2005–2008. Camille Servodidio, RN, MPH, CRNO, OCN®, CCRP, Hartford Hospital, Hartford, CT, USA; Kevin Kelly, DO, Yale University Medical Center, New Haven, CT, USA; Linda Versea, APRN, MSN, RN, Whittingham Cancer Center at Norwalk Hospital, Norwalk, CT, USA; Mary Heery, RN, MSN, Norma F. Pfriem Cancer Institute Bridgeport Hospital, Bridgeport, CT, USA; Sue Gran, RN, MPH, CCRC, Danbury Hospital Praxair Cancer Center, Danbury, CT, USA; Mary Miller, LPN, Carl and Dorothy Bennett Cancer Center—Hematology Oncology, P.C., Stamford, CT, USA; and Roberta Votino, RN, Connecticut Oncology & Hematology, LLP, Torrington, CT, USA.

The National Comprehensive Cancer Network, NCCN, states that the best management for any cancer patient is through participation in a clinical trial. The NCCN encourages patients to participate in clinical trials. Nationally, 2–5% of all cancer patients enroll in clinical trials. Oncology nurses can play an important role in identifying barriers for clinical trials for patients, nurses, and physicians. There is a paucity of data, which describe the clinical practice barriers to clinical trial participation.

Identifying barriers to clinical trial participation can provide the framework to build an action plan to address these barriers. This identification of clinical trial barriers coincides with the ONS Research Agenda and impacts primary and secondary prevention trials, trials that study the late effects of cancer as well as translational research.

The treatment committee of the Connecticut Comprehensive Cancer Control Plan, 2005–2008, is charged to increase patient access to cancer clinical trials, identify and remove barriers to cancer clinical trials, and develop a statewide network. No statewide baseline data regarding barriers to clinical trials presently exists. Based on interdisciplinary conference call discussions between oncology nurses, physicians, and health professionals, the committee agreed to create and send a pilot assessment survey to health care professionals in oncology practices and centers throughout the state of Connecticut.

A 40 question pilot clinical trials assessment survey was developed to address access and barriers to clinical trials. Sixteen surveys were sent to the major cancer centers throughout the state of Connecticut and ten were returned.

Barriers most commonly identified by oncology staff for clinical trial participation included overextended physician staff (7/10 or 70%), limited access to novel trials (5/10 or 50%), financial constraints (3/10 or 30%), limited administrative support (3/10 or 30%), limited RN staff/data management staff (2/10 or 20%), and limited access to phase I trials (1/10 or 10%). This pilot clinical trials assessment survey provides baseline data for further probing the barriers related to clinical trials. Providing physician support and increase access of novel clinical trials to practices throughout the state may have an impact on patient accrual for cancer clinical trials.

## 2681

**A STUDY OF STAFF NURSES' ADMINISTRATION PRACTICE PATTERNS AND ATTITUDES REGARDING THE TITRATION OF OPIOIDS OF DYING PATIENTS IN THE ACUTE CARE SETTING.** Carol Mulvenon, RN-BC, MSN, AOCN®, St. Joseph Medical Center, Kansas City, MO, USA; Margaret Barnett, APRN, BC-PCM, University of Kansas Medical Center, Kansas City, KS, USA; Patricia Dalrymple, RN, MSN, CHPN, Providence Medical Center, Kansas City, KS, USA; and Lynne Connelly, PhD, RN, University of Kansas School of Nursing, Kansas City, KS, USA.

Opioids are commonly given to provide comfort at the end of life, yet patients often experience poor control of pain. How opioids are used to manage symptoms varies between nurses. In order to improve patient care and outcomes, a better understanding of nurses' practice patterns and attitudes related to opioid titration is needed.

The purpose of this study was to investigate nurses' current practice patterns and attitudes about the titration of opioids for dying patients. This knowledge should help to improve symptom management at the end of life through education and organizational standards of care.

The theory of unpleasant symptoms and current best practices informed this study. The assessment of overlapping symptoms at the end of life and knowledge of the best practices should be part of the decision-making process in titrating opioid infusions and yet nurses are not always providing the best pain management. Examining the current perceptions of nurses will help to focus educational efforts.

An investigator-developed survey was used, with content validity assessed by a panel of national experts. Descriptive statistics and content analysis summarized the data. Power analysis for descriptive studies indicated a sample of 100 was needed. IRB approval was obtained.

The survey was returned by 181 acute care nurses at 3 medical centers in a Midwest urban area who were 91% female, average of 39 years old and 13 years of RN experience working in a variety of units; ICU (22%), medical-surgical (15%), oncology (11%) or telemetry (11%). A majority of nurses (78%) felt always/often comfortable titrating opioids. Nurses who used titration in the last year ( $n = 104$ ) and those with more experience were significantly more comfortable ( $p = .007$  &  $.013$ ). However, only one knowledge question was answered correctly by greater than 50% of respondents (52.8%). The range on the other 3 knowledge questions was 9.4% to 49.8%. Most nurses used similar assessment parameters to determine if doses were too high or too low. A majority (85%) indicated a need for more education and 52% were unaware of hospital policies regarding opioid titration. Findings will assist in making recommendations for educational programs and policy.

**Funding source: Grant from the Delta chapter of Sigma Theta Tau**

## 2682

**AN INTERDISCIPLINARY TEAM APPROACH TO MANAGE CANCER CACHEXIA.** Clara Granda-Cameron, RN, BSN, MSN, AOCN®, Joan Karnell Cancer Center at Pennsylvania Hospital, Philadelphia, PA, USA; Debra DeMille, MS, RD, Joan Karnell Cancer Center at Pennsylvania Hospital, Philadelphia, PA, USA; and Mary Pat Lynch, RN, MSN, AOCN®, CRNP, Joan Karnell Cancer Center at Pennsylvania Hospital, Philadelphia, PA, USA.

Cancer cachexia occurs in approximately one third of newly diagnosed cancer patients. Cancer cachexia may result in delayed or missed treatments and if poorly tolerated, decrease in chemotherapy dosing. Aggressive supportive care can result in fewer hospital days, fewer missed treatments, and improved outcomes. An interdisciplinary clinic to address cachexia allows for an integration of services available to the patient and takes the burden off of the patient to pursue referrals to the supportive care team.

The Palliative Care Program of a Cancer Center developed a 12-week pilot project: The clinic, specific to the treatment of cachexia is called the CARE clinic (Cancer Appetite and Rehabilitation). The goal of this project is to assess the impact of an interdisciplinary approach on symptom management, nutrition, function, and quality of life (QoL) of cancer patients at high risk for malnutrition.

The CARE clinic team includes a physician, a nurse practitioner, a registered dietitian, a physical therapist, a speech therapist and additional support staff as needed. The clinic is run one afternoon per week with a maximum of 6 patients scheduled per session. The clinic provides medical, nutritional, speech therapy and physical therapy evaluations followed by an individualized medical, nutritional and rehabilitation program directed to meet patient's needs and improve his/her overall quality of life. Brief post-clinic team meetings assure for maximum coordination of services.

Patients are referred by their oncologists, nurses, or self-referred. High risk populations identified though not limited to, are lung, head and neck, and gastrointestinal cancers. Patient outcomes are measured by symptom management, QoL instruments (ESAS, FAACT), and nutritional and functional parameters. Early intervention and aggressive symptom management may improve performance status and overall QoL. Results from this project will be used to expand such an innovative program.

An interdisciplinary clinic is a strategy for the management of cancer cachexia. The process that we followed to develop and implement this clinic may help oncology nurses and other health care professionals to improve management of cancer cachexia and overall cancer care.

## 2683

**INTERNATIONAL EDUCATION ON THE WEB:** www.Cure4Kids.org **PEDIATRIC ONCOLOGY NURSING COURSE.** Ayda Nambayan, RN DSN, International Outreach Program, Memphis, TN, USA; Yuri Quintana, PhD, International Outreach Program, St. Jude Children's Research Hospital, Memphis, TN, USA; Ana Shuler, International Outreach Program, St. Jude Children's Research Hospital, Memphis, TN, USA;

Richard O'Brien, International Outreach Program, St. Jude Children's Research Hospital, Memphis, TN, USA; and Raul Ribeiro, MD, St. Jude Children's Research Hospital, Memphis, TN, USA.

International Outreach Program (IOP) is a humanitarian initiative from St. Jude Children's Research Hospital; its mission is to improve survival of children with catastrophic illness worldwide. To accomplish this mission, IOP partners with low-resource countries to provide consultation and mentoring. The education of health care workers, particularly nurses, is one of the program's top initiatives. The educational website (www.Cure4Kids.org) serves as a platform to deliver pediatric oncology focused education.

The Cure4Kids Pediatric Oncology Nursing Course is a comprehensive repository of pediatric oncology nursing information. It was developed to provide educational support and training for international nurses.

Course design allows for the content to be tailored to the institutional need and can be used as an on-site live course or independently via self-paced instruction. The course contains fourteen modules designed to assist the nurses as they develop a plan of care for children with cancer. Each module contains several stand-alone documents that are enhanced by web links and related Cure4Kids seminars. One module is left open for course users to share country-specific content, thus encouraging worldwide collaboration.

Course efficacy is determined by its utility and knowledge gained. Utility is measured by the many ways the course is being implemented and the number of access. Knowledge is measured through a module quiz. To date, 8,154 worldwide users accessed the course 11,584 times. Course usage include: as teaching materials for traditional didactic live course taught by a local educator; as resources for a cafeteria-style course development wherein the documents are chosen according to institutional needs, and either taught didactically or through supervised independent study; individual nurses using documents for independent study and, as an easily available resource for specific issues in their units. Over 700 quizzes have been completed by 353 users.

Although it is universally accepted that continued nursing education correlates well with improved care, in countries with limited resources, it is not often a priority nor easily available. A flexible, easy-to-use course that is readily accessible via the internet is a solution to provide educational opportunities and collaboration with our nursing partners abroad.

## 2685

**EXPLORING CANCER SUPPORT RESOURCES FOR AFRICAN AMERICAN ELDERLY.** Margaret Dudik, RN, BSN, MSN, Johns Hopkins Hospital, Baltimore, MD, USA; Jennifer Wenzel, PhD, RN, Johns Hopkins University School of Nursing, Baltimore, MD, USA; Nicole Mills, BSN, RN, Johns Hopkins Hospital, Baltimore, MD, USA; Erin Marsh, Johns Hopkins School of Nursing, Baltimore, MD, USA; and Linda Darrell, MSW, Morgan State University, Baltimore, MD, USA.

Older African Americans currently face substantial barriers to state-of-the-art cancer care from screening to diagnosis to treatment and survivorship. Implementing culturally appropriate sources of support during cancer therapy for this population is critical to improving cancer outcomes and quality of life for this at-risk population.

Specific aims of this study include

1. To understand financial issues related to cancer care as experienced by older African American men and women
2. To elicit from older African Americans resources and strategies which are helpful in assisting with the financial aspects of cancer care.
3. To explore African American cancer survivors' ability to identify and characterize a person whom they relied on for support during diagnosis and treatment and the role s/he played

A hermeneutic/phenomenological approach guides the research. This method relies on the belief that people make meaning from their lives through narrative construction.

An exploratory, inductive focus group method is being used to examine cancer survivors' (0–5 years past diagnosis) experiences with cancer diagnosis and treatment among older African Americans > 65 years residing in an urban, east coast city. Participants' recommendations regarding a culturally-appropriate cancer support intervention addressing information related to the administrative responsibilities of managing the cancer diagnosis and treatment, treatment-related decisions, and financial challenges are being obtained. Treatment-related needs, psychosocial support strategies, resources, and desired support with financial aspects of cancer care

are included. Data analysis is ongoing and will be accomplished through a reflexive process of transcript review, categorization and interpretation.

Information gained from this study will be used to enhance understanding of urban African American elders' experiences with cancer diagnosis and treatment. Particular support needs of this vulnerable population will also be identified. Culturally appropriate resources and supportive strategies will be identified from African American cancer survivors based on their recent cancer experiences.

Focus group findings will be used to create a culturally tailored support intervention addressing resource, education and support needs identified by older African Americans who have survived cancer diagnosis and treatment.

## 2687

**SEXUALITY WORKSHOP FOR ONCOLOGY NURSES.** Mary Hughes, BS, MS, RN, CNS, University of Texas M.D. Anderson Cancer Center, Houston, TX, USA.

Sexuality is a quality-of-life issue not routinely addressed by oncology nurses. Patients do not readily bring up sexual concerns which are easy to overlook when a patient has other co-morbid conditions such as cancer. The patient thinks that if sexuality were important, the nurse would address it and the nurse thinks the patient would bring it up if it is important. Consequently, sexuality goes unaddressed. A one-day workshop in this large comprehensive cancer center was designed to desensitize and educate oncology nurses about this issue.

The purpose of this presentation is to describe the workshop, "Essentials of Human Sexuality and Cancer," including the multidisciplinary staff who teach it. Initially, this was a 3-day workshop which evolved into a 1-day workshop because of time limitations. Advanced Practice Nurses from various oncology disciplines designed the initial workshop and continued to refine it along with other disciplines as it evolved into its final form. It is free and is limited to only 12 registered nurses due to the importance of open discussion of this sensitive topic.

The first part of the workshop is presented by a professional sexuality educator and helps attendees to explore their own foundation of sexuality education and to define their sexual values. Advanced Practice Nurses present the next topic which describes various sexuality assessment models. A social worker and a chaplain discuss how diversity affects sexuality. Interventions must be creative are often limited due to other co-morbid conditions. Nurses' barriers to addressing sexuality issues and how to overcome them are also discussed. An Advanced Practice Nurse closes the day by focusing on sexual dysfunction of specific cancers and the role emotions play. Participants do role play to become more comfortable addressing sexuality issues.

Nurses participating in this workshop report being more comfortable including a sexual assessment with patient visits and knowing when and to whom to refer patients for sexual dysfunction.

This helps the patient have a resource for sexuality questions and not feel isolated and alone without anyone addressing these issues.

## 2688

**IMPLEMENTING A CANCER PALLIATIVE CARE PROGRAM IN THE INTENSIVE CARE UNIT: A PILOT PROJECT.** Clara Granda-Cameron, RN, BSN, MSN, AOCN®, Joan Karnell Cancer Center at Pennsylvania Hospital, Philadelphia, PA, USA; Margaret Crowley, RN, MSED, AOCNP®, Pennsylvania Hospital, Philadelphia, PA, USA; MaryPat Lynch, MSN, CRNP, AOCN®, Joan Karnell Cancer Center at Pennsylvania Hospital, Philadelphia, PA, USA; David Mintzer, MD, Pennsylvania Oncology Hematology Associates, Philadelphia, PA, USA; Carol Miller, SW, Pennsylvania Hematology Oncology Associates, Philadelphia, PA, USA; and Helen Grosky, MSW, Joan Karnell Cancer Center at Pennsylvania Hospital, Philadelphia, PA, USA.

A significant number of studies suggest that some patients in Intensive Care Units (ICU) undergo prolonged end of life with invasive life-sustaining treatments and poor quality of life. Palliative Care Programs have emerged as an alternative pathway to improve quality of life of chronically ill patients, improve patient/family satisfaction, and potentially reduce hospital costs in different settings, including the ICU.

The Palliative Care Program of a Cancer Center developed a pilot project in the ICU of its 505-bed affiliated hospital. The purpose of this project was

to assess the impact of palliative care services in the ICU for a two-month period. This project was designed to support a proposal to establish a permanent in-patient Palliative Care Program at the affiliated hospital.

Over a two-month period, data on 14 patients was collected. The palliative care team participated in weekly ICU rounds, where the plan of care for each patient was discussed. Once the referral to the palliative care team occurred, the team met with patients, families and nursing staff and coordinated multi-disciplinary family meetings. The palliative care physician and the internal medicine resident assessed patients' medical conditions and met with the primary physicians to clarify treatment plans. After completion of the project, a survey of the ICU staff was conducted to evaluate their satisfaction with the palliative care team.

The most frequent diagnoses were cardiac disease, pulmonary failure, post-surgical complications and cancer. All patients were receiving high-tech and costly treatments in spite of poor prognoses. The satisfaction survey for the ICU staff strongly supported the benefits of palliative care services in the ICU.

Nurses should use palliative care as strategy to improve the quality of life of not only cancer patients but also patients with other chronic illnesses. Palliative Care interventions in the ICU may improve patient-family satisfaction and reduce length of stay by improving communication between families and the medical team and expediting patient care processes. Palliative care referrals should occur sooner to allow time to establish a trustworthy relationship with the patient-family unit.

## 2691

**EVALUATION OF PATIENTS' PERCEPTIONS OF INPATIENT POST-OPERATIVE EDUCATION FOLLOWING BREAST SURGERY.** Elisheva Hertz, RN, BSN, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY, USA; Bridgette Thom, MS, Memorial Sloan Kettering Cancer Center, New York, NY, USA; Karen A. Monthe, BSN, Memorial Sloan Kettering Cancer Center, New York, NY, USA; and Nancy E. Kline, PhD, RN, CPNP, FAAN, Memorial Sloan Kettering Cancer Center, New York, NY, USA.

With nearly 200,000 cases diagnosed annually, breast cancer is one of the most common malignancies in women. Primary treatment for the majority of patients includes breast-conserving surgery or mastectomy with or without reconstruction. These procedures may include axillary lymph node dissection and the temporary insertion of drains to prevent seroma formation of a seroma. Physical recovery from surgery is often uncomplicated, enabling discharge as early as one to two days postoperatively, which places the onus of care for the incision and drains on the patient and family. Education is pivotal in optimizing patients' ability to safely care for themselves following discharge.

This project seeks to determine patients' perceptions of standard postoperative breast surgery education delivered at an NCI-designated cancer center.

Patients receive one-on-one bedside education from their nurse. Additionally, patients attend the Breast Surgery Rehabilitation Group (BSRG), which provides information regarding self-care and a forum to discuss issues that accompany breast surgery.

Two hundred patients were admitted to the breast surgery service during the 12 week study period. They were contacted by telephone between two and four days after discharge and surveyed to assess whether BSRG combined with one-to-one bedside education enhances knowledge of postoperative self-care. Eighty-two (41%) participated, 62 (31%) could not be reached, and the remainder did not meet inclusion criteria. Survey results revealed that 95% of patients felt comfortable performing drain care, and 92% were able to verbalize signs of infection. Ninety-one percent of patients surveyed found the one-on-one education helpful, and 80% of those who attended the class found it increased their understanding of how to care for drains and incisions. Overall, 95% of patients felt they received enough information while they were in the hospital to prepare them for self-care at home.

On the whole, patients were satisfied with the education received during their inpatient stay. Results indicate patients valued the one-to-one bedside education over the BSRG. Further research is necessary to explore ways to modify the BSRG for maximum patient benefit. Understanding the patient's perception of a tailored teaching methodology allows oncology nurses to customize educational interventions and better foster effective patient-provider partnerships.



## 2692

**MERGING NEW TECHNOLOGY INTO NURSING PRACTICE: INCORPORATING THE USE OF PET/CT IN RADIATION ONCOLOGY.** Ethel Beeling Law, RN, MA, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY, USA; Carol Pinola, RN, BSN, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY, USA; and Joanne Frankel Kelvin, RN, MSN, AOCN®, Memorial Sloan Kettering Cancer Center, New York, NY, USA.

PET scan is widely used as a diagnostic tool in oncology. It is also used with CT to plan treatment with radiation therapy. Adding PET enables us to discover tumor undetected by CT and distinguish fibrotic tissue which does not require treatment. Thus, radiation oncologists can improve the accuracy of the treatment plan for a higher radiation dose to a better defined tumor volume. This can improve therapeutic results and decrease the toxicity of treatment. PET/CT is used most commonly in patients with lymphoma, lung, head and neck, esophageal, cervical and anal cancer. Incorporation of this technology has expanded the radiation oncology nurse's role, requiring new procedures, staff education, and changes in how patients are prepared for simulation.

This presentation will describe the steps used to expand the radiation oncology nurse's role to support the incorporation of PET/CT scanning during simulation at a NCI-designated comprehensive cancer center.

We organized a team including radiation oncology nurses, nursing education, radiation safety, and nuclear medicine. After reviewing evidence about the use of radioactive isotopes, we developed a procedure and planned training to ensure competence (readings, observations, and return demonstration). We then developed documentation forms for use by physicians, nurses, and therapists. Finally, we collaborated with administration and radiation therapists to outline patient flow and clarify new responsibilities.

The procedure was reviewed and approved by radiation safety, nuclear medicine, nursing leadership, and radiation oncologists. Nursing competency was evaluated in the areas of patient education, patient assessment, proper administration of the radioactive isotope and maintaining radiation safety precautions. In the past year we have performed over 225 PET/CT scans. The effectiveness of our planning enabled us to successfully support this activity.

The oncology nurse must continually meet the challenge of incorporating new technology into practice. This presentation will describe the multidisciplinary approach used to do this. The procedure developed has helped us maintain safety and consistency in practice among nurses in radiation oncology. It can be used as a guide by all oncology nurses faced with a similar challenge of merging new technology into practice.

## 2693

**RADIATION-INDUCED ESOPHAGITIS: EVIDENCE-BASED NURSING GUIDELINES FOR LUNG AND ESOPHAGEAL CANCER PATIENTS.** Elizabeth Pena-Greenberg, RN, BSN, OCN®, Memorial Sloan-Kettering Cancer Center, New York, NY, USA; Ethel Law, Memorial Sloan-Kettering Cancer Center, New York, NY, USA; and Joanne Frankel Kelvin, RN, MSN, OCN®, Memorial Sloan-Kettering Cancer Center, New York, NY, USA.

There are predicted to be 15,558 and 213,374 new cases of esophageal and lung cancer in 2007. Radiation therapy is used alone or with chemotherapy to treat these patients. With chest irradiation the esophagus is often in the treatment field. Cumulative doses of radiation to the esophagus can cause esophagitis: peristaltic dysfunction, inflammation and esophageal sphincter incompetence causing dysphagia, odynophagia and gastroesophageal reflux. The incidence and severity vary with the dosage of radiation received. Inadequate management can lead to pain, nutritional deficits, and breaks in treatment. These may impact on quality of life and treatment effectiveness. Nurses play a key role in collaborating with physicians to manage esophagitis.

This presentation describes the evidence-based process used to update guidelines used by oncology nurses to manage esophagitis.

Radiation oncology nurses at an NCI-designated comprehensive cancer center identified a need to improve our management of esophagitis and framed clinical questions encompassing lifestyle changes and nutritional and medical management. We searched for evidence in CINAHL and Medline databases, evidence-based practice web sites, and by benchmarking with other institutions. Selected evidence was analyzed to evaluate its clinical significance and applicability to radiation oncology nursing practice. Findings and recommendations were summarized and presented

to nurses, the nurse leader, and collaborating radiation oncologists for feedback.

Findings from the evidence about interventions to manage esophagitis include: lifestyle changes (smoking cessation, avoiding recumbency for three hours after meals to decrease distal esophageal acid exposure), nutritional changes (decreased fat intake), and medical management (proton pump inhibitors for symptomatic relief and pro-motility agents as an adjunct to acid suppression). Nurses can incorporate these findings in practice in a number of ways.

Written guidelines on the collaborative management of esophagitis have been developed to guide nurses in assessing and managing patients, including collaboration with physicians for concomitant medical management. Staff will be inserviced on the evidence and the new guidelines, and patient education materials will be updated. These resources can be implemented by radiation oncology nurses in other settings. In addition, this process can be used to address other side effects of cancer treatment.

## 2699

**ELEVATING EXCELLENCE IN ONCOLOGY PATIENT CARE: CANADIAN STANDARDS AND COMPETENCIES FOR ONCOLOGY NURSING.** Kim Chapman, RN, MSC(N) CON, Canadian Association of Nurses in Oncology, Vancouver, BC, CA; and Jennifer Weirnikowski, RN, MN, ACNP, CON(C), Juravinski Cancer Centre, Hamilton, ON, CA.

The Canadian Association of Nurses in Oncology/Association canadienne des infirmières en oncologie (CANO/ACIO) is a national organization that supports oncology nursing in Canada to promote and develop excellence in practice, education, research and leadership. Established in 1984, one of CANO's major priorities and accomplishments has been to identify standards of care for oncology patients and, more recently, clarify how oncology nurses can meet those standards of care through the development of practice standards and competencies.

The Practice Standards and Competencies for the Specialized Oncology Nurse was created specifically for nurses who work in clinical areas where the primary focus is cancer care delivery.

An expert group of CANO/ACIO nurses developed the Practice Standards and Competencies for the Specialized Oncology nurse. The resulting document is a useful and relevant resource to oncology nurses that helps nurses understand what skills are needed to meet the requirements of their role as care providers. The document and accompanying self assessment tool were finalized and disseminated to CANO members at the annual conference in October 2006.

The document and associated tool are now being implemented in all settings where cancer care is delivered. The next phase of the project is to evaluate the up-take of the standards and competencies into practice. A special initiative under the leadership of a project leader has been established to complete the evaluation phase of the project.

Through use of the self assessment tool, nurse educators and nurse managers can work with staff nurses to assess performance and competency. Nurse administrators will value the document as a guide to creating and sustaining quality practice settings with the necessary infrastructure to elevate oncology nursing practice and improve patient care. This presentation highlights the development, implementation and evaluation of the standards and competencies and provides examples of how the document has been used by oncology nurses and nurse leaders in clinical settings across Canada.

## 2700

**A CLINIC BASED SELF-STUDY MODULE FOR ADMINISTRATION OF CHEMOTHERAPY VIA VENTRICULOSTOMY.** Rita Steinbauer, RN, BSN, OCN®, Duke University Oncology Treatment Center, Durham, NC, USA; and Susan Schneider, PhD, RN, AOCN®, Duke University School of Nursing, Durham, NC, USA.

In times of advanced technology, oncology nurses are challenged to stay efficient and safe in their delivery of patient care. Intrathecal chemotherapy given through an Ommaya Reservoir is done by the oncology nurse clinicians in our outpatient treatment center. This highly skilled procedure is done infrequently. An accurate review of Ommaya anatomy, intraventricular drugs, and equipment utilized for this procedure is needed in a readily accessible format for the oncology staff. A PowerPoint tutorial on intrathecal chemotherapy, which can be

downloaded on the nurse's computer desktop, was developed to meet this educational need.

During staff meetings and through informal unit surveys, the oncology nursing staff verbalized a need for a self-directed tutorial on intraventricular chemotherapy administration. Both experienced and novice oncology nurses, who were being instructed on how to administer chemotherapy through an Ommaya Reservoir, requested an abbreviated educational tool.

The self-study module, modified from the Duke Educational Department credentialing packet was used to develop this educational resource. The tutorial reviews the anatomical placement of an Ommaya Reservoir, objectives of intraventricular chemotherapy, a standard operating procedure, and equipment needed for ventricular chemotherapy and CSF sampling. The PowerPoint presentation involves twenty-five slides and takes fifty minutes to complete for continuing education credit. For reference in the clinic setting, any slide can be accessed for quick review.

A small pilot was conducted with 5 nurses who used the self-study module prior to administering intrathecal chemotherapy. All nurses found that the module was helpful and were able to administer the chemotherapy safely and confidently, according to procedure. The self-study module will be presented to the Oncology Clinical Practice Committee for review and by the Duke Oncology Educational Staff so it will be accessible throughout the healthcare system.

Offering an accessible and visual tool for the oncology nursing staff in this busy unit on the safe administration of chemotherapy via an Ommaya Reservoir can serve as a cost effective way to reinforce their knowledge base.

## 2703

**REDESIGNING THE AMBULATORY CHARGE NURSE ROLE.** Marjorie Mosley, RN, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY, USA; Alice Gianella, RN, MA, Memorial Sloan Kettering Cancer Center, New York, NY, USA; and Susan Dosil-Loiacono, RN, MS, Memorial Sloan Kettering Cancer Center, New York, NY, USA.

The Adult Day Hospital (ADH) is an outpatient chemotherapy unit that has undergone extensive change in the past year. A major change was the appointment of a new nurse leader. The nurse leader took an interest in improving the flow of patient activities in the unit, increasing staff moral, and retaining experienced staff. An improvement method chosen was to redesign the role of outpatient charge nurse. This role lacked clear guidelines concerning the duties, responsibilities, and competencies needed for optimum role performance, and the criteria used to evaluate performance.

The purpose of the project was to develop a program that would provide the charge nurse with the tools necessary to be successful in that role and the nurse leader the ability to evaluate competency.

A review of the literature found that there was a need to identify the competencies and guidelines needed for the outpatient charge nurse role. The staff was asked to complete a survey that would identify what they believed should be the traits and characteristics of a charge nurse. The literature search, hospital policy, and the survey provided the foundation for this project and for the development of a resource manual that resulted in the formation of standardized guidelines for the role of the charge nurse.

A postimplantation survey showed that the objectives of the project were achieved.

The project was well received by all staff members and will be used to orient and evaluate future charge nurses. The Ambulatory Nurse Leader Council expressed an interest in using this program to standardize the charge nurse orientation throughout MSKCC ambulatory areas.

When implementing new roles and responsibilities it is important to allow all participants involvement in the project. The staff took ownership of this program, which enhanced its ability to succeed.

## 2705

**CHOOSING SMART PUMP TECHNOLOGY; MORE THAN A PRODUCT REVIEW.** Pamela Kedziera, RN, MSN, AOCN®, Fox Chase Cancer Center, Philadelphia, PA, USA.

Institutions are looking for ways to optimize safety and patient outcomes. Medication related errors consisted of > 9% of the reported sentinel events listed by The Joint Commission as of September 2007. Technology can be an ally in providing safe healthcare but poses new challenges in selection of equipment. Historically, nurses have been the

clinicians that tested and selected infusion pumps. Converting to smart pump technology may seem like an obvious choice however the addition of this technology affects multiple layers of the healthcare delivery system and requires support and resources beyond the pump itself.

A multidisciplinary team of specialists was convened by nursing to review the state of the art of smart pump technology for Patient Controlled Analgesia (PCA). This group would drive the selection of the safest, most effective, Patient Controlled Analgesia device.

Upon reviewing the evidence in the literature, particularly the ECRI Institute 2006 Report on PCA infusion Pumps, the group recognized the need to align the facilities needs with the capital investment plan and the strategic technology plan. In order to procure this technology in the most cost effective manner, the group needed to look beyond the immediate single use pump. More input and support was solicited from the hospital leadership. Selection criteria grew to include integration of a system that would grow with the institution's broader strategic plan. Additional informational presentations were provided to key players. Stakeholders were recruited from various departments. Timelines were readjusted. Enthusiasm grew and the project was expanded to include all infusion pumps in the hospital and the outpatient infusion department.

The process took over eighteen months to complete. The selection of a vendor took longer than the actual implementation. Evaluation of the implementation identified areas for improvement. These areas could have been barriers had the key players not embraced the plan. Future expansion will be easier secondary to comprehensive first line planning.

Technology will continue to be an integral part of improving patient safety. Multiple layers of interdisciplinary collaboration are required to meet these safety needs. Planning for this process requires broad vision and updated skills for the nursing leader.

## 2708

**TRANSFORMING CARE AT THE BEDSIDE: SIMPLIFYING CHEMOTHERAPY.** Mary Ann Long, MS, RN, OCN®, Roswell Park Cancer Institute, Buffalo, NY, USA; Darryl Somayaji, RN, MSN, CCRC, Roswell Park Cancer Institute, Buffalo, NY, USA; Doreen Tober, RN, Roswell Park Cancer Institute, Buffalo, NY, USA; Cathy O'Connor, RN, Roswell Park Cancer Institute, Buffalo, NY, USA; Tara Salge, RN, BSN, Roswell Park Cancer Institute, Buffalo, NY, USA; and Eileen Kelly, RN, BSN, Roswell Park Cancer Institute, Buffalo, NY, USA.

Chemotherapy remains a major treatment modality for cancer care. Administering chemotherapy is a complex and anxiety producing activity, especially for new nurses or those not experienced in this field. Some examples of the complexity of this process include:

1. Attempting to decipher chemotherapy orders so chemotherapy agents and associated treatments are delivered in precise order.
2. Associating chemotherapy agents with specific instructions that are tied to them, including the use of a specific tubing, etc. Simplifying the processes affiliated with chemotherapy will improve patient safety and increase the comfort of nurses who administer these agents.

Because chemotherapy orders are written by category of medication and not by sequence of administration, nurses must determine the order of administration for hydration, premedication, and chemotherapy as well as the implementation of special instructions such as neurological evaluation prior to chemotherapy. The ever expanding arsenal of chemotherapy agents used to treat cancer makes it difficult for nurses to master and retain the information needed to safely administer these potent medications. Direct care nurses intimately involved in the process of chemotherapy administration presented these issues as well as proposals for improvement.

The nursing staff at the bedside proposed and developed these strategies to improve the chemotherapy process.

1. Designed a roadmap specific to the chemotherapy regimen, which outlined the order of administration and associated instructions.
2. Created a handy, pocket-sized book that contains the most frequently prescribed chemotherapy agents at Roswell Park Cancer Institute, side effects, and special instructions. These pocket guides are provided to all nurses in the facility.

This presentation will include information on the positive impact that these interventions have made on nursing satisfaction as well as demonstrate a decrease in the number of medication errors associated with chemotherapy administration.

Chemotherapy continues to be challenging because of new agents and the combination of agents in cancer treatment. It is imperative that bedside nurses are empowered to identify issues and transform the care that they provide to the safest method possible. Oncology nurses in other settings where chemotherapy is administered will be interested in this presentation.

## 2711

**COMPASSION FATIGUE NURSING SUPPORT GROUP IN AMBULATORY CARE GYNECOLOGY/ONCOLOGY NURSING.** Paula Absolon, RN, MA, ANP, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY, USA; and Carol Krueger, LCSW, Memorial Sloan Kettering Cancer Center, New York, NY, USA.

Compassion fatigue (CF) is a known stressor in nursing which can lead to burnout and/or coexists with burnout. CF effects morale, performance, absenteeism, and retention. Nurses in gynecology (GYN) oncology have been attending conferences/reading the literature/talking together and with the GYN social worker (LCSW) have been made aware that compassion fatigue (CF) is a concern for nurses working with cancer patients in the ambulatory care setting. One of the ways the nurses in GYN are addressing this issue is by starting a nursing support group.

To illustrate the benefits of a nursing support group in GYN nursing in addressing compassion fatigue in the outpatient ambulatory care setting.

The nurses met for 10 weekly yoga sessions in the department with a trained yoga instructor for stress reduction—a self-care technique used to address CF. Additionally, they identified a need for a support group/dialogue with an expert in their midst. The LCSW is a Certified Compassion Fatigue Therapist. Together they organized an hour long monthly pre-clinic support group for the nurses to assess the stressors involved in caring for this patient population and to address the effects of compassion fatigue and burnout in both their professional and personal lives. Ground rules for confidentiality and safety are implemented so that the topics, but not personal anecdotes can be shared with those who cannot attend. The LCSW is sharing the literature and workshop materials at these meetings.

Recognition of the need for ongoing/daily support has resulted in the creation of a network for collegial care and compassion. The support group is helping nurses develop strategies of managing compassion fatigue. The valuable outcome has been recognized by other services with support groups being organized throughout the institution.

By focusing and addressing an important issue of CF in nursing through a LCSW led support group, the nurses in a high stress setting are recognizing and developing strategies of managing CF.

## 2719

**THE MISSING LINK: BRINGING SURVIVORSHIP TO THE CONTINUUM OF CANCER CARE.** Susan Daubman, RN, BSN, OCN®, Nebraska Medical Center, Omaha, NE, USA.

Historically, the primary focus of cancer care has been assisting patients to grasp their diagnosis, be involved in treatment and manage related side effects. Although healthcare providers have often viewed the end of treatment as a time to move on, survivors have ongoing concerns including long term/late effects and issues surrounding life after cancer.

With an estimated 10.3 million cancer survivors in the US and over 1 million patients becoming survivors annually, the development of a cancer survivorship program is crucial. The vision behind establishing such a program at our facility was championed by a medical oncologist, cancer administrator and oncology nurse. During the planning phase, strategies were employed to obtain a comprehensive understanding of cancer survivorship. A patient forum was conducted to determine important components. It was clear that survivors must continue their defined follow up care for cancer surveillance. Additionally, it was evident that survivors need a primary care provider to address other health care requirements.

The design of our Cancer Survivorship Program is structured with two clinics. The comprehensive survivorship assessment clinic is for patients who have completed chemotherapy/radiation treatment. A comprehensive individualized plan of care is developed with a multidisciplinary team addressing the ongoing health care needs related to survivorship. The internal medicine survivorship clinic focuses on implementation of the survivorship plan of care and general health care needs.

Evaluation through regular meetings and patient surveys has guided program improvements. Patients and families have expressed satisfac-

tion with the services provided in both clinics promoting a new focus on life after cancer.

Providing survivorship care helps individuals move beyond their cancer diagnosis and treatment. Oncology nurses are in a unique position to recognize the importance of survivorship care. Knowledge regarding the cancer trajectory including long term/late effects is critical to conducting clinical assessments, planning care and providing individualized education. The oncology nurse can take the lead through collaboration, communication and commitment in addressing survivorship issues. Ultimately, this will give patients the link to a life after cancer.

## 2721

**IMPROVING PERIPHERAL INTRAVENOUS CANNULATION IN NURSES: COMPUTER BASED EDUCATION VERSUS INTENSIVE PRACTICE.** Colleen O'Leary, RN, BSN, OCN®, Northwestern Memorial Hospital, Chicago, IL, USA.

IV cannulations are uncomfortable to the patient and costly in terms of time and equipment. Oncology patients have more difficult cannulations due to sclerosing of veins, dehydration, or limited use of veins in a limb. The incidence of local or bloodstream infections associated with peripheral venous catheters is low, but serious complications produce considerable annual morbidity due to the frequency with which these catheters are used.

Studies comparing different methods of teaching IV insertion skills suggest that a low performance rating was influenced by the lack of specialty skills and not general nursing experience in particular. Given the lack of evidence for one particular type of education, a combination of methods based on availability and student preference may be effective. Ongoing education to improve skills in intravenous cannulation is important.

A pilot program was conducted aimed at improving IV cannulation skills. An assessment tool was developed to measure the nurses' performance in provision of patient education, correct choice & use of catheter, appropriate site selection and preparation before insertion, correct insertion technique & attachment of IV line. A total of 21 nurses with 2 or less years of experience were recruited. Each nurse was assessed by a trained data collector on 10 IV cannulation attempts before any additional education. Nurses were randomly assigned to one of two education groups. Group A was sent to ambulatory surgery to start IVs. Group B used a computer generated training program. Following the educational experience, nurses were assessed on an additional 10 IV cannulations.

Pre- and posteducation scores will be reviewed for each nurse. It is believed that an improvement in IV cannulation skills will be found. It is unclear if one educational method will be more successful than the other. An education program will be chosen based on level of improvement from baseline scores for each method. An increase in patient and nursing satisfaction is expected in regards to IV cannulation.

An education program will be chosen based on level of improvement from baseline scores for each method. An increase in patient and nursing satisfaction is expected in regards to IV cannulation.

## 2722

**STRENGTHENING THE FOUNDATION FOR ONCOLOGY NURSES: A KEY TO RETENTION.** Joan Moore, RN, MN, APRN, AOCN®, Yale-New Haven Hospital, New Haven, CT, USA; Lisa Barbarotta, MSN, RN, AOCNS®, Yale-New Haven Hospital, New Haven, CT, USA; and Monica Fradkin, BSN, RN, OCN®, Yale New Haven Hospital, New Haven, CT, USA.

Retention of nurses is essential to building experienced oncology nursing staffs. Our inpatient oncology units experienced significant turnover, > 23%, during fiscal year 2007, with a major reason cited as insufficient education and support. Especially challenging was the lack of seasoned preceptors to support the number of novice nurses. The length and cost of orientation increased. With plans to open a new Cancer Hospital at Yale in 2009, this trend clearly needed to be reversed.

To describe the strategies implemented at orientation to meet oncology nurses educational needs and provide the foundation to advance nurses along a professional career path in oncology nursing.

An overall Oncology Nursing Education Coordinator and Unit Based Educator (UBE) were hired as additional education resources to work with the Oncology Clinical Nurse Specialist (CNS) in May 2007. As a result of assessment and evaluation by the educators, managers, preceptors, and new nurses, the oncology orientation was restructured. The competency



based orientation was streamlined with a calendar that included weekly assignment progression and reading assignments. Weekly meetings with the preceptor, orientee, CNS and UBE addressed assignments, care planning, critical thinking, safety, relationships with team members, and emotional support. A Fundamentals of Oncology Nursing Course was offered in the first 12 weeks of orientation. Outpatient observation experiences were developed in partnership with the Oncology Treatment Centers and Radiation Therapy, to increase awareness of care continuity and communication across settings. Emotional support groups were initiated. Seasoned, experienced and novice nurses were strengthened by formal unit education on disease and symptom management. A forum to address preventing errors and revisiting lost opportunities (P.E.A.R.L.S.) was developed for all nurses to learn through review of critical incidents. To encourage Certification, an Oncology Nursing Review Course was offered.

Evaluation and retention rates pre and post interventions will be compared to evaluate the effectiveness of the education redesign. Results are positive to date.

Continued partnering with outpatient areas is in progress to conduct chemotherapy practicums, along with formal and informal education. Insuring a strong foundation allows nurses to start and advance on an oncology nursing career path that extends across settings and encourages retention.

## 2725

**DEVELOPING BASIC CLINICAL COMPETENCIES AND KNOWLEDGE BASE FOR NURSES CARING FOR ONCOLOGY PATIENTS.** Betsy Collins, RN, MSN, AOCN®, Lancaster General Hospital, Lancaster, PA, USA; and Carla Brutico, RN, OCN®, Carson Tahoe Cancer Center, Carson City, NV, USA.

There exists an institutional and regional variation of basic competencies for in-patient oncology nurses. As technology advances and patients are living longer, cancer is becoming a chronic disease. Patients are now being cared for in community hospitals without dedicated units and/or trained oncology nurses.

The purpose of the project is to develop a set of oncology nursing competencies basic to nurses caring for oncology patients.

A team consisting of oncology nurses from varied clinical settings and geographical locations was formed from the Management and Program Development Special Interest Group (SIG) of ONS. Each team member contributed competencies and skill sets that were considered basic for nurses caring for oncology patients. In addition, the team networked with other hospitals/cancer centers to determine which competencies were felt to be central to the knowledge base.

A list of competencies considered to be the “skeleton” on which to build a more comprehensive knowledge base was developed. With the basic competencies mastered, a nurse caring for oncology patients can continue to build the necessary knowledge base as technology advances and we learn more about cancer biology and the management of side effects.

Nurses caring for oncology patients, no matter the setting, should master the basic competencies that enable them to understand the complexities of cancer care. Oncology nurses play an important role in empowering patients through education and therefore must possess the competencies to empower themselves.

## 2728

**PROMOTING PATIENT ADHERENCE TO ORAL CANCER TREATMENT.** Susan Moore, RN, MSN, ANP, AOCN®, CancerExpertise, Chicago, IL, USA; and Yvette Stoker, URA Rx, Englewood Cliffs, NJ, USA.

Self-administered oral cancer therapy enhances patient control and independence during protracted cancer treatment; however, suboptimal adherence can affect efficacy and quality of life. Increasing use and complexity of oral regimens have created patient education and adherence challenges. Low oral therapy adherence rates have been reported in oncology literature for many years, thus questioning the long-held assumption that cancer patients have high adherence rates because of the risk of disease recurrence or progression.

The primary purpose of this project was to introduce oncology nurses to behavioral models originally developed to assess patient motivation and risk/benefit beliefs in primary medicine. Models that may be applied to cancer populations include Becker's Health Belief Model (HBM) and Bandura's Self-Efficacy Model (SEM). Patient selection can be

assessed by using pre-treatment questionnaires based on Johnson's Self-Regulation Theory (SRT). Building upon these models, the 2007–2009 ONS research agenda, and oncology nursing needs assessments, adherence tools have been developed and await validation through nursing research projects. A secondary purpose was to broaden the scope of oncology nursing to include nurse-run telephone support services for patients undergoing oral cancer therapy.

During the course of treatment, oncology nurses assessed patient selection using questionnaires based on the SRT, and patient motivation using the HBM and the SEM. Adherence was tracked by patient self-report, treatment diaries and communication with nurse-run telephone support services.

Comprehensive patient screening and education, use of adherence tools and early management of adverse events through nurse-run telephone support services resulted in an additional 3 cycles of oral chemotherapy for patients with metastatic breast cancer (MBC) and 5 additional cycles for those with metastatic colorectal cancer (mCRC). MBC and mCRC patients participating in the nurse-run support service reported 40% fewer grade 3/4 adverse events than those not enrolled in the program.

Oncology nurses can assist patients to improve oral cancer therapy adherence by screening with the Health Belief and Self-Efficacy models and Self-Regulation Theory; monitoring patients with self-management tools and providing nurse-run telephone support services. Concerns about patient adherence strongly suggest that oncology nurses must develop additional tools to assess patient selection, motivation, and adherence during therapy.

## 2729

**IMPLEMENTING NATIONAL QUALITY STANDARDS IN A RURAL HOSPITAL SETTING.** Patrice Steininger, RN, OCN®, John Randolph Medical Center, Hopewell, VA, USA.

The National Comprehensive Cancer Network (NCCN) has developed a comprehensive set of diagnostic, treatment, and supportive care guidelines with the goal of improvement in quality, effectiveness, and efficiency of oncology practices. A gap exists in the implementation of national guidelines in rural settings due to the low volume of patients and limited number of care providers. Of note is the higher incidence of mastectomies versus lumpectomies in rural areas despite clear evidence of similar outcomes with breast sparing surgery. Implementation of the guidelines would enhance consistent care of oncology patients regardless of setting.

The goal was to implement site specific quality standards in our rural facility. Recent national statistics indicate that 85% of all cancer patients are treated at community hospitals. These patients deserve the same standard of care as those treated in urban medical centers.

The NCCN guidelines were presented to the Cancer Committee by the Oncology Nurse Director. The committee discussed and adopted the national standards for colon and breast cancer. Specific physicians were targeted as champions for this initiative. Through review and discussion of site specific guidelines plans were developed and initiated for implementation in our setting. At Cancer Conference attendees received copies of pertinent guidelines to promote discussion, evaluation and understanding of appropriate treatment.

The medical staff was receptive to the presentation and plans for implementation. Prior to implementation of these standards, the pathologist stopped examining the lymph nodes once a positive node was identified. Now the surgeon obtains and the pathologist examines at least twelve nodes in every patient. Data has shown an increase in diagnoses of high grade colon cancers with this change. Oncology nurses developed a program of colorectal screenings and education to heighten awareness for both the hospital staff and community.

Implementation of NCCN standards and ongoing data collection were employed to insure that care provided at the rural level was consistent with that in urban areas. Success of standardization was dependent upon participation and acceptance from the multidisciplinary team who are dedicated to the provision of quality care.

## 2730

**KNOWLEDGE AND USE OF CANCER-RELATED FATIGUE RESEARCH EVIDENCE BY ONS RNS: PSYCHOMETRIC ANALYSIS OF A MEASUREMENT INSTRUMENT.** Lawrence Wilcox, ARNP, BC, New York State

Department of Corrections, Brocton, NY, USA; Jean Brown, PhD, University at Buffalo, Buffalo, NY, USA; Yow-Wu Wu, PhD, University at Buffalo, Buffalo, NY, USA; and Kay Sackett, EdD, University at Buffalo, Buffalo, NY, USA.

The ONS FIRE project implemented decades ago sought to improve the timely dissemination of research supported nursing interventions to manage various symptoms experienced by cancer patients. The literature demonstrates that there are multiple potential barriers to research findings use in clinical practice. Diffusion theory demonstrates how new knowledge is acquired by adopters, yet the literature does not adequately describe whether diffusion strategies have improved the research to practice gap that many argue exists in the nursing profession.

To establish the validity and reliability of an instrument designed to evaluate whether ONS RNs have acquired the knowledge of research supported interventions to manage cancer-related fatigue symptoms in their patients and whether they utilize those interventions in their oncology practice.

Roger's Theory of Innovation Diffusion provided the theoretical framework for this investigation.

A panel of five experts with acknowledged expertise in the area of cancer-related fatigue symptoms reviewed a draft Cancer-Related Fatigue Knowledge and Use (CRF) instrument for content validity. To determine CRF instrument reliability test-retest methods were utilized. A nationwide random sample of 400 ONS RN's was recruited for participation in the study utilizing the CRF instrument.

After expert panel review, revisions to the CRF instrument resulted in a content validity index score of 0.91 for the CRF instrument. After test-retest responses were returned, 64 responses were accepted by the authors for psychometric analysis. The analysis demonstrated a reliability of 0.80 and 0.83, respectively, on the variables of knowledge and use of cancer-related fatigue symptom management interventions. The psychometric analysis demonstrated acceptable values for validity and reliability for the CRF instrument. This work allows the investigation to be expanded to a much larger sample and to capture nurse's views on barriers to research use and professional and demographic information pertaining to the sample.

**Funding Source: Genentech BioOncology (unrestricted grant through the ONS Foundation)**

## 2733

THE DEVELOPMENT AND IMPLEMENTATION OF A NURSING STAFF EXECUTIVE COUNCIL AT ROSWELL PARK CANCER INSTITUTE. Penny Tirpak, RN, BSN, Roswell Park Cancer Institute, Buffalo, NY, USA; Marilyn DiCara, RN, BSN, CCM, Roswell Park Cancer Institute, Buffalo, NY, USA; and Linda O'Malley, RN, BSN, CCRC, OCN®, Roswell Park Cancer Institute, Buffalo, NY, USA.

Our comprehensive cancer care center has a long standing history of participating in a shared governance type of management. Shared Governance is the term used to describe the involvement of direct care nurses in the decision-making process. A Nursing Staff Executive Council was developed to formalize our shared governance style.

In 2007, nursing by-laws were developed and a Nursing Staff Executive council was elected. The purpose of the Nursing Staff Executive Council is to serve as the hub of our other nursing councils and to support professional nursing practice at our facility. This council provides a forum for discussion of nursing practice issues and shared decision making by the President of the Nursing Staff and the elected representatives of the council. The Nursing Staff Executive Council is a forum to implement the process of planning, organizing, directing, and evaluating evidence-based oncology nursing practice.

Members of the council are nominated by co-workers and administrators and a general nursing election is to be held in May of each year. Three officers are elected: President of the Nursing Staff, Vice-President, and a Secretary. The President also serves as the chairperson of the council. The other elected members of the council represent all areas of the Institute where nurses are employed. All staff members are encouraged to present nursing practice issues to their area representative or an officer of the council. These members are charged with the responsibility of sharing information with the constituents of their represented areas and engaging other nurses in discussions regarding nursing practice.

Over 40% of registered nurses participated in voting for the inaugural council members. We will be tracking voter turn-out each year. At the

time of the congress, we will be able to present one year's information on improvement of processes including communication with nurses, completion of goals developed by the council, and lessons learned.

This process can be adapted by any facility looking to improve empowerment of the oncology nurse.

## 2734

COLORECTAL SCREENING INITIATIVE: A MODEL FOR KANSAS. Elizabeth Lindal, RN, OCN®, Via Christi Cancer Center, Wichita, KS, USA.

Routine colorectal screening can reduce death from colorectal cancer by detecting the disease at early, more treatable stages. According to 2004 statistics only 21.7% of Kansans ages 50 and older had a fecal occult blood test (FOBT) within the past year. The Via Christi Cancer Outreach Coordinator, an oncology certified nurse, partnered with the American Cancer Society and Walgreen pharmacies in March 2007 to launch a community colorectal screening event in low-income areas of Wichita, Kansas for participants ages 50–65. Via Christ Volunteers—Partners in Caring funded the screening.

The purpose of the project was twofold: distribute free fecal occult blood test kits in low-income areas of Wichita, and increase overall awareness of the need for colorectal screening.

Kits included the FOBT cards, return mailing envelope, educational literature, and instructions in English and Spanish. These were distributed at two Walgreen pharmacies. Participants completed an information card, which gathered basic demographic data (gender, age, ethnicity, identification of a primary physician, and zip code) and allowed for follow-up. Awareness activities included announcements on the hospital and pharmacy marquees and public service announcements on the radio. The Cancer Outreach Coordinator was the contact person for additional questions about the screening and provided follow-up notification.

One hundred and seventy-nine kits were distributed and 88 kits were processed. Of the 179 participants 70 had never received a colon cancer screening. Participants and their physicians received test results by mail. Referrals to community safety-net clinics were given to participants who did not have a physician. There were seven positive readings. Phone calls were made to those seven participants with positive readings to inquire about additional testing and follow-up. One twenty-eight-year-old female participant with a positive reading received a follow-up colonoscopy and subsequent polypectomy. Although outside the identified age-range for screening she was given a test kit because of her family history.

As a member of the Kansas Cancer Partnership the Cancer Outreach Coordinator provided the model for the "Kansas Colorectal Cancer Project 2008," a document available from the Kansas Department of Health and Environment.

## 2735

DOES SCHEDULED MEPERIDINE DECREASE THE SEVERITY OF RIGOR RELATED TO THE ADMINISTRATION OF INTERLEUKIN 2? Colleen O'Leary, RN, BSN, OCN®, Northwestern Memorial Hospital, Chicago, IL, USA; and Jessica Palis, RN, BSN, OCN®, Northwestern Memorial Hospital, Chicago, IL, USA.

Interleukin 2 (IL-2) is a glycoprotein produced by activated T-helper cells to stimulate natural killer cells to become lymphokine-activated-killer cells (LAK). Treatment with IL-2 has provided a more positive outcome for patients with metastatic renal carcinoma and metastatic melanoma, but dose-limiting side effects that occur with the use of IL-2 are often the determining factor for participation in therapy. These side effects include fever, chills, nausea, vomiting, muscle pain, shortness of breath, pulmonary edema, hypotension, abnormal liver or kidney function, thrombocytopenia, anorexia, diarrhea, skin and neurological changes. Fever & chills, occurring in 85% of patients receiving treatment develop into rigors and is referred to by patients as the most uncomfortable side effect related to IL-2. To reduce the effect of these rigors, Meperidine (Demerol) an opiate agonist, is often administered.

IL-2 administration includes premedications of Tylenol, Benadryl & Zofran with each dose. Demerol is administered at the onset of chills which occur anywhere between 1.5 hours to 3 hours after administration of IL-2. Administering Demerol on a scheduled basis following IL-2 therapy may decrease the severity of rigors and make patients more comfortable.

Tyre and Quan reviewed the importance of prompt administration of medications to greatly reduce the severity of side effects. Success-

ful administration of IL-2 is facilitated by anticipating and proactively managing toxicities according to Schwartz, Stover, and Dutcher. Studies agree that a rapid response and expectation of rigors benefit patient care. However, no research was found regarding scheduled doses of Demerol.

My study compares scheduled and PRN Demerol administration for the control of rigors with IL-2 administration. A control group will receive Demerol PRN with the onset of rigors while an experimental group will receive Demerol at a scheduled time.

A Likert scale will be completed by each patient to determine the severity of rigors. Results from this study will be used to determine best practice at our institution.

Nursing staff will be educated on best practice and standing orders developed for the administration of Demerol based on the results of this study.

## 2739

**REDUCING DELAYS IN ADMINISTRATION OF ANTIBIOTIC THERAPY FOR FEBRILE NEUTROPENIC ONCOLOGY PATIENTS.** Sally Black, RN, MSN, MBA, OCN®, University of Chicago Medical Center, Chicago, IL, USA; Lisandra Ayala, RN, BSN, OCN®, University of Chicago Medical Center, Chicago, IL, USA; Corrin Steinhauer, RN, BSN OCN®, University of Chicago Medical Center, Chicago, IL, USA; Pamela McCall, RN, BSN, OCN®, University of Chicago Medical Center, Chicago, IL, USA; and Portia McBride, RN, BSN, University of Chicago Medical Center, Chicago, IL, USA.

Neutropenic fever, which may be the only symptom of a life-threatening infection in Oncology patients, is deemed an oncologic emergency. Progression of infection can be rapid; therefore administration of antibiotic therapy within 60 minutes is an essential life-saving intervention. Oncology nurses and physicians have the responsibility to effectively coordinate patient care to ensure appropriate treatment for all febrile neutropenic patients.

The purpose of our project was to identify all causes of delay in initial antibiotic administration and propose a standard for prompt and effective treatment of neutropenic fever. The aim of the project was to reduce the time from first temperature elevation to initial antibiotic administration in febrile neutropenic patients.

Chart reviews were done at four intervals from a total of 60 charts of Oncology patients with febrile neutropenia (patients already on IV antibiotics were excluded). Findings were used to

1. Identify delays in the antibiotic administration process.
2. Develop an evidence-based Neutropenic Fever standard protocol focused on reducing those delays.

Findings one month after implementation of the Neutropenic Fever standard protocol revealed significant improvement in time to initial antibiotic therapy administration (median time decreased from 3.5 hours to 43 minutes; mean time decreased from 12.6 hours to 1.12 hours). Findings after one year revealed a continued improvement in time to initial antibiotic administration (median time increased insignificantly from 43 minutes to 60 minutes; mean time decreased from 1.12 hours to 52 minutes). Ongoing surveillance continues to show improvement in time to initial antibiotic administration (median time decreased from 60 minutes to 38 minutes; mean time decreased from 52 minutes to 50 minutes). Implementation of the Neutropenic Fever standard protocol has shown to have significantly improved the time to administration of initial antibiotics and they are now consistently administered within 60 minutes.

By performing this collaborative project, the team was able to develop a Neutropenic Fever standard protocol, which is now a standard of practice amongst the Oncology team. It has allowed for "best practice" in the management of febrile neutropenic patients by ensuring effective and prompt treatment, therefore decreasing the overall risk for developing life-threatening infections and/or complications.

## 2744

**IMPLEMENTING THE NIOSH HAZARDOUS DRUG GUIDELINES IN A TERTIARY CARE HOSPITAL AFFILIATED WITH AN NCI-DESIGNATED COMPREHENSIVE CANCER CENTER.** Sharon Miller, RN MSN, University of Pittsburgh Medical Center (UPMC)–Shadyside, Pittsburgh, PA, USA; Mary Madeya, RN, MSN, UPMC Cancer Centers, Pittsburgh, PA,

USA; William Smith, BA, UPMC, Pittsburgh, PA, USA; James Natale, PharmD, UPMC Cancer Centers, Pittsburgh, PA, USA; and Paul Sumic, RPh, UPMC Shadyside, Pittsburgh, PA, USA.

In 2004, NIOSH issued an alert outlining recommendations for protecting healthcare workers from exposure to hazardous drugs. At the comprehensive cancer center that is the focus of this discussion, many of the recommendations had already been implemented. However the expansive list of drugs and updated guidelines for medical surveillance and excretion safety necessitated an evaluation of current practices and implementation of the NIOSH guidelines throughout the 490-bed inpatient hub of the cancer center. The inpatient oncology advanced practice RN assumed the primary responsibility for this project.

The purpose of the project was to fully implement the NIOSH guidelines throughout the hospital. This included three medical oncology inpatient units, where antineoplastic drug precautions were practiced daily, units such as ICUs and surgical services, where varying degrees of precautions were practiced, and low-volume medical-surgical and ancillary areas, which were largely unfamiliar with the NIOSH guidelines.

The interventions that will be discussed include the following.

1. Identifying a multidisciplinary team to discuss strategies for implementation
2. Customizing the NIOSH hazardous drug list for this healthcare system
3. Finalizing decisions about protection and disposal supplies
4. Developing a cost estimate
5. Adjusting the waste disposal practices to accommodate the large increase in hazardous drug handling supplies
6. Expanding the spill clean-up plan to include all areas of the hospital
7. Developing a mechanism for nurses to identify the hazardous drugs
8. Updating the medical surveillance program
9. Providing initial and ongoing staff education in all areas of the hospital.

The evaluation that will be presented includes cost information and a proposed model for implementing the NIOSH guidelines at other hospitals. Areas for further development include planning for regular updates to the hazardous drug list, adopting a consistent strategy for restricting duties in high-risk staff (example, during pregnancy), and translating the risk information for patients and families.

The 2004 NIOSH Alert has heightened the awareness of healthcare workers in all areas about the occupational risks associated with more than 200 drugs. Oncology nursing, having more than two decades of experience with hazardous drug precautions, must assume a leadership role in educating other nurses and healthcare providers about these practices.

## 2745

**ADVANCE DIRECTIVES AND ADVANCED CANCER.** Barbara Biedrzycki, RN, MSN, AOCN®, CRNP, Johns Hopkins, Baltimore, MD, USA.

Advance directives document the patient's wishes for end of life care and prompt discussion on issue that may be uncomfortable for families and oncology nurses to discuss. We know that most of the public does not have advance directives, but what about people with advanced cancer?

The purpose of this study is to learn more about the use of advance directives and advanced cancer. Advanced directives provide insight into the patient's wishes for end-of-life care and symptom management, a high research priority for ONS. In fact, the ONS Research Agenda 2005–2009 indicates that the 1.1 priority topic is symptom management at the end of life. The rationale for this priority rating is that "many patients and their families in palliative settings continue to unnecessarily suffer from pain and other symptoms and experience existential, spiritual, and psychological distress. Recognizing the prevalence of advance directives in patient at the end of life may provide insight into how oncology nurses can facilitate communication and education about decision making for end of life care.

The conceptual model that guides this research is the Health Belief Model. Patients with advance cancer as well as their family, oncology nurses, and other health care providers need to see the value in advance directives before they will take action to use them.

Patients who had the diagnosis of advanced gastrointestinal cancer were sent a mailed survey after their first consultation at a major academic cancer. Mailed survey research participants indicated whether or not they had advance directives and the type of advance directives they had. If they did not have an advance directive, they provided a reason as why not. Over two hundred surveys were analyzed using descriptive statistics.



Advance directives are under-utilized when people have advanced cancer. Findings from this study indicate the importance of oncology nurses advocating for the use of advance directives at the end-of-life. Most were aware of advance directives even though they did not complete the forms. Several survey research participants who did not have advance directives had indicated that they intended to do so "soon." The rationales provided for not having advance directives provide insight into how oncology nurses may facilitate the use of advance directives.

## 2746

**FACTORS INVOLVED IN SELECTION OF A FITNESS PROGRAM FOR CANCER SURVIVORS: PERSONALITY AND EXERCISE PREFERENCES.** Pauline Osborne, RN, BSN, OCN®, Overlake Hospital Medical Center, Redmond, WA, USA; Donna Berry, University of Washington, Seattle, WA, USA; and Basia Belza, University of Washington, Seattle, WA, USA.

There is preliminary evidence that exercise has benefit for cancer survivors on a broad range of quality of life parameters including the physical, emotional, and social domains. Despite documented benefits, studies have shown that individuals reduce exercise participation during cancer treatment and for several years after treatment. Understanding personal and treatment-related reasons for low participation rates may help professionals address adherence to, maintenance and overall enjoyment of exercise. However, little is known about whether personality and demographic and medical variables are associated with cancer survivors' preferences for exercise.

Therefore, the purpose of this study was to describe factors involved in cancer survivors' selection of a fitness program. It examined the relationships between personality characteristics, demographics, exercise behavior, medical and treatment variables, and exercise preferences in 60 cancer survivors.

The two theoretical frameworks used to guide this study were Ajzen's theory of planned behavior (TPB) and Costa and McCrae's Five Factor Model. The TPB proposes that a person's intention is the key determinant of behavior because it reflects one's level of motivation and desire to put forth effort. The FFM is the dominant framework for studying personality and its potential utility in the health domain has been supported.

A descriptive study design with correlational analysis was used to evaluate the factors involved in cancer survivors' choice of a fitness program. A quantitative, self-report questionnaire was developed to include the NEO-FFI to measure personality, demographics, exercise behavior, medical and treatment variables, and exercise preferences based on the work of previous studies. Participants were asked to choose home-based walking (HBW), Nia, or EnhanceFitness after watching a 6 minute video that introduced the participants to an overview of each exercise program type and included video clips of actual activities of each. Analyses included chi-square tests for categorical data.

Fitness program preference was significantly correlated with personality factor conscientiousness, income, and level of enjoyment of current or past physical activity. HBW was the most preferred fitness program, particularly by those TBA. Therefore, these relationships and exercise preferences should be considered when assisting cancer survivors in choosing a fitness program.

## 2747

**SWALLOWING DYSFUNCTION IN PATIENTS WITH HEAD AND NECK CANCER RECEIVING RADIATION THERAPY: USING PERFORMANCE IMPROVEMENT TO ENHANCE PRACTICE.** Lisa Cox, RN, BSN, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY, USA; and Mary Elizabeth Davis, RN, MSN, AOCNS®, Memorial Sloan Kettering Cancer Center, New York, NY, USA.

Forty thousand patients are diagnosed with head and neck cancer in the United States each year. Half of these present with locally advanced disease and are treated with chemotherapy and radiation. Swallowing difficulties (dysphagia) may develop after treatment, potentially resulting in percutaneous endoscopic gastrostomy (PEG)-dependence, nutritional deficits, and a decline in quality of life. Nurses are in a unique position to lead teams in developing strategies to educate patients about swallowing and establishing a process for early interventions.

Oncology nurses at an NCI-designated cancer center led a multidisciplinary team to standardize practice related to dysphagia prevention

using a performance improvement methodology. This presentation will review the steps taken and share the strategies developed to address dysphagia.

Our multidisciplinary team, including physicians, nurses, swallowing specialists, and dietitians found we had no standard practice in place to prevent dysphagia. Patient-, treatment-, and clinician-related factors contribute to dysphagia. Our goals were to establish a process for early intervention and to ensure consistent patient education. The team reached consensus about how to standardize practice: All patients to be seen before and during radiation therapy by swallowing specialists and dietitians; patients to be encouraged to eat and drink during treatment regardless of whether or not they have a PEG tube unless defined signs of aspiration become evident; and swallowing exercises to be performed during and after treatment with ongoing reinforcement from involved nurses.

Pretreatment evaluations by swallowing specialists increased from 8% to 60%. A new education booklet was developed addressing how disease and treatment impacts swallowing and teaching exercises to prevent dysphagia. A fact card was developed for patients with PEG tubes outlining strategies for resuming oral feedings. Educational programs were provided to nurses to ensure consistent instructions are given to patients.

Nurses are in an ideal position to lead multidisciplinary performance improvement teams. The process used to address dysphagia can be applied to other clinical problems. In addition, the strategies developed to prevent dysphagia (early intervention by swallowing specialists and dietitians and written education materials for patients) can be used by other nurses caring for patients with head and neck cancer receiving radiation therapy.

## 2748

**EFFICIENCY AND SAFETY, COEXISTENCE: THE CASE FOR FAST TRACKING PATIENTS THROUGH THEIR AMBULATORY CHEMOTHERAPY EXPERIENCE.** German Rodriguez, RN, MSN, Memorial Sloan Kettering Cancer Center, New York, NY, USA.

In the ambulatory oncology setting, chemotherapy regimens have become increasingly complex, with the development of new drugs and clinical trials. Our volume of chemotherapy patient visits has increased significantly. This resulted in patient dissatisfaction with prolonged wait times during their chemotherapy visits. Our goal was to reduce wait times and demonstrate that efficiency and safety can coexist in a dynamic environment

A multidisciplinary team attended a three-day workshop, which utilized a qualitative and innovation methodology approach to focus on the patient chemotherapy experience. Brainstorming sessions generated hundreds of ideas, procedures, and process changes. Members were encouraged to "prototype," test, and improve their ideas. The concept of fast forwarding patients through our chemotherapy process, "Fast Tracking," was born. This presentation will cover the development, design, future challenges, and outcomes of this project.

Through our system, patients and chemotherapy orders were sorted primarily by the first-come first-serve rule at the queues for activities. Activities that occur during a visit can vary from 15–570 minutes. We "fast-tracked" patients based on the following criteria: those with shorter treatment times (fewer than 75 minutes) and those whose drugs can be prepared in under three minutes. These patients were placed on a separate track by prioritized queues and supported by dedicated resources in the system. This process would get patients through the system quickly, resulting in shorter wait times and efficient use of resources. Fast-Tracking was implemented in June 2005.

Today we are allocating nursing staff to treat this population. After the implementation, nurses were surveyed as to their satisfaction with this process and the added benefits to the patients. Overall responses were positive. Nurses were empowered to participate in prototyping, impacting nursing satisfaction. Our patient satisfaction survey demonstrated overall increased satisfaction with their chemotherapy experience.

When providing this service we were able to increase space utilization at our busiest chemotherapy unit without increasing cost, improving efficiency, and maintaining safety. We plan to expand this process in other chemotherapy suites and continue evaluating patient and nursing satisfaction.

## 2752

**SYMPTOM CLUSTERS AND QUALITY OF LIFE IN PATIENTS WITH ESOPHAGEAL CANCER.** Pamela Ginex, RN, MPH, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY, USA; Maureen Jingleleski, RN, BSN, Memorial Sloan Kettering Cancer Center, New York, NY, USA; Jennifer Dennehy, RN, BSN, Memorial Sloan Kettering Cancer Center, New York, NY, USA; Bridgette Thom, MS, Memorial Sloan Kettering Cancer Center, New York, NY, USA; Alain Vincent, BS, Memorial Sloan Kettering Cancer Center, New York, NY, USA; and Manjitt Bains, MD, Memorial Sloan Kettering Cancer Center, New York, NY, USA.

Incidence of esophageal cancer is increasing and it is currently the eighth most common cancer worldwide. In 2007, 15,560 new cases of esophageal cancer were diagnosed in the United States. Surgery remains the primary curative treatment although the addition of radiation and chemotherapy has improved survival for patients diagnosed with advanced disease. Multimodality therapy, coupled with significant lifestyle changes following surgery, provides a challenge to nurses managing patient symptoms. Research on symptom clusters is an emerging topic in oncology nursing research and has not been investigated in this population.

Esophageal cancer treatment leads to multiple lifestyle changes including changes in sleeping, eating, drinking, pain, endurance, anemia, and weight loss. Each can be significant, but when experienced together, they can be devastating. The proper management of symptoms is essential to a successful recovery. The first step in symptom management for this population is to recognize the symptoms that are occurring as well as the pattern of change during recovery that will help to improve quality of life (QOL).

Lenz's theory of unpleasant symptoms guided this analysis. The theory suggests that symptoms cluster together and reinforce each other. Symptoms also influence outcomes such as QOL. The effect of symptom clusters on QOL in this unique patient population will be explored.

Patients were recruited from a thoracic surgery clinic at a comprehensive cancer center to an IRB approved protocol evaluating quality of life following esophageal surgery. The Memorial Symptom Assessment Scale was administered pre-operatively, post operatively and at 6 and 12 months post surgery. 225 patients participated in the study. The average number of symptoms and most common symptoms at each visit will be presented. Data analysis will include identification of symptom clusters at each visit. In addition, correlation of symptoms to overall QOL and to stage of disease and comorbid conditions will be reported.

Nursing management of patients following treatment for esophageal cancer is challenging and complex. Identification of symptom clusters preoperatively and during recovery will assist the nurse with patient education to help minimize long term complications following treatment and improve QOL.

## 2754

**REVISING THE CHEMOTHERAPY CONSENT FORM: A SUCCESSFUL QUALITY IMPROVEMENT PROCESS.** Carolyn Weaver, RN, MSN, AOCN®, Fox Chase Cancer Center, Philadelphia, PA, USA.

In Pennsylvania, physicians must obtain informed consent prior to administration of chemotherapy. For many years, our NCI-designated comprehensive cancer center utilized a uniform one-page consent form. The physician circled side effects of the drug regimen on the form. Nurses and physicians recognized this form was inadequate because we could not ensure that each patient was educated adequately and appropriately. Thus, the nursing-led Patient Education Committee decided to take the lead to improve the informed consent process.

The purpose of this project was to ensure that patients were receiving appropriate and accurate chemotherapy drug information to provide a true informed consent.

The initial step was to assemble the multidisciplinary team including infusion room nurses, advanced practice nurses, medical oncologists, physician's assistant, pharmacists, director of risk management, and the patient education coordinator who chaired the task force. In gathering evidence, we reviewed the literature, consulted the latest government mandates, and surveyed other NCI-designated comprehensive cancer centers to determine best practices. The group used several different resources to develop the content and assist them in using lay language. Side effects were categorized as likely, less likely or rare, but serious.

Each drug profile was then checked for accuracy by a pharmacist. The revised two page consent form and accompanying drug information sheets were then sent through the four committee approval processes. The Information Technology Facility was brought in to develop a user-friendly online version of the consent and drug information sheets.

The revised consent form and use of the drug information sheets will be evaluated for ease of use and completeness by physicians and nurses in the clinic. Patients in the clinic will be surveyed regarding their understanding of the information provided.

While not all states require informed consent prior to chemotherapy, patients still need to be educated about side effects of their treatment. Oncology nurses should consider working with a team to develop similar sheets to ensure consistent, accurate education occurs.

## 2755

**PATIENT EMPOWERMENT THROUGH EDUCATION.** Patricia Jane Wilcox, RN, MSN, AOCN®, Alvin and Lois Lapidus Cancer Institute, Lifebridgehealth, Baltimore, MD, USA; and Eileen Marks, BSW, MEd, Alvin and Lois Lapidus Cancer Institute, Lifebridgehealth, Sinai Hospital, Baltimore, MD, USA.

Newly diagnosed cancer patients arrive at the infusion center afraid, overwhelmed and quite anxious. They are usually unprepared and unrealistic about their treatment. Oncology nurses devote huge amounts of time to education, reassurance and psycho-social issues. The introduction of multi-sensory general education prior to their first treatment can contribute to empowering the patient by giving them the necessary tools to actively participate in their care beginning with the first treatment.

In an attempt to standardize the information and make it successful to all ranges of learning capabilities several educational modalities were developed by a multidisciplinary team of nursing, social work, oncology, nutrition, and physical therapy.

Patients and their families are invited to a one hour orientation session. To facilitate some control over their environment, they are taught time management and organizational skills in addition to teaching them healthy eating behaviors, basic activity skills, and giving them tools to maximize their interaction with their oncologist. An oncology nurse discusses preparation for their chemotherapy visits, provides a tour of the infusion area and answers general questions. They are provided with the patient education binder that contains the information they have previously received verbally and visually. This binder also allows for personalization by including sections for that patient's specific treatment regimens. A DVD is provided that includes the orientation information, plus discussions from oncologists and patients. The intranet page contains information on chemotherapy agents, different types of cancer, symptoms and side effect management, common tests and interventions. The material is consistent, clear and written at the third grade level.

Nurses report that patients who have their orientation experience are better prepared, have an easier time acclimating, and utilize the tools they have been given. Patients and families have been effusive in their gratitude for these programs and resources. To monitor satisfaction, we have added a question regarding this education to the infusion center survey.

The implications for oncology nursing are paramount. By preparing the patient preemptively they present to the infusion center at an improved state of readiness to learn.

## 2757

**SUPERSATURATED ELECTROLYTE ORAL RINSE AIDS QUALITY OF LIFE FOR HEAD/NECK CHEMORADIATION PATIENTS.** Marilyn Haas, PhD, RN, CNS, ANP-C, Mountain Radiation Oncology, Asheville, NC, USA.

Nearly all chemoradiation head/neck cancer patients (HNCpts) experience mucosal toxicity. 1. Oncology nurses (ONs) desire evidence to support interventions for HNCpts during therapy. Both radiation oncologists and medical oncologists seek improvements in treatment modalities to improve locoregional control without increasing toxicities. 2. & 3. ONs deal with the daily patient toxicities: oral mucositis (OM), acute xerostomia, pain, skin complications, nutritional dysfunction (dysphagia, odynophagia, taste changes), and fatigue. Education about useful management strategies provides confidence in recommendations, improved patient quality of life, potential cost savings for patients, and more efficient use of nursing time.

This report concerns the preliminary information about a supersaturated electrolyte oral rinse to assist in management of OM.

Chemoradiation often results in physiological or functional impairment, psychological distress, and disruption in social and family interactions, all of which impact upon HNCpts QOL. 4. Interventions by ONs can greatly affect these complications. This study reviews registrational data collected to evaluate the effect of a supersaturated electrolyte oral rinse on OM toxicity with HNCpts.

After IRB approval, HNCpts at risk for development of OM were given Caphosol® (Cytogen Corporation, Princeton, NJ) to rinse 4–10 times daily. Caphosol, an FDA-approved supersaturated electrolyte rinse lubricates tissues, minimizes friction, and decreases ulceration/pain by substituting for decreased or absent saliva as a result of treatment. 5. Practitioners and patients completed surveys regarding symptoms in four clusters: dysphagia, pain, and clinical and functional mucositis/stomatitis. Severity levels were scored with NCI-CTC toxicity scales and 0–10 rating scale. ONs assisted in data collection.

Of the 93 patients evaluated to date, 25 (27%) were HNCpts. Overall, 50% of HNCpts report being “very satisfied” with Caphosol, helping with pain relief and oral comfort, and would recommend Caphosol for HNCpts. No one reported being unsatisfied. The data revealed 13% of practitioners reported no mucositis at end of the study, and 25% rated Caphosol “good” in which no patients required additional therapies.

This preliminary data is encouraging for ONs who manage HNCpts. Caphosol is a resource that nurses can suggest at the beginning of therapy to help patients with oral pain and related symptoms of chemoradiation-induced mucosal toxicity.

## 2760

**SAFETY CONSIDERATIONS IN ELDERLY PATIENTS WITH METASTATIC COLORECTAL CANCER (mCRC) TREATED WITH BEVACIZUMAB-CONTAINING REGIMENS: IMPORTANT INFORMATION FOR ONCOLOGY NURSES FROM THE BRiTE STUDY.** Alice Senko, RN, MS, Genentech, Inc., South San Francisco, CA, USA; E. Samuelson, RN, MS, AOCN®, Genentech, Inc., South San Francisco, CA, USA; P. Gowland, RN, BSN, OCN®, CCRC, Ingalls Hospital, Harvey, IL, USA; and N. Merriman, RN, OCN®, CCRC, Mark H. Zangmeister Center, Columbus, OH, USA.

Bevacizumab is a humanized monoclonal antibody that binds VEGF and prevents the binding of VEGF to its receptors on endothelial cells. Age subgroup analyses ( $> 65$  years versus  $< 65$  years) in randomized clinical trials (RCTs) with bevacizumab + chemotherapy showed significant improvement in progression-free survival and overall survival without increased toxicity in older patients. Bevacizumab-associated safety events in older patients were further characterized in the BRiTE observational cohort study. Patient education and recognition of the potential adverse events in this special population of patients who comprise the majority of mCRC patients is an important role of the oncology nurse in providing optimal care.

The purpose is to provide safety information from an observational study of bevacizumab treatment in mCRC patients and to increase the oncology nurse’s knowledge of bevacizumab-associated adverse events in a large, elderly cohort.

Bevacizumab, in combination with intravenous 5-FU-based chemotherapy, is indicated for first- and second-line treatment of patients with mCRC. Across clinical trials of bevacizumab, certain safety issues, e.g., arterial thromboembolic events (ATE), appear more frequently in the elderly population. The BRiTE study included a large number ( $n = 896$ ) of patients  $> 65$  years receiving bevacizumab-containing treatment for mCRC. These data provide clinically important information for oncology nurses who are responsible for educating, treating, and managing bevacizumab-based regimens for patients  $> 65$  years.

Bevacizumab-targeted adverse events identified in the phase III trial and further evaluated in the BRiTE study include gastrointestinal perforations, bleeding, wound-healing complications, arterial thromboembolic events, and hypertension. For this elderly subgroup analysis, patients were grouped into age-based cohorts: 65–74y,  $> 75$  y and  $> 80$  y.

BRiTE’s large cohort of mCRC older patients offers a unique opportunity to observe bevacizumab + chemotherapy safety and effectiveness outcomes in a population poorly represented in RCTs and who comprise the majority of mCRC patients. Results indicate that age alone should not be a barrier to bevacizumab-containing treatment for mCRC.

Understanding the specific safety issues for older patients with mCRC receiving bevacizumab-containing therapy will allow the oncology nurse to provide optimal care.

## 2762

**IDENTIFYING THE UNMET NEEDS OF CANCER PATIENTS AND CARE GIVERS IN AN OUTPATIENT TREATMENT CLINIC.** Sandra Finestone, PsyD, Hoag Cancer Center, Newport Beach, CA, USA; Carolyn Hendrix, RN, BSN, Hoag Cancer Center, Newport Beach, CA, USA; and Susan Kelly, RN, Hoag Cancer Center, Newport Beach, CA, USA.

Following participation in a DELEtCC education symposium held at the City of Hope Cancer Center in Duarte, CA; Hoag Cancer Outpatient Treatment Clinic (COTC) developed a survey to identify unmet needs of cancer patients and their care givers

Two survey tools were created, one for the patient and one for the care giver. These tools were modified from an instrument that was provided at the symposium. The patient tool focused on symptom assessment as well as social service needs. The eleven (11) areas of focus in the symptom management section included pain, fatigue, nausea, depression, anxiety and shortness of breath. A Likert scale was used for symptom management ranging from one to ten, one being the best and 10 being the worst. There were seven (7) areas of needs assessment in the social service section of the survey. Patients were asked to check boxes for additional information or assistance. The boxes included such items as home care, pastoral, social worker intervention, nutritional needs and hospice. The care giver survey listed only seven (7) areas of symptom assessment, eliminating pain, nausea, shortness of breath and drowsiness, but listed the same seven (7) areas requesting additional information or assistance for social service support.

400 patient surveys and 79 care giver surveys were completed over a 30 day period. Patients and care givers were given the survey at time of check in to the clinic which became part of their permanent record. Data from the survey was collected and compiled for analysis. Immediate needs were identified and referrals were made to the appropriate support personnel.

Depression and nausea were the most frequently identified symptoms by patients, yet they were not scored as the most problematic. Fatigue and difficulty with sleep were rated by patients as most problematic. Highest concerns identified by care givers were lack of appetite and lack of sleep but anxiety was rated as the most problematic.

An unexpected finding showed a striking difference in the amount of social support needs identified by caregivers versus those listed by patients. This finding clearly indicates the need for early intervention in providing social services for care givers of cancer patients.

## 2764

**DETERMINING THE UTILIZATION OF PALLIATIVE CARE SERVICES DURING A PATIENT’S TERMINAL ADMISSION.** Karen Roesser, RN, MSN, AOCN®, Thomas Johns Cancer Hospital at CJW Medical Center, Richmond, VA, USA; and Catherine Harvey, DrPH, RN, AOCN®, Oncology Associates, Raleigh, NC, USA.

With increasing attention given to quality-of-life issues in cancer care, palliative care has emerged as an integral part of comprehensive cancer care. However, although 39% of cancer patients receive hospice care, most are referred too late for comprehensive palliative care to exert its full benefit.

The purpose of this project was to evaluate the use of palliative measures utilized in the care of patients who died at a comprehensive community cancer center. Through this assessment, the need for further palliative care services and the development of a palliative care team would be determined.

Data was collected via chart review and computerized data on all patients who died over a four month period of time. Any patients who died from sudden death/accidental death were excluded from this review. Measures evaluated included: resuscitation status and timing of initiation of DNR to death, advanced directives availability, referrals to hospice, and consults to case managers or chaplains. Age, length of stay, presenting problem/diagnosis, level of care (ICU versus general unit), and financial data were assessed.

One hundred and twenty patients were evaluated with 88% representing Medicare patients. The median age of this cohort was 77 years with approximately 40% receiving intensive care during this terminal admission.



Almost 20% of patients received cardiopulmonary resuscitation with 13% of patients never having a DNR order. While only 1/3 of patients were referred to hospice, the average length of stay prior to transfer was 9.9 days with most patients dying within 1–2 days of transfer. Financial data determined that costs could be decreased through utilization of palliative resources along with decreased level of care and hospital days.

Through review of this data, it was determined that there was an opportunity to reduce the futility of care and thus provide for better quality of life especially in our elderly population. It was apparent that palliative care type measures were not regularly occurring on terminal admissions, let alone prior to this admission. This data has led to the hiring of a palliative care team.

## 2765

**THE ROLE OF NONELECTRONIC SIMULATION IN FOSTERING CRITICAL THINKING SKILLS FOR NURSES WHO PROVIDE SYSTEMIC THERAPY.** Laura Beamer, CNP, CNS, AOCNP®, AOCNS®, Centegra Health System, McHenry, IL, USA.

Nurses that work on medical-surgical units often have only intermittent opportunity to administer systemic anticancer agents. It is difficult to develop and maintain critical thinking skills that focus on systemic therapy as well as management of toxicities and oncology emergencies in this sort of situation.

The purpose of this project was to use non-electronic simulated clinical oncology situations (wrong medication, wrong dose, altered lab values, oncology emergencies, chemotherapy spill, extravasation, etc.) to foster critical thinking skills in nurses who provide systemic therapy before those dilemmas were encountered while caring for actual patients.

Written case studies were developed from “Cancer Chemotherapy Scenarios,” edited by Parkerson and Thompson, and published in 1997 by the Oncology Nursing Press, Inc. Additional case studies from our clinical setting were added to the measurement tool. Nurse attendees were given a packet of 14 case studies to complete. Using the case studies, the nurses were required to identify treatment priorities and rationales. The nurses were allowed and encouraged to use the resources normally available in an actual clinical setting to complete the cases studies (e.g., CNS, pharmacist, charge nurse, books, Internet, calculators, policy manuals, and colleagues). All 14 case studies were completed during one session held in the library of the cancer center.

During 2006–2007, 26 nurses completed the oncology critical thinking class. All of the nurses commented about the usefulness of this course. They rated their satisfaction as medium or high. The medical oncologists complemented the increased knowledge base of the nurses. Averting the guessing that may occur with multiple choice questions was a benefit of requiring answers in narrative form.

Nonelectronic simulation is a practical solution to limited opportunities for the attainment of clinical knowledge and critical thinking skills in oncology nursing. This format can be implemented in low resource settings and is inexpensive. Since our initial training sessions were greatly successful, we added an annual critical thinking competency based on a new medication given within our health system. This course, in addition to the ONS Chemotherapy and Biotherapy Course and Clinical Practicum, is required for chemotherapy credentialing at our institution.

## 2766

**MANAGING URINARY INCONTINENCE FOLLOWING ROBOTIC PROSTATECTOMY WITH SYSTEMATIC PHYSICAL THERAPY.** Kimberlee Moses, RN, BSN, OCN®, St. Joseph's Hospital, Orange, CA, USA; Kevin Wright, RPT, CCCE, St. Joseph's Hospital, Orange, CA, USA; and Dana Rutledge, RN, PhD, California State University, Fullerton, CA, USA.

Treatments for prostate cancer often cause urinary incontinence (UI), diminishing life quality. The value of conservative management of post-prostatectomy UI remains uncertain. Pelvic floor muscle training (PFMT) with/without biofeedback may speed return to continence.

Robotic prostatectomy (RP) is a new approach to prostate removal, done since the early 2000s. In a report of 2,766 cases, median time to complete urinary control was 3–5 weeks; 82% of men had no urinary leakage at 1 year. No studies were found evaluating effects of PFMT with RP.

To evaluate outcomes from a physical therapy (PT) program to assist post-operative RP patients gain urinary continence through pelvic floor exercises.

Since mid-2007, all men in our hospital who undergo RP are offered post-operative PT as a preventive measure for UI. Records are available on 20 men. In the PT department, therapists assess strength, duration, and symmetry of pelvic floor contractions along with exercise performance. Education is given on anatomy, bladder capacity and pelvic floor function, fluid intake, food/liquids that effect bladder irritability, and isolation of pelvic floor from other muscles. Daily logging is done for water intake, UI, and pad use. As appropriate, biofeedback is added, exercises are progressed. The program ranges from 6 to 8 weeks, and is highly individualized based upon baseline function.

This poster shows initial outcomes from an ongoing program in a community cancer center. Outcomes include duration of UI, UI severity, pad use, health related quality of life using the American Urologic Association Prostate Symptom Score.

UI is a major quality of life issue following treatments for prostate cancer. PT is a noninvasive, safe way of managing post-prostatectomy UI and improving quality of life. While UI symptoms improve over time, irrespective of management, this program offers men support and guided education during the crucial post-operative period, aiming to hasten the return to continence in men who have had RP. Nurses can refer patients to programs and enhance outcomes by reinforcing training and alerting patients/physical therapists of potential issues.

## 2767

**EVOLUTION OF A COMPREHENSIVE BLOOD AND MARROW STEM CELL TRANSPLANT ORIENTATION PLAN.** Melissa Dufresne, RN, OCN®, Karmanos Cancer Center, Detroit, MI, USA; Rita J. DiBiase, MSN, APRN, BC, AOCNS®, Karmanos Cancer Center, Detroit, MI, USA; and Kathleen Fedoronko, RN, BSN, OCN®, Karmanos Cancer Center, Detroit, MI, USA.

Caring for blood and marrow stem cell transplant (BMT) recipients is a highly specialized and rewarding area of nursing. BMT nurses must acquire excellent assessment skills and recognition of complications. Information received during orientation is often overwhelming and difficult to retain. Limited knowledge results in anxiety and difficulty in role transition described as reality shock.

A BMT specific orientation plan was developed to complement and expand on the cancer hospital orientation, with the objective of producing a competent BMT nurse. The existing orientation binder required extensive revision and a theory based competency checklist was developed to document orientees' progress. The Preceptor, Clinical Manager and CNS utilized a team approach, providing ongoing guidance and support to orientees during orientation and transition from novice to expert.

The 12-week orientation grid outlines a schedule of readings, skills, lectures and activities, providing a constant foundation among all new staff. The orientation binder sections include: overview of BMT; introduction to diseases; multidisciplinary team; BMT nursing standards; lab tests; immunosuppression diet; medications; preparative regimens; care of autologous and allogeneic patients; early and long term complications; blood administration; HLA typing; discharge planning. Preceptors are given instructions ensuring standardization of the teaching process and evaluation. The competency checklist outlines skills, knowledge and outcomes, requiring a score of 4 in the mandatory areas before completion of orientation. Evaluations occur every 2 weeks with the orientee, Preceptor, Clinical Manager and CNS.

The competency checklist and formal evaluation meetings provide continual feedback regarding strengths and areas for improvement, thus all parties are aware of opportunities for enhancement. To obtain feedback and provide mentorship, the Preceptor, Clinical Manager and CNS meet with orientees at 3-month intervals for the first year.

With specific parameters and a detailed timeline, preceptors and orientees find the orientation plan highly effective. Orientees that have completed the revised orientation program have transitioned successfully to BMT nursing.

The use of a comprehensive orientation plan is critical for development of proficient oncology nurses. Preceptors, Clinical Managers and CNSs can work together in creation and revision of orientation plans that are effective for both orientees and preceptors.

## 2770

**KOREAN BREAST CANCER MOTHER AND CHILD'S LIVED EXPERIENCE OF THEIR RELATIONSHIP.** Sue Kim, RN, PhD, NP, Yonsei University, Seoul, KR.

Breast cancer has been the number one cancer among Korean women since 200. Among new cases identified in 2002, 57.4% were between the ages of 30–49, in contrast to the West where breast cancer is commonly found in women 50 or older.

For younger women the situational crisis of a breast cancer diagnosis may compound the developmental task of caring for young dependent children, especially in cultures such as Korea where the family traditionally centers on the child rather than the couple or family as a whole. However, despite the growing research on the parent-child relationship following a cancer diagnosis in the West, there have been no studies in Korea to identify the patterns of mother-child relationship changes and meanings following diagnosis of breast cancer.

The purpose of this explorative study was to identify the lived experience of Korean mother-child dyads regarding their relationship following diagnosis of breast cancer. Through identifying the quality of connections and changes in the relationship it ultimately aims to inform the development of family-focused psychosocial and behavioral nursing interventions for breast cancer mothers and their children.

This explorative study builds on phenomenological inquiry, seeking to discover the experience and meaning of the mother-child relationship following breast cancer diagnosis.

Following IRB approval women with breast cancer and their school-aged child or adolescent were recruited through advertisements posted in the breast cancer clinic, nurse referral, and snowballing. Mother and child were interviewed in-depth for 1–2 hours at least once in a private location. The main question was, “What is your experience of your relationship with your mother/child following diagnosis of breast cancer?” Interviews were recorded with participants’ consent and will be transcribed verbatim. Content analysis will be done to identify themes and domains following Colaizzi’s guidelines. Preliminary findings will be cross-checked with a subset of participants invited to a focus group, for credibility, fittingness, and confirmability.

This study is in-progress and findings are expected to inform nurses in providing relevant anticipatory guidance for Korean breast cancer patients on their relationship with their children.

## 2772

**THE ONCOLOGY NURSES’ PATH TO TRANQUILITY AND ITS IMPACT ON PATIENT CARE.** Allegra Cloud-Jackson, RN, BSN, MBA, CNOR, OCN®, M.D. Anderson Cancer Center, Houston, TX, USA.

Nurses face challenges in health care with regard to safe care delivery. Challenges include the nursing shortage, complex treatment modalities, long shifts, and increased patient acuity. Exposure to infectious agents and various other stimulants that disrupt concentration and the ability to take breaks, make workplace fatigue a constant threat posing risk for patients and nurses.

The Tranquility Room provides staff nurses a place to take a break, relax, recharge and regain inner peace. This activity can benefit the nurse by sharpening mental acuity and reducing stress associated with caring for a high needs oncology population. Patients benefit from being cared for by nurses who are mentally in tune to the care being delivered; resulting in quality care and a safe environment.

The Tranquility Room is private, outfitted with a sleeper chair, has low light, and minimal sound penetration. When nurses find themselves mentally overwhelmed with an immediate need to recharge they negotiate use of the room in 15 to 45 minute blocks with the charge nurse. The nurse reports off to a colleague, signs out in a log, enters the Tranquility Room, sets a timer, and relaxes. Once use of the room is complete, the room is returned to its original state, the nurse signs back in, and completes a survey of the experience. The survey captures how the experience reduced stress and impacted patient safety.

Use of the Tranquility Room has impacted patient safety by helping staff remain more alert, reduce errors, foster clearer communication, increase overall productivity, and reduce unscheduled absences.

Nurses verbalized use of the Tranquility Room for reasons such as feeling overwhelmed with assignments, inability to get adequate rest, the need to regain their mental acuity, and general fatigue. Fatigue may

lead to safety problems and potential increase in errors for patients and negative health problems for staff.

After using the room for periods ranging 15–45 minutes, all surveyed nurse’s report some relief of exhaustion; citing that they felt more mentally alert and better able to concentrate on the care they delivered.

## 2777

**MANAGING NEUTROPENIA AND RELATED EVENTS IN LYMPHOMA PATIENTS TREATED IN THE COMMUNITY SETTING.** Judith Bosley, RN, BSN, Sinai Hospital of Baltimore, Baltimore, MD, USA; Mary Oroszlan, RN, OCN®, Sinai Hospital of Baltimore, Baltimore, MD, USA; Pamela Nickoles, RN, BSN, OCN®, Sinai Hospital of Baltimore, Baltimore, MD, USA; and Stephen Noga, MD, PhD, Sinai Hospital of Baltimore, Baltimore, MD, USA.

The timely delivery of full-dose chemotherapy is related to improved survival in lymphoma patients. Neutropenia-related events, which include dose reductions, dose delays, and febrile neutropenia (FN), can keep patients from achieving adequate average relative dose intensity (RDI). As front-line caregivers, oncology nurses can help prevent this potential complication of chemotherapy. In clinical trials, supportive therapy with colony-stimulating factors reduced the incidence of FN. However, this has not been studied extensively in community practices.

The FIRST study enrolled patients from 319 centers; approximately 75% were community oncology practices. The impact of first- and subsequent-cycle pegfilgrastim use on dose reductions, dose delays, grade 3/4 neutropenia, FN, and RDI was evaluated.

Patients with cancers excluding leukemia and myelodysplastic syndrome, but including older patients and those with major comorbidities, were enrolled. 371 patients [325 non-Hodgkin lymphoma (NHL), 46 Hodgkin disease (HD)] received 6 mg pegfilgrastim approximately 24 hours after each cycle of chemotherapy. Dose reductions, dose delays, and incidence of neutropenia-related events were monitored. RDI was calculated for patients who received standard regimens.

Most NHL patients received CHOP or CHOP-R; most HD patients received ABVD. Neutropenia-related dose reductions or delays happened infrequently; this contributed to a mean average RDI of 77% for patients receiving CHOP or CHOP-R and 83% for patients receiving ABVD regimens. Most grade 3/4 neutropenia and FN occurred in the first cycle. Only 1 treatment-related serious adverse event was reported: a patient with HD reported bone pain.

Patients in this community-based study received myelotoxic chemotherapy with very few neutropenia-related alterations to chemotherapy dose and schedule. Oncology nurses are the first line in supportive care and can facilitate on-time and full-dose delivery of chemotherapy. With results from clinical trials, such as those from the FIRST study, nurses are in the position to collaboratively incorporate these findings into their everyday practice.

## 2779

**A DESCRIPTIVE STUDY OF WOMEN’S SYMPTOMS PRECEDING OVARIAN CANCER DIAGNOSIS.** Carol Cherry, MSN, RN, APRN, BC, Fox Chase Cancer Center, Philadelphia, PA, USA; Mary Daly, MD, PhD, Fox Chase Cancer Center, Philadelphia, PA, USA; and Eric Ross, PhD, Fox Chase Cancer Center, Philadelphia, PA, USA.

Ovarian cancer has the highest mortality rate of all gynecologic cancers. Survivor advocates have worked diligently to raise awareness about the symptoms that precede diagnosis, which often have been overlooked or attributed to other causes. Given the lack of a reliable screening test, recognizing the symptomatology is crucial for both women and the healthcare community to take early action if the disease is suspected. Survival and cure rates improve significantly if the disease is diagnosed in early stages. Studying symptoms is one strategy to help identify this cancer early and improve health outcomes.

The purpose of this study is to characterize the physical symptoms preceding the diagnosis of ovarian cancer as described by a sample of 53 recently diagnosed patients. Nursing research in secondary ovarian cancer prevention is limited.

This is a nurse-led qualitative descriptive study. The common sense model guided the design.

Semi-structured qualitative interviews were conducted either in person or by telephone. Recorded interviews were transcribed; symptoms extracted from typed transcriptions were categorized using an inductive approach. Data analysis was performed independently by a team to ensure consensus of interpretation. Statistical calculations tallied frequencies on

1. Demographics by age, stage of disease, and time from diagnosis.
2. Symptom categories.
3. The most common symptom combinations.
4. Symptoms by stage at diagnosis.

Fifty-three women were interviewed. Symptoms were combined into ten categories: bladder, upper GI, bowel, menstrual/vaginal changes, weight changes, pain, bloating, fatigue, respiratory and "other." All women except two (3.7%) had symptoms, regardless of stage at diagnosis. Nearly seventy percent (69.8%) of women had symptoms from three or more categories. The most commonly occurring categories were pain (71.7%), bloating (66%), and bladder (43.4%). Findings have been incorporated into educational materials for community outreach and genetic counseling with high-risk women. The study preceded and supports the evidenced-based national consensus statement on ovarian cancer symptoms released in 2007. Increased knowledge of the physical experiences preceding ovarian cancer diagnosis will support nurses' efforts to promote cancer education, prevention and early detection.

## 2782

**EDUCATIONAL PARTIES AS A STRATEGY TO PROMOTE BREAST HEALTH AWARENESS AND SCREENING IN THE UNDERSERVED FEMALE POPULATION.** Sharon Byrne, RN, MSN, APN, Cooper University Hospital, Camden, NJ, USA.

Despite the decline in breast cancer deaths, breast cancer continues as a major health problem in minority communities. From 2000 through 2004, Camden County, NJ, had a combined incidence rate for breast cancer of 128 new cases per 100,000 women with a lower proportion of Hispanic and Black women diagnosed in the early stages of breast cancer than their non-minority peers. Only 48% of women from the area reported having a mammogram within the past year, while 64% received a clinical breast exam. Nursing is in the unique position of providing breast cancer awareness and detection through involvement with education and screening programs and thus, narrowing the gap in educational and service disparity.

Promote breast health, awareness, and screening through educational parties within the community setting for minority and underserved women.

Breast cancer education via "home health parties" in six Camden County municipalities with the highest number of minority and underserved women will be held. Parties will be hosted by targeted community members in their homes or other community locations. Women 40 and over will be invited to participate. The educational component using gaming strategies will be presented by an advanced practice or registered nurse. The program is funded through an Avon Foundation grant. At conclusion of the session, participants will be encouraged to set up appointments for mammograms as appropriate. The uninsured, will be referred to the Camden County Cancer Screening Project.

Project evaluation will be on-going throughout the 2008 calendar year through in-person and telephone follow-up by community hosts and the project coordinator.

This educational strategy is a novel approach to increasing the knowledge base of a vulnerable population. Other oncology nurses may use this approach to deliver education within other geographical settings.

## 2783

**IMPROVING THE NURSE-PATIENT DIALOG REGARDING SYMPTOMS THAT MAY IMPACT THE CANCER PATIENTS QUALITY OF LIFE BY ADAPTING THE WONG-BAKER FACES SCALE FOR PAIN.** Susan Di Re, RN, Northwest Community Hospital, Arlington Heights, IL, USA.

Oncology patients are constantly being asked, "How are you feeling today?" This happens in the inpatient and the outpatient setting. If questions asked are not direct or leading, the answers will be vague and misunderstood. The nursing staffs are usually diligent in their assessment procedures but are busy and can often take an answer of "I am fine," or "I'm OK," as the "final answer."

By adapting the Wong-Baker Faces rating scale for pain to include other symptoms that the oncology patient may be experiencing, clearer

and more comprehensive communication would be accomplished and understanding and comfort would be more achievable.

Adapting the Wong-Baker Faces Scale for pain to include a variety of symptoms will provide a stepping-off point for clearer communication. The questions themselves would prompt the patient to think more clearly about how they are feeling and the nursing response to the scale number reply would be "Tell me more."

The inpatient oncology unit at Northwest Community Hospital will pilot this scale. Impacting positive patient response to survey questions regarding pain control, staff response to pain, etc., and keeping the patient informed of comfort choices.

Improved outcomes would be expected in Press Ganey Survey results and NDNQI results, patient and nursing satisfaction scores.

Oncology nursing staff would be expected to use the above scale when interviewing or assessing each patient each shift. Addressing specific symptom management needs will enable the patient to identify needs more clearly and nursing to address those needs more specifically.

## 2784

**HOME-BASED LYMPHEDEMA TREATMENT IN PATIENTS WITH AND WITHOUT CANCER-RELATED LYMPHEDEMA.** Sheila Ridner, PhD, RN, ACNP, Vanderbilt University, Nashville, TN, USA; Mary S. Dietrich, PhD, Vanderbilt University, Nashville, TN, USA; Sunday Hoy, Esq., Tactile Systems Technology, Inc., Minneapolis, MN, USA; and Elizabeth McMahon, PhD, Kaiser Permanente HMO, Fremont, CA, USA.

Despite advances in understanding origins of primary lymphedema and improved cancer treatments designed to reduce late-effect lymphedema, lymphedema remains problematic. Lifelong self-care is required to maintain volume reduction. Improved self-care treatments are needed. The Flexitouch® (compression) System was found to be superior to self-administered manual lymphatic drainage (MLD) in reducing arm volume. Adherence to treatment protocols, satisfaction with the Flexitouch® System, and response to treatment require study to determine if this is a viable option for at-home self-care.

In keeping with the ONS late-effects of cancer treatment research priority, this study compared protocol adherence, satisfaction, and perceived change in emotional and functional status between patients with primary and cancer-related lymphedema using the Flexitouch® System for self-care.

The Flexitouch® System applies light, dynamic, variable pressure to the affected limb and the trunk. Its narrow chambers simulate the work-and-release action of a therapist's hand moving lymphatic fluid from affected areas into the lymphatic system.

Individuals with Flexitouch® System prescriptions were eligible for this quasi-experimental study. Trained instructors provided education before use. Therapeutic protocol was to use the device one hour, twice per day, for the affected area for the first month and one hour, once per day, thereafter. Demographic information was collected. A modified, self-report, 12-item Short-Form Health Survey was completed pre and 1 month post therapy. Statistical summaries and analyses included descriptive statistics, Mann-Whitney and Wilcoxon Signed-Ranks tests (ordinal data), as well as repeated measures analysis of variance (data meeting parametric assumptions).

One hundred and fifty-five patients completed the study. Non-cancer participants were more adherent to the prescribed protocol ( $p = .022$ ). Of those who used the device as prescribed, both groups were satisfied with the system (90%), perceived it to be effective (95%), and reported improvement in physical and emotional status ( $p < .01$ ). Professional and self-administered manual lymphatic drainage and bandaging declined after initiating use of the Flexitouch® System ( $p < .01$ ). Healthcare professionals should ask what lymphedema self-care management activities patients are completing. If using the Flexitouch® System, assess adherence to the prescribed protocol. Facilitate communication among the treatment team and patient if problems are noted.

**Funding source:** Tactile Systems Technology, Inc.

## 2785

**REDUCING BARRIERS TO PAIN AND FATIGUE MANAGEMENT.** Tami Borneman, RN, MSN, CNS, City of Hope, Duarte, CA, USA; Betty Ferrell, PhD, FAAN, City of Hope, Duarte, CA, USA; Virginia Sun, RN, NP, City of Hope, Duarte, CA, USA; Barbara Piper, DNSc, FAAN, University



of Arizona, Scottsdale, AZ, USA; and Marianna Koczywas, MD, City of Hope, Duarte, CA, USA.

Pain and fatigue impact all dimensions of the patient's life including physical, psychological, social, and spiritual well being.

The overall purpose of this prospective longitudinal study funded by NCI is to test an innovative model of reducing barriers to managing pain and fatigue in cancer patients in the medical oncology outpatient clinical setting. Results are provided from the education intervention from Phase II of this three phase study.

This study is guided by the Passport to Comfort model that addresses patient, professional and system barriers to the relief of pain and fatigue, and is based on evidence based guidelines developed by the NCCN. Patient education packets were created for managing symptoms i.e., energy conservation/exercise, sleep/wake patterns, nutrition, constipation and, emotional/social impact of pain and fatigue. The education was provided to the patients after baseline assessment and before follow-up at 1 and 3 months.

Patients in the Usual Care group (Phase I n = 83) were compared to this intervention group (Phase II n = 100). Analysis was conducted using a 2 x 3 repeated measures Analysis of Variance (ANOVA) comparing Usual Care versus Intensive Intervention. There was a significant main effect for change over time (regardless of group) in the physical symptom of fatigue, psychological QOL, treatment distress, anxiety, depression, beliefs about pain relief and the danger of addiction, and beliefs about fatigue relief. Except for treatment distress, the QOL items demonstrated significant improvement between baseline and three months. QOL in relation to treatment distress actually decreased significantly at one and three months when compared to baseline. The beliefs representing barriers to pain and fatigue control were reduced between baseline and three months.

This patient education intervention was effective and well received by clinic physicians and nurses. Phase III will now focus on integration of this intervention into usual care.

## 2788

**RADIO FREQUENCY ABLATION: A MINIMALLY INVASIVE TREATMENT FOR MALIGNANT LIVER TUMORS.** Lisa Wall, RN, PhD, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY, USA.

Many patients with malignant liver tumors are not candidates for surgical resection due to the existence of widespread disease within the liver or comorbidities that prohibit major liver surgery. Radio frequency ablation (RFA) is a minimally invasive treatment that is especially useful in treating small hepatomas or metastatic colorectal cancer metastases in the liver.

The purpose of this presentation is to describe RFA and to identify the nurse's role in supporting patients through this procedure. Under conscious sedation and using computerized tomography (CT) guidance, an interventional radiologist inserts a long needle electrode directly into the tumor. The tip of the probe is heated to 110 to 120 degrees Fahrenheit and the tumor is burned. RFA is most effective when tumors are less than four centimeters in size. Special care is taken to avoid burning nearby organs such as the stomach and intestines.

Nurses contribute to the safety of RFA through patient education, assessment and symptom management. Pre-procedure, nurses instruct patients to avoid medications and products that affect coagulation. Platelet and prothrombin times are evaluated before and after RFA since many patients with malignant liver tumors have low platelet counts due to cirrhosis or recent chemotherapy that places them at increased risk for bleeding. Patients are instructed not to eat or drink after midnight the day of the procedure in anticipation of anesthesia. Post-procedure, the nurse assesses for complications that include bleeding, infection and injury to the liver and nearby organs. Signs and symptoms of concern include abdominal pain or prolonged shoulder pain, decreased hemocrit and hemoglobin, fever with increased white blood cell count and increased bilirubin level.

Evaluation of treatment effectiveness can best be determined 4-6 weeks after RFA by repeat CT scan and a decrease in the appropriate tumor markers, i.e., alpha-fetoprotein (AFP) for hepatoma and carcinoembryonic antigen (CEA) for metastatic colorectal cancer. RFA may be repeated for recurrent disease.

In selective patients, RFA is effective as a primary cancer treatment or as an adjuvant therapy to reduce tumor burden in the liver. Nurses play an important role in safely managing and supporting patients through treatment.

## 2790

**THE INFLUENCE OF IMPROVED NEUROPATHIC PAIN SCREENING, ASSESSMENT, AND TREATMENT ON PATIENT AND SYSTEM OUTCOMES.** Ellen Smith, APRN-BC, AOCN®, Dartmouth Hitchcock Medical Center (DHMC), Lebanon, NH, USA; Louise P. Meyer, MS, ARNP, AOCN®, DHMC/Norris Cotton Cancer Center (NCCC), Lebanon, NH, USA; Marie Bakitas, DNSc, ARNP, DMHC/NCCC, Lebanon, NH, USA; Peter Homel, PhD, Beth Israel Medical Center, New York, NY, USA; Linda S. Kingman, CRA, DHMC/NCCC, Lebanon, NH, USA; Camilo E. Fadul, MD, DHMC/NCCC, Lebanon, NH, USA; and Marilyn Bookbinder, PhD, RN, Beth Israel Medical Center, New York, NY, USA.

Neuropathic pain (NP) incidence and its associated negative sequelae have gone largely unrecognized and assessed because its characteristics are difficult to describe. Consequently, nurses may be unaware of its influence on patient well-being, preventing pain relieving interventions from being initiated.

The purpose of this project was

1. To determine the extent of NP in a cancer outpatient clinic.
2. To educate nurses about evidence-based NP screening, assessment, treatment, and referral practices.
3. To pilot-test an evidence-based NP treatment and referral algorithm.

An evidence-based NP assessment, treatment, and referral algorithm was developed. Nurses were educated in use of the algorithm. Cancer patients were screened for general and NP. Scores were documented in a computerized medical record flow sheet using an 11-point numeric rating scale (0-10). The NP algorithm was implemented and outcomes (pain severity, functional status, and satisfaction) were assessed over 12 weeks.

NP severity screening scores documented in the electronic medical record were compared with general pain scores (n = 3831). Approximately 15% of patients (n = 563) reported NP scores > 4. Fifty-two percent of patients with mild or no reported general pain were found to have moderate to severe NP. Nurse knowledge improved post educational sessions and was assessed using pre-post-test procedures and return demonstration of clinical skills. Twenty participants underwent NP algorithm-efficacy testing. Neuropathic pain severity (p < .001), activity (p < .001), mood (p = .002), walking ability (p = .02), ability to perform normal work (p = .009), relationships with people (p = .01), sleep (p = .05), life enjoyment (p = .001), and patient satisfaction (p = .02) all improved at the end of twelve weeks.

Cancer patients frequently do not recognize or report NP characteristics during general pain screening. Computerized pain score documentation allows for rapid identification of patients eligible for pain interventions and raises awareness regarding the incidence of a difficult-to-describe, under-recognized problem. Implementation of the NP algorithm was associated with several positive outcomes. Standardized NP assessment and treatment may result in reduced symptoms, and improved function and patient satisfaction.

## 2791

**SUPERSATURATED ELECTROLYTE ORAL RINSE ALLEVIATES PAINFUL ORAL MUCOSITIS FOR PATIENTS RECEIVING CHEMOTHERAPY AND RADIATION.** Julie Bowman, RN, Caldwell Memorial Hospital, Lenoir, NC, USA; and Marilyn Haas, PhD, RN, CNS, ANP-C, Mountain Radiation Oncology, Asheville, NC, USA.

Significance and background: Oral mucositis (OM) is one of the most common toxicities experienced by oncology patients. Layers of epithelial cells denuded during therapies cause severe pain, create a source of infection, disrupt swallowing and eating function, and thereby have a significant impact on quality of life. Nursing assessments, utilizing NCI common toxicity scales (NCI-CTC), can help establish severity of OM and guide therapy. Management therapies should include scrupulous oral hygiene, topical agents, systemic analgesics, and dietary modifications. This abstract shares preliminary information supporting the use of a supersaturated electrolyte oral rinse for OM as part of the healthcare team plan of care.

Purpose: Chemoradiation causes abnormal physiologic sloughing of the superficial mucosal layers of the gastrointestinal tract, resulting in OM or stomatitis. Early intervention could help with oral pain, possibly

avoid infections, and maintain a healthy nutritional status. This study analyzes registrational data collected to evaluate dysphagia, functional and clinical OM, and pain in patients utilizing a supersaturated electrolyte oral rinse at the beginning of therapy.

**Interventions:** After IRB approval, both chemotherapy and radiation patients at high risk of developing OM performed an oral rinse 4–10 times daily with Caphosol® (Cytogen Corporation, Princeton, NJ). Caphosol, an FDA-approved supersaturated electrolyte rinse lubricates tissues, minimizes friction, and decreases ulceration/pain by replacing the normal ionic and pH balance in the oral cavity. The healthcare team graded OM symptoms utilizing the NCI-CTC scales.

**Evaluations:** Of 93 patients evaluated to date, 71% completed follow-up questions through mid-treatment. Patients reported extremely low rates of dysphagia (85% Grade 0, 12% Grade 1) and there were very low exam scores for clinical OM (Grade 0, 77%, Grade 1, 12%) functional OM (Grade 0, 77% and Grade 1, 19%), and pain (Grade 0, 71%, Grade 1, 24%).

**Discussion:** The preliminary data suggests that Caphosol has a significant impact on the occurrence and severity of OM. This is encouraging for nurses and other healthcare practitioners who manage OM and the symptoms of dysphagia, pain, and functional incapacity of patients.

## 2793

**DEVELOPMENT OF A RADIATION ONCOLOGY SPECIFIC DISCHARGE PACKET ADDRESSING “SURVIVORSHIP.”** Mary Bilenki, RN, OCN®, University of Maryland Medical System, Columbia, MD, USA; and Elizabeth Jernigan, MSN, OCN®, University of Maryland Medical Center, Baltimore, MD, USA.

There are more than 10 million cancer survivors in the United States. This number will increase as the number of people diagnosed with cancer continues to grow and the length of survival increases.

Various tools are available to help patients learn about their diagnosis, treatment options and possible treatment related side effects. In addition, Radiation Oncology nursing staff is available to answer patient's questions and reinforce education every day throughout their treatment.

Discharge needs of the radiation oncology patient are multi faceted. Once treatment is completed, patients no longer have the frequent visits and daily support of nursing personnel. Survivorship education and resources need to be included in discharge planning. These tools are necessary to move the patient forward on their journey to wellness.

The goal was to develop a discharge education program to assist the patient in transitioning from the “patient role” to the “survivor role.”

Upon consult and during the active treatment phase, patients are given large amounts of written and verbal instructions. At discharge the patients are given a discharge instruction form that focuses on resolution of short term side effects related to treatment, scheduled follow up appointments and discharge medications. Forty five patients were interviewed at their first follow up visit. The majority of patients felt the information given upon consult and during treatment was adequate. The discharge form was easy to understand and prepared them for the immediate post treatment period. However, all of the patients interviewed continued to feel ill prepared for their “survivor role.”

After an extensive literature review and evaluation of current resources, the nursing staff developed a survivorship package.

Immediate feedback was excellent. Patients were very appreciative of the information and felt better prepared for the survivor role. Patients continue to be surveyed at their follow up visits.

Several patients will be participating in a survivor focus group. The group will provide specific feedback related to educational resources and staff education techniques. We continue to collaborate with several community groups and hope to add local community resources to future packets.

## 2796

**IMPACTING FATIGUE THROUGH AN EVIDENCE-BASED CANCER RECOVERY PROGRAM.** Ruth Van Gerpen, RN, APRN-CNS, OCN®, BryanLGH Medical Center, Lincoln, NE, USA; and Betsy Becker, PT, CLT-LANA, BryanLGH Medical Center, Lincoln, NE, USA.

Cancer-related fatigue is the most common side effect of cancer and its treatment. Among patients on treatment, the prevalence of fatigue ranges from 60% to 96%. Fatigue can persist for months and years fol-

lowing completion of treatment, with an incidence ranging from 30% to 45% of survivors.

Strong evidence from clinical trials supports exercise as an intervention to significantly reduce fatigue. Exercise is beneficial both during and following cancer treatment. It not only improves fatigue, but also quality of life, sleep disturbances and depressive symptoms. Research also suggests that psychosocial interventions that include education, stress management and support groups reduce fatigue.

LifeSpring is a 12-week exercise and education program for individuals with a cancer diagnosis. The program, implemented in February 2007, was developed by a clinical nurse specialist, physical therapist and physicians to impact the fatigue associated with cancer treatment.

Each exercise session includes 20 to 30 minutes of aerobic exercise. The second portion includes activities to improve strength, balance or flexibility. The education sessions consist of lecture, discussion, and sharing. Topics include nutrition, sleep, stress management, relationships, spirituality, and healing arts.

Program participants rate the degree of fatigue, depression, pain, sleep disturbances and quality of life prior to participation, at mid-point, and at completion of the program.

Analyses of participants' self-ratings found that fatigue, depression, and quality of life had statistically significant differences ( $p < 0.05$ ) between the pre-intervention and post-intervention scores. Fatigue improved from 5.21 to 3.95, depression improved from 2.60 to 1.66, and quality of life improved from 3.13 to 2.25. Sleep and pain improved, but were not statistically significant. In addition, participants in active treatment also showed a statistically significant improvement in the areas of fatigue (6.3 to 4.2), pain (2.9 to 2.2) and quality of life (3.5 to 2.0).

Nurses are at the forefront of patient care and can take a leadership role in addressing cancer-related fatigue in their patients. Nurses can encourage exercise and provide education to reduce fatigue. In addition, nurses can develop and implement an evidence-based program to significantly impact the fatigue experienced by cancer survivors.

## 2797

**FINDING CLINICAL SUBGROUPS USING SYMPTOM CLUSTERS IN BREAST CANCER.** Hee-Ju Kim, PhD, RN, University of Ulsan, Ulsan, KR; Andrea Barsevick, DNSc, AOCN®, Fox Chase Cancer Center, Philadelphia, PA, USA; and Susan Beck, PhD, APRN, FAAN, University of Utah, Salt Lake City, UT, USA.

Symptom clusters is a priority of future oncology nursing research. Investigating clinical subgroups using symptom clusters and such subgroups' characteristics can be potentially helpful for understanding why symptoms cluster and for developing assessment/management strategies for a symptom cluster.

This study aimed to investigate clinical subgroups using an empirically identified psycho-neurological symptom cluster and to examine whether the selected clinical/demographical variables can predict the membership of patients into such subgroups.

The conceptual basis for this study was the Theory of Unpleasant Symptoms describing the existence of symptom clusters and influencing variables on symptoms.

A secondary analysis was conducted with a sample of 282 breast cancer patients undergoing chemotherapy or radiotherapy. For selected time points of treatment, cluster analyses of subjects were conducted using five symptoms in the psycho-neurological cluster (depressed mood, cognitive disturbance, fatigue, insomnia, pain). Discriminant function analyses were conducted to examine the predictors of subgroup membership. Instruments included: the General Fatigue Scale (fatigue); the Profile of Mood States-Short Form (depressive mood, cognitive disturbance); the Pittsburgh Sleep Quality Inventory (insomnia); the Side Effect Checklist (pain); and the ECOG performance status (baseline performance status).

Patients were classified into four distinct subgroups based on their symptom experience on the psychoneurological cluster: all low symptom subgroup; low pain & high fatigue subgroup; high pain subgroup; and all high symptom subgroup. Such patient classification pattern was consistently observed across the treatment trajectory. After initiating treatment, however, the high depressive mood & confusion subgroup was also identified along with those four subgroups. The predication accuracy of the selected variables for the patients' membership into subgroups was moderate. However, the membership to several subgroups was very accu-

rately predicted. The most important predictor was the baseline physical performance status.

It is necessary to further explore the clinical utility of the subgroups, by (a) examining how the health outcomes (e.g., mortality) of a particular subgroup differ from the other groups and/or (b) examining more accurate predictors of the membership (e.g., biological markers). Clinicians can utilize the findings from our study to identify those at risk for greater symptom intensity and to educate patients about symptom experience during treatment.

## 2799

**PREVALENCE RATES OF DEPRESSION IN STUDIES OF HEAD AND NECK CANCER PATIENTS ACROSS THE TREATMENT TRAJECTORY: HOW DO THEY INFORM PRACTICE?** Mary Ellen Haisfield-Wolfe, RN, MS, OCN®, University of Maryland, School of Nursing, Baltimore, MD, USA; Deborah McGuire, PhD, RN, University of Maryland, School of Nursing, Baltimore, MD, USA; Karen Soeken, PhD, University of Maryland, Baltimore, MD, USA; Jeanne Geiger-Brown, PhD, RN, University of Maryland, School of Nursing, Baltimore, MD, USA; and Bruce DeForge, PhD, University of Maryland, School of Social Work, Baltimore, MD, USA.

Head and neck cancer (HNC) is a complex and emotionally distressing disease because of high mortality and morbidity associated with both cancer and treatment. Depression is such a significant problem among HNC patients that the National Cancer Institute (2006) identified HNC as a risk factor for depression. Prevalence estimates of depression in HNC patients range from 12%–54%. What accounts for this wide range? Examination of prevalence rates across the treatment trajectory can contribute to a better understanding of depression in this population and help guide nursing practice.

To review the interdisciplinary literature on prevalence of depression among HNC patients across the treatment trajectory to establish stronger evidence for depression management at various time points in oncology care.

This project involved a systematic review of 22 descriptive studies of depression in outpatients (> 60 years old) with HNC. Six different self-report questionnaires were used to measure depression. Depression rates were especially high at diagnosis and treatment completion (17–54%). In 13 studies with follow-up at 1, 6, 12, 29, 42, or 72 months, depression prevalence ranged from 20%–46%. Prevalence increased during treatment and decreased at 3 years, but continued to 6 years after diagnosis. Several studies found that pre-treatment depression predicted depression at later time points.

Although methodological limitations hinder comparison of prevalence rates from individual studies, nevertheless a clinical picture of depression in HNC emerges and suggests the need for repeated depression screening. Depression prevalence rates in studies of HNC outpatients provide evidenced-based information that nurses can use to improve their understanding of HNC depression. Oncology nurses aware of this data can use it to gauge when to screen for depression and initiate interventions to assist patients in coping.

Existing HNC depression studies involved older outpatients. Depression prevalence in the new HNC demographic of young HIV + patients has not been studied. Nursing studies related to HNC depression care are scant but are needed. This review provides nurses with a stronger evidence-based foundation for appropriate care of depression during the HNC treatment trajectory.

## 2800

**EARLY RECOGNITION AND MANAGEMENT OF EXPECTED AND UNEXPECTED ADVERSE EVENTS ASSOCIATED WITH IPIILIMUMAB ASSURES SAFE TREATMENT FOR PATIENTS WITH ADVANCED MELANOMA.** Judith Grasso, RN, MSN, AOCN®, Yale-New Haven Hospital, New Haven, CT, USA; Carol Staugaard Hahn, APRN, Yale Cancer Center/Yale University, New Haven, CT, USA; Linda Rink, RN, BSN, Yale Cancer Center/Yale University, New Haven, CT, USA; Susan Hotchkiss, RN, BSN, Yale-New Haven Hospital, New Haven, CT, USA; Maria Wood, RN, BSN, Yale-New Haven Hospital, New Haven, CT, USA; and Karen Underwood, RN, Yale-New Haven Hospital, New Haven, CT, USA.

Our institution is participating in a compassionate use study of ipilimumab for patients with Stage III or IV melanoma. Ipilimumab is a fully

humanized, monoclonal antibody that blocks cytotoxic T-lymphocyte antigen 4 (CTLA-4) mediated T-cell suppression, causing enhanced immune response against tumors. Increased T-cell activation can produce inflammatory effects in the skin, colon, and in a small percentage of patients, the liver, eyes, pituitary, thyroid, or adrenal glands. Several of our patients have also experienced non-serious infusion-related reactions.

To discuss nursing assessment and symptom management strategies for immune-related adverse events (irAEs) and infusion reactions associated with ipilimumab.

Successful management of irAEs requires attention to certain patient symptoms, and lab values. Grade 1 diarrhea should be treated with antidiarrheals. Early intervention with anti-inflammatory agents in Grade 2 can prevent escalation to Grade 3–4, which may require colonoscopy, high-dose steroids, and hospitalization. Elevated liver function tests require lab work to differentiate between metastatic liver disease and potential immune-related hepatitis. Nurses should also check patients for skin rashes, and inflammatory reactions of the eyes, pituitary, thyroid or adrenal glands. IrAEs can take up to a month to resolve and then sometimes recur again. Management of irAEs with corticosteroids is usually effective. Slow tapering of corticosteroids helps avoid recurrence of irAEs.

The infusion-related reactions we observed presented with severe chest and/or back pain and “beet-red” facial flushing and occurred in various cycles, after 3–10 milliliters of the drug had infused. If the drug was stopped immediately and the patient medicated with diphenhydramine, famotidine, and lorazepam, usually all symptoms resolved within 30 minutes and the drug was restarted at half the initial rate for 15 minutes. Patients safely received the remainder of the ipilimumab over 90 minutes without further reactions.

Fifty percent of irAEs and infusion-related reactions occur after the first or second treatment. Early recognition and treatment of symptoms will ensure patients with advanced melanoma can continue to receive this novel therapy.

Management of all adverse events associated with ipilimumab requires vigilant patient observation, aggressive symptom management, and excellent communication between patients, nurses and physicians.

## 2804

**INCIDENCE AND MANAGEMENT OF ALCOHOL WITHDRAWAL IN ONCOLOGIC HEAD AND NECK SURGICAL PATIENTS: A RETROSPECTIVE REVIEW.** Kathleen Schardien, RN, MSN, AOCN®, Memorial Sloan Kettering Cancer Center, New York, NY, USA.

Tobacco use and alcohol consumption are the most significant risk factors for the development of oral cavity, larynx and pharynx squamous cell cancers. Postoperative morbidity and mortality are adversely affected by patient alcohol consumption as withdrawal and delirium occur 6 to 24 hours after the last drink. Alcohol withdrawal prevention includes the use of single agent benzodiazepine and haloperidol as an adjuvant. Unfortunately, a thorough and accurate history of alcohol intake is difficult to obtain. Oncology nurses play a vital role in preventing alcohol withdrawal by performing a meticulous initial nursing assessment and assessing patients for subtle changes in clinical status on an ongoing basis.

The purpose of this study is to examine a single-institution experience in appropriately identifying, assessing and managing oncologic head and neck surgical patients at risk for alcohol withdrawal.

This study relates to the ONS Research Priorities as it addresses a Quality of Life issue.

The Roy Adaptation Model will guide this study. Adaptation is the central and unifying theme of Roy's model, which posits that when a system is unable to adapt to a changing environmental stressor, adverse outcomes occur. In this study, the system is the patients, and the stress is alcohol use and withdrawal.

This study is a nonrandomized, retrospective patient chart review of all head and neck surgical patients admitted to an inpatient bed for surgical intervention within a designated timeframe. Compiled data will be analyzed using descriptive statistics and chi-square testing.

Currently, the 1180 charts of all head and neck surgical patients admitted to an inpatient bed in 2006 are being reviewed. Data points include age, gender, diagnosis, co-morbidities, surgical procedure, length of stay, smoking/alcohol history, use of lorazepam, use of haldiperidol and use of supportive medication. Outcome variables include signs and symptoms



of alcohol withdrawal, postoperative complications, nursing care and involvement of psychiatry.

Data collection and statistical analysis will be completed by spring 2008. Ultimately, the findings from this research study will be incorporated into an evidence-based guideline for the assessment and management of oncology patients at risk for alcohol withdrawal.

## 2805

**THE ENCULTURATION OF EVIDENCE-BASED PRACTICE FOR THE BEDSIDE/CHAIRSIDE ONCOLOGY NURSE: UTILIZING A SHARED GOVERNANCE MODEL.** Tamara Criswell, RN, BSN, OCN®, The James Cancer Hospital, Columbus, OH, USA; Janis Campbell-Fleming, PhD, RN, The James Cancer Hospital, Columbus, OH, USA; Kimberly Catania, MSN, RN, CNS, AOCN®, The James Cancer Hospital, Columbus, OH, USA; Leslie Smith, BSN, CRNI, The James Cancer Hospital, Columbus, OH, USA; and Jodi Welsh, RN, OCN®, The James Cancer Hospital, Columbus, OH, USA.

In today's professional climate we are challenged to provide evidence-based quality oncology nursing care. To meet this challenge, nurses must have an understanding of evidence-based practice and how to translate evidence into their clinical practice. At our Midwestern Comprehensive Cancer Center, our nurses were very knowledgeable of medical research and comfortable participating with medical research but few had knowledge of or had participated in evidence-based practice which leads to the nursing research process. Using a Shared Governance model, the Research Council has incorporated a structure for evidence-based practice for our oncology nurses.

Our goal was enculturation of evidence-based practice to the bedside/chair side oncology nurse. We developed a conceptual model, consisting of educational resources and a facilitating unit to incorporate evidence-based practice for all oncology nurses at our institution.

The Research Council consists of nurses from multiple disciplines including staff nurses, advanced practice nurses and a college of nursing professor. The council is mentored by the Director of Nursing Research. The first years the council met was devoted to education and understanding the resources available to the staff nurse or the advanced practice nurse at our institution. From the information gained multiple resources were developed to promote evidence-based practice. A proposal was then developed to incorporate unit based facilitation model using the concept of "change champions." The groups are entitled "CORE Nurses: Champions of Research & Excellence".

Through the foundation of shared governance, the Research Council has produced the following results. Multiple educational resources including a how to book for evidence-based practice and nursing research; webpage; traveling journal club; monthly newsletter; nine monthly courses on evidence-based practice; and ten monthly courses on nursing research. A nursing research infrastructure was developed consisting of a proposal submission process which includes a tracking guide, review process and an algorithm for the nurse for navigation through the institutional structure.

Through creative research activities the Research Council promoted interest and enthusiasm with the nursing staff for evidence-based practice at our institution. Hopefully, translating our foundation of evidence-based practice into current oncology nursing research from our institution.

## 2807

**FAILURE MODE AND EFFECT ANALYSIS: A PROACTIVE APPROACH TO PREVENTING CHEMOTHERAPY ERRORS.** Margaret Brock, RN, FNP, OCN®, White Plains Hospital, White Plains, NY, USA; and Cathy Waters, RN, BSN, OCN®, White Plains Hospital, White Plains, NY, USA.

Chemotherapy given safely can have vast benefits to the patient; chemotherapy given incorrectly can cause patient harm but may also be lethal. With so many steps in the process to consider from the time the chemotherapy is ordered, compounded, dispensed, and administered, the potential for error exists.

Near misses were occurring on the oncology unit, even though safety checks were applied during the chemotherapy administration process. After reading the feature article written by Norma Sheridan-Leos in the *Clinical Journal of Oncology Nursing*, "Failure Mode Effect Analysis: A Technique to Prevent Chemotherapy Errors," the clinical nursing staff decided to apply this method into practice.

The purpose of this project is to describe how an oncology nurse facilitated a Failure Mode and Effect Analysis (FMEA) process to proactively improve the chemotherapy safety checks within the institution. A FMEA team was developed which consisted of nursing administration, nursing management, nurses from day, night shifts, and nurses from the outpatient setting and pharmacists.

This group diagrammed the steps in our chemotherapy process. Using this process the group was able to brainstorm the potential failure modes and determine their effects on the patient. Each failure mode was assigned a severity rating and then a calculated risk priority number (RPN) for each effect. The failure modes were then prioritized and hazard scores were identified. The hazard scores that were identified as a sixteen during this process were identified as a high probability for an error to occur with an increased severity of causing patient harm.

After evaluation of these hazard scores, safety measures were implemented to reduce failures in the chemotherapy safety check process.

The key to the success of this project was that the nurses who are at the bedside were crucial to developing the action plans to safeguard against chemotherapy errors. Working in a blame free environment encouraged the staff to be honest with identifying which steps in the chemotherapy process were being followed or not followed. This chemotherapy error prevention process is an ongoing performance improvement process that enhances the professional liability of the clinical provider.

## 2808

**IMPROVING DISCHARGE MEDICATION USE AND KNOWLEDGE IN ADULT PATIENTS AT THE SEATTLE CANCER CARE ALLIANCE (SCCA).** Terri Cunningham, MSN, RN, AOCN®, Seattle Cancer Care Alliance, Seattle, WA, USA; Cindy Henson, RN, University of Washington Medical Center, Seattle, WA, USA; Mary Sikma, RN, University of Washington Medical Center, Seattle, WA, USA; Marilyn Hammer, DC, MN, RN, University of Washington School of Nursing, Seattle, WA, USA; and Donna Berry, PhD, RN, FAAN, AOCN®, University of Washington School of Nursing, Seattle, WA, USA.

Studies of adult and pediatric patients have highlighted that medication errors and lack of adherence in taking medications as prescribed are problems in the home setting. The transition from hospital to home is an important time, with regard to self administration of complex, prescribed medication regimens.

The purpose of the study was to compare oncology patients'/caregivers' understanding of discharge medication regimens following a hospital stay, before and after organizational and individual interventions. Two priorities in the 2005 ONS Research Agenda are directly relevant to this study.

1. Research in nursing-sensitive patient outcomes
2. Translational research

The Quality Health Outcomes Model guided our approach to this study. This model illustrates how aspects of the healthcare system mediate patient outcomes.

We conducted a longitudinal, pre-postintervention study. A total of 68 adult patients were enrolled in this study after receiving chemotherapy as inpatients (phase 1 n = 53, phase 2 n = 15). In both phase 1 and phase 2, patients/caregivers were interviewed after discharge, inquiring as to knowledge and use of discharge medications. Two interventions were implemented between phase 1 and phase 2; medication reconciliation procedures and post-discharge teaching telephone call from an outpatient nurse. Concordance of patient report with discharge instructions were calculated. Accuracy of discharge medication use and knowledge pre- and postintervention were compared using Mann-Whitney U statistics.

Patient/caregiver report concordance with nursing discharge instructions and provider orders improved from 0% to 54%. Significant improvement in the number of drug, dose, route, and frequency discrepancies were documented (all p = .001). These findings demonstrate that the implementation of medication reconciliation procedures and post-discharge teaching telephone call from an outpatient nurse resulted in significant improvement in patient's/caregiver's accurate report of discharge medication use and knowledge. Collaborative efforts between inpatient and outpatient staff nurses and clinical leadership to implement evidence-based interventions resulted in positive outcomes.

## TRANSITION FROM BEDSIDE TO INFORMATION TECHNOLOGY: A NURSE'S ROLE IN CLINICAL SYSTEMS. Sarah Jones, RN, BSN, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY, USA.

According to a 2004 survey conducted by the Health Resources and Services Administration, an estimated 8,750 registered nurses identified themselves as nurse informaticists with responsibilities described as systems implementation and development and liaison/communicator. Software companies, hospitals and doctor's offices are quickly realizing the contributions nurses can make by incorporating clinical knowledge into electronic systems development. The Clinical Systems Department at this NCI designated comprehensive cancer center has employed a nurse as a clinical systems analyst for the expansion of their physician order entry program.

The purpose of the nurse analyst role is to apply knowledge of the patient experience, clinician practice behaviors, patient safety, and regulatory affairs to the development of new clinical systems, bridging a gap that often exists between system developers and clinical end users. The ability of the nurse to communicate effectively with clinicians adds to the efficiency of the project and the quality of the product.

A nurse analyst led the implementation of a computer order entry system for the cancer center's Interventional Radiology Department. The nurse worked with physician and unit nursing staff to create work flows for entry, submission and completion of orders. Fifty-three order sets were developed and tested for different procedures containing pre-, intra-, and postprocedure orders as well as a system for urgent management of complications. Barriers were identified and resolved with staff in real time during the test mode and the nurse analyst and colleagues were onsite during the implementation phase to trouble shoot problems and assist with one-on-one coaching.

The project was evaluated for clinician satisfaction and success of order entry implementation. Clinicians and administrators indicated satisfaction with the process and there was high acceptance of electronic order entry. The Manager of Order Management Systems reported that clinician trust, ease of communication and understanding of their needs were integral in the accomplishment of this rollout.

Nurses can apply their knowledge and education to new health care initiatives. The model at this cancer center demonstrates the added value of a nurse analyst to the implementation of electronic systems.

## 2815

### BREAST CLINICIANS OF SOUTHEASTERN WISCONSIN NETWORK. Anna Purdy, RN, MSN, APRN, BC, Medical College of Wisconsin, Milwaukee, WI, USA; and Michelle Willman, RN, BSN, OCN®, Pro-Healthcare, Waukesha, WI, USA.

A breast care coordinator (BCC) is recognized as a valuable asset to breast care programs. Their unique knowledge of breast health and breast cancer help to navigate women during a very stressful time. Many hospitals and hospital based clinics within the Greater Milwaukee area and neighboring communities offer the services of BCCs. Generally, the BCC coordinates care and provides support to women and their families who are newly diagnosed with breast cancer. In addition, each healthcare facility has varied role expectations for the BCC based on their institutional program and financial constraints. BCCs are specialized and few in numbers within a facility, thus, there is limited collegial nursing support and guidance for their role.

The "Breast Clinicians Network of Southeastern Wisconsin" was established to:

- Provide a forum for professional education.
- Address breast health/breast cancer practice challenges.
- Review current data and new developments.
- Provide opportunity to mentor novice breast health clinicians.
- Collaborate on the available educational, support, financial and advocacy programs available to patients in service areas.
- Explore research and grant opportunities.

The network participants established mission, goals, and meeting format at initial working meeting. BCCs agreed upon shared meeting facilitation. Working groups were developed to compile a database of resources, create an orientation manual for the novice, and identify pertinent topics for discussion.

Network participation and representation from all major healthcare systems offering breast care programs exceeded expectations. Network response to initial surveys regarding post surgical care and individual breast programs provided topics for discussion and consideration for project development. BCCs verbalized positive feedback regarding the network upon informal evaluation.

The Breast Clinicians Network of Southeastern Wisconsin offers BCCs a forum for networking, support, and guidance from colleagues in similar specialized roles. Professional development of BCCs ultimately enhances practice and improves care of women with breast cancer. The networking format presented can be successfully utilized by various BCCs globally.

## 2816

### A CHRONIC GRAFT-VERSUS-HOST DISEASE (cGVHD) TELEPHONE SUPPORT GROUP: PARTNERING WITH AN ADVOCACY ORGANIZATION TO ADDRESS AN UNDERSERVED POPULATION OF CANCER SURVIVORS. Kathleen Castro, RN, MS, AOCN®, National Institutes of Health Clinical Center, Bethesda, MD, USA; Sandra Mitchell, RN, MS, AOCN®, National Institutes of Health Clinical Center, Bethesda, MD, USA; Tiffany Rowe, MBA, National Bone Marrow Transplant Link, Southfield, MI, USA; and Myra Jacobs, MA, National Bone Marrow Transplant Link, Southfield, MI, USA.

Patients living with debilitating complications of chronic graft versus host disease (cGVHD) often cope with these challenges isolated from transplant specialists. Oncology nurses working with HSCT survivors in their home communities may have few resources to support the unique needs of this patient population. To effectively manage this late effect of hematopoietic stem cell transplantation (HSCT), tailored education and support are essential.

Our purpose is to describe the design and evaluation of a telephone support group intervention. This psycho-educational intervention was developed to reach an underserved population, offering information and empowering self-management.

The National Bone Marrow Transplant Link (nbmtLINK), a patient advocacy organization, identified the need for specialized information and guidance to improve patients' self-management of this late effect of treatment. The nbmtLINK used organizational mailing lists to market the group, screened potential group participants, and provided financial and logistical support for the conference call bridge and other meeting arrangements. Advanced practice nurses from the NIH co-facilitated the group sessions, each of which was limited to ten participants. Using a psycho-educational model, the group met weekly for four consecutive weeks. Each 75 minute session focused on education and peer support relative to four themes.

1. Manifestations and treatment of cGVHD
2. Understanding and living with cGVHD
3. Exploring options for improving health and well-being
4. Developing a personal plan for managing chronic illness.

To date, four groups have been convened (n = 42). Evaluations indicate participants would take part in another support group and would recommend the group to others. Participants found the telephone format valuable because it allowed them the flexibility to fit the group into a busy schedule, accommodated limitations due to fatigue and deconditioning, and afforded a degree of anonymity. Receiving content tailored to their unique needs and being able to talk with others going through the same experience was a benefit noted on all evaluations.

We have demonstrated the feasibility and cost-effectiveness of a telephone support group for an underserved population. In the future, the use of video-conferencing and other telemedicine innovations will extend the capacity of oncology nurses to deliver tailored interventions across geographic boundaries.

## 2818

### CHEMOTHERAPY NURSING: UPDATING THE COMPETENCY EVALUATION PROCESS. Michael Lasam, RN, MPH, OCN®, VA Loma Linda Healthcare System, Loma Linda, CA, USA; and Ellen Ballard, RN, BSN, OCN®, VA Loma Linda Healthcare System, Loma Linda, CA, USA.

The Veterans Affairs (VA) Loma Linda Healthcare System (VALL-HCS) is part of VA Desert Pacific Healthcare Network that provides

healthcare to veterans in Southern California and Nevada through an integrated system. VALLHCS encounters approximately 600 new cancer cases each year. Upon review of the facility's chemotherapy certification requirements and checklist, nursing staff questioned whether the tool used to evaluate competency was outdated.

A project was initiated to define, investigate, and provide recommendations on essential components to be included in VALLHCS Nursing Chemotherapy Certification/Re-Certification Competency requirements. The purpose was to ensure that the facility's evaluation tool and requirements are in line with ONS recommendations and at par with community standards of practice. This validates that the oncology nurse is current with her/his knowledge and skills in the delivery of chemotherapy.

VALLHCS Cancer Center RN's initiated the project and conducted research.

1. Facility's policy on Chemotherapy Certification and Drug Administration was reviewed.
2. Literature searches on chemotherapy competencies were performed and reviewed
3. ONS staff contacted for guidance.
4. ONS Web site explored for information.
5. Community hospitals and resources contacted to obtain information on their competency evaluation practices.
6. Findings and recommendations presented to Oncology Nursing staff and management.

Few articles exist that address specific components to be included in chemotherapy nursing competencies. Practices vary according to institutional policies. Some facilities conduct and maintain their own educational series as part of the nurse competency. The trend in community practice appears to require the oncology nurse to attend an ONS Chemotherapy & Biotherapy Course and obtain an ONS Chemotherapy Provider Card as part of the nurse competency. Technical skills evaluation is still specific to facility requirements. In 2005, ONS published Chemotherapy and Biotherapy Guidelines which includes an example of a tool that facilities can incorporate as part of the nurse competency.

Nursing staff play a vital role in ensuring patient safety and education. Maintaining competency in practice promotes self-confidence in the ability to deliver quality care. The findings will promote re-evaluation of practice to ensure oncology nursing care is current, is in line with community standards, and is competently delivered.

## 2822

**THE ONCOLOGY NURSE EDUCATOR'S ROLE: DEVELOPING A SPOTLIGHT EDUCATION PROGRAM FOR CERTIFIED NURSING ASSISTANTS (CNAs) TO SUPPORT THE ONCOLOGY HEALTHCARE TEAM.** Annette Welch, MS, RN, OCN®, University of Utah Huntsman Cancer Hospital, Salt Lake City, UT, USA.

Oncology nurses need knowledgeable support staff to provide optimal patient care but few CNAs have past experience caring for oncology patients. The oncology nurse educator's responsibility is to provide appropriate education to all members of the nursing team. The use of innovative teaching strategies to educate CNAs enhances learning, improves the quality of nursing care, and creates an atmosphere of teamwork for the oncology unit.

Under the direction of the oncology nurse educator, each new CNA receives a basic orientation to the unit and to their job function. Although this orientation adequately verifies role competency it, alone, cannot provide the in-depth knowledge necessary to understand the unique care required of an oncology patient. Knowing that education empowers staff, it was decided to develop a Spotlight program to enhance patient care, support the RN/CNA team, and fortify the unit.

The oncology nurse educator developed the Spotlight program using principles of adult learning and education. Learning topics were developed based on a needs assessment that included CNAs, the registered nurses, and the unit manager. Teaching strategies included group teaching sessions, an Application Assignment that linked learning with practice, and a written assignment that assessed learning and colleague support. The program included an "RN read-and-sign" poster that instructed RNs on ways to support the CNA. Ongoing monitoring and performance feedback was provided by the oncology nurse educator.

The oncology nurse educator used qualitative data to evaluate the program. Individually, the CNAs gave specific positive examples of

how their heightened understanding of oncology nursing was received by patients and supported by RNs. There were a few neutral responses but no negative examples were recorded. The RNs reported that they valued their contribution to the CNAs progress. Patient satisfaction scores remained unchanged (in the 99th percentile) during this time.

By focusing on the specific learning needs of the CNA, the nurse educator fortified the oncology unit and enhanced teamwork and patient care. Nurse educators may use similar methods to teach diverse populations of healthcare providers who don't have oncology experience.

## 2824

**IMPROVING ONCOLOGY PATIENT CARE COMMUNICATION: USING AN ELECTRONIC SOLUTION TO ENHANCE PATIENT CARE COORDINATION.** Lisa Graham, RN, BSN, Arthur G. James Cancer Hospital and Richard J. Solove Research Institute, Columbus, OH, USA; Gail Davidson, RN, BSN, OCN®, Arthur G. James Cancer Hospital and Richard J. Solove Research Institute, Columbus, OH, USA; and Jamie Ezekielian, RN, MS, OCN®, Arthur G. James Cancer Hospital and Richard J. Solove Research Institute, Columbus, OH, USA.

The James Cancer Hospital and Solove Research Institute is a 163-bed Comprehensive Cancer Center in the Midwest. In 2007, The James discharged 8150 patients from its inpatient facility. Most of these patients had complex care needs that required extensive coordination by the health care team. In addition, the flexible scheduling of staff nurses made the consistent communication of patient care plans very challenging. The bedside nurse had difficulty in planning to meet the patient's needs in a timely fashion, and the patients received inconsistent communication regarding their plan of care.

The Patient Care Resource Management (PCRM)/Social Work Department, using the Plan, Do, Check, Act (PDCA) quality improvement process, developed an IT communication solution to enhance the bedside nurse's knowledge of the patient's plan of care, educational needs, and discharge plan. Anticipated outcomes: Optimized patient care and an increase in both patient and RN satisfaction.

The Patient Care Resource Managers (PCRM), who have responsibility for coordinating care across the continuum, first surveyed the staff to establish baseline data and validate the need for change. They then developed and implemented a "plan of care" communication utilizing the EMR system that relayed vital information from the medical team to the nursing staff on each shift throughout the patient's hospital stay. Further data was collected following implementation to evaluate success.

Prior to project implementation, 61% of the nurses consistently knew the plan of care for their patients. Three months after implementation, 82% responded positively. There were also significant increases in nurses' knowledge of the patient's expected discharge date, knowledge of patient education, as well as improvement in timeliness of discharge education.

Coordination and fragmentation of care in today's health care environment are major challenges for nursing. Developing methods to improve this coordination and communication across the care continuum will lead to improved quality and satisfaction for nurses and for patients. Nurses can use this communication model to improve coordination of patient care in the acute care setting.

## 2827

**HPV VACCINE.** Rose Ali, RN, MSN, Memorial Sloan Kettering Cancer Center, New York, NY, USA; and Linda Forcello, BSN, Memorial Sloan Kettering Cancer Center, New York, NY, USA.

Cervical cancer is a preventable disease estimated to cause 3,670 in women in the U.S and worldwide 275, 500 annually. The human papilloma virus (HPV) is known to be the causative factor in cervical cancer. In 2005, the FDA approved the quadrivalent recombinant HPV vaccine for prophylactic use against two major HPV types, 16, and 18, which are known to be associated with cervical cancer. This vaccine may also prevent HPV types 6 and 11 which cause 90% of genital warts. As oncology nurses it is important to understand HPV and its role in cervical cancer as well as the role of the HPV vaccine which will help prevent cervical cancer.

HPV is a causative factor for precancerous lesions of the cervix, vagina and anal area. If untreated it may progress to carcinoma-in-situ (cis) and cancer. It is essential for nurses to understand HPV and it's relation



to cervical cancer and other genital abnormalities. Since HPV infection may resolve on its own, it is imperative that accurate education is given to reduce unnecessary stress. Since the HPV vaccine's approval in 2005, there have been debates and controversy in state legislatures. Some states have passed laws to make this a mandatory vaccine, yet allowing parents the choice to opt out. These and other controversial social issues translate questions to healthcare providers regarding HPV, the vaccine, its purpose as well as ethical issues.

Results of a large clinical trial of the HPV vaccine demonstrated an 89–100% efficacy and led to strong recommendations by gynecologists, medical and nursing associations to offer HPV vaccine to eligible females for prevention of cervical cancer. After receiving the 3 vaccine series, women are still recommended to have routine Pap smears. Ongoing research continues on how long this vaccine provides protection to recipients.

This poster will show HPV and its role in cervical cancer and other genital abnormalities. It will also address the vaccine, indications and patient education on risk reduction.

Gynecological oncology nurses will have necessary information to educate their patients about HPV and the new quadrivalent recombinant HPV vaccine, an exciting development in healthcare.

## 2828

**OUTCOMES OF CARING FOR A PREGNANT CANCER PATIENT: RESULTS OF A COLLABORATIVE TEAM WORK.** Patricia Geddie, RN, MS, AOCNS®, M.D. Anderson Cancer Center Orlando, Orlando, FL, USA; and Susan Dempsey-Walls, RN, MN, AOCNS®, M.D. Anderson Cancer Center Orlando, Orlando, FL, USA.

Providing care to a patient who is pregnant and has a malignant oncology diagnosis is a special complex challenge to the oncology nurses as well as the obstetrical nurses. Nurses who work in these specialized areas possess specialized knowledge and skills unique to their population. Advanced practice nurses from each of the specialized areas can facilitate collaboration between the two areas to provide support in the form of education, clinical expertise and navigation through the healthcare system for both nurses and the patient.

To provide a “bridge” to the care of the pregnant cancer patient between two specialized nursing fields: oncology and obstetrics, that will result in safe and effective patient outcomes.

Oncology clinical nurse specialists collaborated with the women's services (high-risk obstetrics) nursing leadership to transfer the patient from the adult oncology unit to the high-risk obstetrical unit. The team also developed a plan of care for the pregnant cancer patient and strategies to educate the nursing staff regarding the appropriate nursing care. The oncology nursing team provided patient education and administered chemotherapy and at the high-risk obstetrics unit. The advanced practice oncology nurses assessed the patient's status daily as well as providing support and education to the high-risk obstetrics nursing staff regarding anticipated side effects of neutropenia, anemia, thrombocytopenia, nausea and vomiting and others.

The patient was able to receive appropriate fetal monitoring as well as cardiac monitoring for tachycardia and received three cycles of chemotherapy during the course of hospitalization. The baby was delivered at 32 weeks via C-section. The mother was transferred back to the oncology unit and the obstetrical nursing leadership arranged to bring the baby for mother visitation. Unfortunately the mother expired approximately 1 month after the delivery. The family and nursing staff expressed satisfaction with the delivery of the plan of care and outcomes.

Collaboration between nursing specialties for special complex patient populations is necessary for delivery of safe and appropriate nursing care resulting in satisfactory patient outcomes. Advanced practice nurses provide the leadership for this type of clinical collaboration across specialties within a healthcare system.

## 2830

**ELECTRONIC DISCHARGE ORDER TEMPLATE.** Shirleen Gamonal, RN, BSN, OCN®, Huntsman Cancer Hospital, Salt Lake City, UT, USA; Susan Childress, RN, MSN, OCN®, Huntsman Cancer Hospital, Salt Lake City, UT, USA; and Heather Gilbert, MD, University of Utah, Salt Lake City, UT, USA.

Oncology patients are treated in both out-patient clinics, infusion rooms, and during hospitalizations. Oncology nurses have an important

role in assuring quality care throughout the continuum. In the past, the system did not provide clear communication to assure follow-up in the outpatient clinics after a patient was discharged from the hospital. Patients would arrive in the clinics as instructed, but no one had prior knowledge as to when or why they were in the clinic. This would result in high levels of frustration for both the patient and clinic nurses. The risk of a missed test or injection was high.

Improve inpatient/outpatient communications while assuring continuum of care for oncology patients

Development of an electronic template for discharge orders, which would be readily accessible to all care providers following any hospitalization. Originally the template was quite simple, reflecting the preprinted carbonless forms. Input was encouraged from physicians, NPs, pharmacists, and nurses (inpatient and outpatient). After several revisions the template developed into a tool useful for patient education, filling discharge prescriptions, medication reconciliations, and clearly communicating necessary follow-up in the clinics. The template was piloted on the medical oncology unit.

The use of the electronic discharge orders was initially slow to implement due to formatting issues. All discharge orders for medical oncology patients are now done exclusively using the template. Each patient's discharge orders are readily accessible to nurses across the continuum. The format is patient friendly (legible, in layman's terms).

Press-Ganey patient satisfaction scores improved from 32%-tile (July)–94%-tile (Oct) in terms of patients feeling ready for discharge and increased from 51%-tile (July)–96%-tile (Oct) in terms of patient satisfaction with physicians. The incidence of missed injections or lab draws has reduced significantly as well

The utilization of an electronic tool such as the discharge orders is beneficial for oncology nurses as information is readily available, and improves work flow. The form also identifies for patients and providers changes in medications (medication reconciliations). Unlike paper forms, which must be taken to the clinic by patients, the computerized record is neither lost nor forgotten.

## 2831

**MAMMOGRAPHIC DENSITY AS A RISK FACTOR FOR BREAST CANCER.** Loralee Fulton, MS, RN, OCN®, Long Island College Hospital, Brooklyn, NY, USA; Diane Reynolds, RN, MS, OCN®, CNE, Long Island University, Brooklyn, NY, USA; Julie Flom, MPH, Columbia University, New York, NY, USA; and MaryBeth Terry, PhD, Columbia University, New York, NY, USA.

Mammographic density is one of the strongest risk factors for breast cancer. Its 4–6 fold association with breast cancer surpasses even family history in magnitude. Many breast cancer risk factors including hormone use, parity, alcohol use, and physical activity have been associated with mammographic density. Given its strong association with both breast cancer and breast cancer risk factors, mammographic density represents an important intermediate marker. Little is known, however, whether mammographic density differs among racial and ethnic groups who may face different susceptibility for breast cancer.

Little is known about the amount and patterns of mammographic density among Caribbean and African Americans.

The goal of this study is to gain knowledge about mammographic density in these populations to increase our knowledge about breast cancer risk and ultimately cancer prevention. Understanding whether mammographic density differs by racial and ethnic subgroups is especially important for nurses, radiologists, oncologists and other health care providers when they educate their patients on breast cancer risk and susceptibility.

This is a cross sectional epidemiologic study. This study's goal is to recruit 200 Caribbean American, African American, and Caucasian women, aged 40–60 years, who are coming into the hospital for screening mammograms. When enrolled, these women participate in an extensive interview, collection of a small blood specimen and the measurement of their breast density through computer-assisted thresholding methods. To date 108 women have already been recruited. Project outcomes will be evaluated post attaining the enrollment quota goal.

Implications for research: Though breast density is an established strong risk factor for the development of breast cancer, this information is not well known to the general public. Attaining evidence based knowl-

edge regarding breast density and factors influencing breast density and especially in ethnic and racial groups who may face different susceptibilities can enhance early detection and prevention practices.

## 2834

2020: AN ONCOLOGY NURSE ODYSSEY. Deborah Boyle, RN, MSN, AOCN®, FAAN, Banner Good Samaritan Medical Center, Phoenix, AZ, USA.

Just as oncology nursing in 1980 was distinctly different than current practice, oncology nursing in 2020 will vary extensively from existing norms. Predictive capability facilitates oncology nurses taking a proactive vs. a historically reactive stance in creating the future. To promote this orientation, all oncology nurses could benefit from a review of scientific, epidemiologic, technological, workforce, and financial trends transforming cancer care.

Data that reflects the evolving profile of our patient population, professional workforce, technological achievement, scientific discovery, and escalating cost in managing cancer, will provide the audience with a future's-oriented template to predict the landscape of cancer nursing in twenty years.

A compilation of current trending evidence has been compiled by the author with significant experience in futures' "think-tank" symposia. Four major themes have been identified which will impact oncology nurses.

1. The aging of American society inclusive of a preventive/wellness focus
2. Advances in bench and clinical research that decrease the invasive and systemically toxic nature of cancer therapy (i.e., gene therapy replacing chemotherapy, use of inhaled drugs, laparoscopic brachytherapy)
3. Technological innovation revolutionizing care delivery (i.e., robotics, remote surveillance) and endorses the ongoing transition of care to less costly ambulatory and home settings
4. Dramatic modifications in nurse role expectations requiring proficiency in process competencies (i.e., delegation, group cohesion, mentoring), and outcomes quantification.

Six national experts in the fields of epidemiology, cancer research, informatics, robotics and technology transfer, healthcare financial analysis, and nursing future's, are validating findings from the preliminary draft of trending data specific to cancer nursing.

These future's predictions will assist oncology nurses in prompting interdisciplinary dialogue about novel intervention planning that will characterize cancer care in the coming decades.

## 2835

HAND HYGIENE—NATIONAL PATIENT SAFETY GOAL 7A: A PROGRAM TO IMPROVE COMPLIANCE. Julie Overbey, RN, Banner Good Samaritan Medical Center, Phoenix, AZ, USA.

Significance and background: Hand hygiene compliance, within the Centers for Disease Control current guidelines, is listed as one of Joint Commission's National Patient Safety Goals (7A) for 2008. To support this important initiative and to improve hand hygiene compliance a program was developed to increase the awareness and importance of proper hand hygiene for the staff, patients and families on our oncology /bone marrow transplant unit.

Purpose: The goal was to develop a comprehensive hand hygiene model to increase awareness and improve compliance with hand hygiene and to integrate patient and family involvement in proper hand hygiene. The hand hygiene program was developed to support National Patient Safety Goal 7A.

Interventions: An oncology unit "blitz" was developed using two posters during walking rounds reviewing the acceptable methods of hand hygiene, the relationship between hand hygiene and hospital acquired infections and the correlation between infections and fingernails. Badge holders with the slogan "Did I" centered on a hand were provided to staff and stickers which stated "Clean hands save lives" were handed out to staff attending walking rounds. Signs stating "It's okay to ask if your healthcare provider has cleaned their hands" were placed in a visible area within each patient room. A brochure was provided to every inpatient and to each new admission outlining the importance of hand hygiene. A letter was sent to the physician groups detailing the hand hygiene program and encouraging their support to increase compliance.

Evaluation: Hand hygiene audits will be conducted by staff and "secret shoppers" to determine compliance with hand hygiene. Patients and families will be interviewed to discuss their perception of hand hygiene compliance from the healthcare providers involved in their care.

Discussion: Improving hand hygiene is the simplest, yet most effective, method to reduce the risk of hospital acquired infections for the oncology patient. By increasing staff, patient and family awareness of the importance of proper hand hygiene the audits should reveal an increase in compliance with a subsequent reduction in hospital acquired infections.

## 2837

INTERNET SURVEY ROLES AND FUNCTIONS OF SURGICAL ONCOLOGY ADVANCED PRACTICE NURSES: AN ONS LEADERSHIP DEVELOPMENT PROJECT. Jo Ann Coleman, RN, MS, AOCN®, ACNP, Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, MD, USA.

Surgical Oncology Advanced Practice Nurses (APNs) provide clinical excellence in a variety of specialty surgery areas, promote clinical excellence and quality of life for patients having a surgical intervention/treatment. An internet survey supported by ONS was conducted to help identify the diverse roles and functions of the Surgical Oncology APN.

Information about Surgical Oncology APNs is needed to assist in delineating their impact on nurse-sensitive outcomes, patient safety, patient satisfaction, evidence-based practice, cost-effectiveness, and value-added service. A literature review reviewed no information on the various roles and functions of the APN with a specialty in Surgical Oncology.

As part of an ONS Leadership Development Institute project an internet survey was developed, piloted, then emailed to all members of the ONS who designated a primary specialty of surgical oncology with a primary position of clinical nurse specialist or nurse practitioners in 2006. Data was collected from 45 questions. Respondents were given reminders to complete the survey which was online for 2 weeks.

A wide variety of specific areas were identified for APNs in the specialty of Surgical Oncology. Questions included collaboration with physicians, reporting mechanisms, billing and admitting privileges. Other areas of inquiry were analysis of time spent in the seven roles of the APN. Assessment of APNs involvement in patient safety initiatives, nursing-sensitive patient outcomes, professional practice, and contributions to the literature were obtained. Facilitators and barriers to the role of the APN were identified. Much information was gleaned that requires more inquiry for acknowledging and appreciating in an evidence-based fashion the roles and functions of the Surgical Oncology APN.

Defining the value-added service of the Surgical Oncology APN can influence an organization, professional practice, and consumers. Surgical Oncology APNs are a recognized, competent and integral member of the multidisciplinary team providing quality cancer care. More research is needed to link and document Surgical Oncology APN activities to positive patient outcomes as well as to demonstrate cost-effectiveness.

## 2840

COPING IN CANCER PATIENTS WITH A STOMA. Yun Jin Lee, RN, Severance Hospital Yonsei University Health System, Seoul, KR.

For cancer patients it has been suggested that a stoma is associated with the quality of life. It is important for cancer patients with a stoma to identify factors influencing coping to improve their quality of lives.

The purpose of this research was to assess coping in cancer patients with a stoma and to identify factors of cancer patients with a stoma influencing coping.

The Korean Cancer Coping Questionnaire (K-CCQ) was developed from the Cancer Coping Questionnaire (CCQ), which was designed to evaluate coping styles. It was translated and modified with the addition of 10 items.

The participants were 108 ostomates with rectalbladder cancer who were recruited by convenience sampling.

K-CCQ consists of a 20-items (range of scores 0-100) instrument that examines the individual coping (14 items- 3 Planning, 5 Active coping, 6 Positive reframing) and interpersonal coping (9 items) responses to cancer by using a 4-point scale. The mean, standard deviations and one-way ANOVA were conducted by using the SPSS 15.0.

There were 108 ostomates who were either ostomates with a colostomy (n=54), an ileostomy (n= 32) or a urostomy (n=22).

There was no significant difference in each coping scores according to sex, occupation, period after operation, and economic status.

The mean score for the Total Individual Coping was 49.99 points and for the Interpersonal Coping 52.64 points.

The scores of interpersonal coping according to demographic characteristics showed that there was a significant difference according to age ( $F = 2.687, p < .05$ ) and spouse ( $F = 4.116, p < .05$ ).

There was a significant difference according to the level of education ( $F = 3.329, p < .05$ ), age ( $F = 3.435, p < .05$ ) and family history ( $F = 12.129, p < .001$ ) in the Planning question as well as type of stoma (permanent/temporary) in the Positive Reframing question ( $F = 6.385, p < .05$ ).

These findings should be taken into consideration with those factors influencing coping for cancer patients with a stoma. Targeted tailored oncological nursing interventions for those patients are required to achieve effective coping and facilitate both individual and interpersonal coping skills for their quality of lives.

## 2843

**DEVELOPMENT OF A COMPREHENSIVE EVIDENCE-BASED MANAGEMENT AND PROFESSIONAL EDUCATION STRATEGY FOR ONCOLOGY PATIENTS AT RISK FOR CAROTID ARTERY RUPTURE.** Elizabeth Grahn, RN, BSN, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY, USA; Anne Bogan, RN, BSN, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY, USA; Laryn Cullen, RN, BSN, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY, USA; and Kathleen Schardien, RN, MSN, AOCN®, Memorial Sloan Kettering Cancer Center, New York, NY, USA.

Carotid artery rupture is a potentially life-threatening alteration caused by weakening of the arterial intima. At-risk patients include those with tumor invasion, presence of orocutaneous fistulae, wound contamination with bacteria and salivary secretions, malnutrition, artery exposure, and, most significantly, preoperative and intraoperative radiation. At this NCI-designated comprehensive cancer center, approximately 1200 head and neck surgical patients are treated annually, and an estimated 6 major bleeding events occur.

Having identified the need for a standardized management strategy for patients at risk for carotid artery rupture, we sought to develop an evidence-based guideline and define best nursing practice. Recognition of oncology nurses' need for enhanced knowledge and training resulted in the development of an education tool.

An exhaustive literature search was undertaken. Due to the emergent nature of this clinical event, levels one and two evidence were difficult to find. Expert opinions in wound care, nutrition, and head and neck surgery were sought. Clinical resources and guidelines from outside institutions and professional organizations, including the Society of Otorhinolaryngology and Head-Neck Nurses, were gathered.

Using the evidence, we developed a standard of care and nursing care plan, and an order-set that defined recommended interventions was created. Interventions included frequent monitoring of wounds/incisions for size, location, drainage, fistula formation and signs of infection; provision of expert wound care nurses; maintenance of additional intravenous access and an active type and screen for blood product transfusion as required, and prevention of Valsalva maneuvers with bowel regimens.

Comprehensive education was provided to all professionals.

Practitioners now have continuous access to the electronic order-set for efficient, accurate prescription of interventions. Dissemination of the education tool provides useful reference information for professional caregivers. Standardized interventions and precise communication between healthcare professionals is ensured through initiation of the order-set in the caregivers' electronic handoff system. A comprehensive education program assured center-wide implementation of the guideline.

This evidence-based project may provide a model for development of other guidelines pertinent to oncology nurses. Involvement of hands-on clinicians insured the project's relevance and success. The expanded knowledge may enable professionals to provide enhanced family education and psychosocial support.

## 2844

**STAGE-BASED MAMMOGRAPHY PROMOTION INTERVENTION FOR KOREAN AMERICAN WOMEN.** Jin Kim, PhD, RN, University of

Illinois at Chicago, College of Nursing, Chicago, IL, USA; and Usha Menon, PhD, RN, University of Illinois at Chicago, College of Nursing, Chicago, IL, USA.

Breast cancer is the most frequently diagnosed cancer among Korean-American (KA) women, and KA women present with larger tumor size and more advanced-stage cancer than Caucasian women, implying that the former adhere less to breast cancer screening. Immigrant KA women have higher breast cancer rates than women in their native country. Because early detection through routine screening contributes to a decrease in breast cancer mortality, the particularly low rates of adherence to breast cancer screening guidelines among minority subpopulations such as KA women is disconcerting.

To test a culturally relevant, stage-based, intervention titled GO EARLY, specifically designed to advance the stage of readiness for mammography use among non-adherent, KA immigrant women aged 40 years or older.

The KA Breast Cancer Screening Model (KABCSM) formulated by integrating the transtheoretical model of change (TTM) and the health belief model (HBM) guided the study.

A total of 300 KA immigrant women participated. The GO EARLY educational program was a 45-minute, stage-based, semi-structured, interactive session on breast cancer and early screening knowledge and beliefs for KA women grouped according to stages of readiness for mammography adoption (pre-contemplation, contemplation, or relapse). Each woman attended only one educational session arranged by her stage of readiness for mammography use. All constructs from the theoretical framework were touched upon in all sessions, and each stage-based group had different beliefs emphasized according to theoretical predictions. Each woman completed a baseline survey, attended a designated education session, and completed a follow-up post-intervention survey (6 weeks post-educational session).

Knowledge, perceived barriers, and perceived self-efficacy were statistically significantly different at baseline stages of readiness for mammography use. Education was effective in increasing knowledge and modifying perceptions about breast cancer and mammography use except perceived benefits for having a mammogram. A 6-week post-intervention time period for completion of mammography was insufficient time for KA women to go through the necessary steps for having a mammogram. The first stage-based educational program ever tested for KA women was culturally sensitive, had feasibility to implement in a KA community setting, and can be replicated in other KA communities in the U.S.

## 2846

**A DESCRIPTIVE, LONGITUDINAL STUDY OF QUALITY OF LIFE IN OLDER WOMEN WITH EARLY STAGE BREAST CANCER WITHIN THE FIRST YEAR OF POST-TREATMENT SURVIVORSHIP.** Victoria Loerzel, PhD, RN, OCN®, University of Central Florida, Orlando, FL, USA.

Quality of life (QOL) is recognized as an important outcome of cancer treatment. While there is abundant literature regarding QOL and breast cancer, there is a paucity of research regarding older breast cancer survivors. With the aging of the Baby Boomer generation, QOL research in older populations is particularly salient in order to understand the needs of this population.

There are 2 purposes of this paper: 1) describe changes in QOL in women, age 65 and older, with early stage breast cancer in the first year of post-treatment survivorship, 2) describe the effectiveness of a psychoeducational intervention on QoL in older survivors

The conceptual model of Quality of Life in Aging Breast Cancer Survivors was developed for this study.

This secondary analysis used a descriptive, longitudinal design. Data for this study were drawn from the Breast Cancer Education Intervention (BCEI) clinical trial, a psychoeducational support intervention for women with early stage breast cancer. Fifty women, age 65 and older, from the BCEI were assigned to an Experimental (EX) group or a Wait Control (WC) group and included in this sample. The Quality of Life-Breast Cancer survey measured QOL. Data were analyzed using descriptive statistics, t-tests, and Generalized Estimating Equation (GEE) methods at three time points. The variables of interest were overall QoL, Physical, Psychological, Social and Spiritual well-being.

Overall QOL and the 4 areas of well-being were reported as good at baseline. However, overall QOL, Physical and Psychological well-being



declined from Time 1 to Time 3. Social well-being improved at Time 2, then declined at Time 3. Spiritual well-being declined at Time 2, then improved at Time 3. T-tests indicated no differences between groups at any time point. GEE analysis indicated there was no treatment effect over time. Both groups reported a decline in QOL. However, the EX group reported less of a decline in QOL over time compared to the WC group.

Researchers may consider that although most interventions strive to improve QOL, attenuating the decline of QOL may be a desirable outcome in some populations.

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## 2854

**THE IMPACT OF HEAT ON THE INSERTION OF PERIPHERAL INTRAVENOUS (IV) CATHETERS IN A HEMATOLOGY/ONCOLOGY OUTPATIENT POPULATION.** Regina Fink, RN, PhD, AOCN®, FAAN, University of Colorado Hospital/Cancer Center, Aurora, CO, USA; Mary Cunningham, RN, BSN, OCN®, University of Colorado Hospital/Cancer Center, Aurora, CO, USA; Amiee Orf, RN, BSN, OCN®, University of Colorado Hospital, Aurora, CO, USA; Wendy Pare, RN, BSN, OCN®, University of Colorado Hospital, Aurora, CO, USA; Barbara Wenger, RN, BSN, OCN®, University of Colorado Hospital, Aurora, CO, USA; and Jennifer Zwink, RN, BSN, OCN®, University of Colorado Hospital, Aurora, CO, USA.

Hematology/oncology patients experience intravenous cannulation everyday. Not all IV insertions are successful; multiple attempts occur causing anxiety, discomfort, increased nursing time and costs. Many articles/guidelines offer suggestions for facilitating IV insertion; few are research-based. Local warming using dry heat facilitated IV insertion in leukemia patients, reducing number of attempts and nursing time. Oncology nurses use moist heat to assist with vein visualization; research is needed to determine its effectiveness.

To determine if moist versus dry heat, specifically local warming of the lower arm and hand, facilitates peripheral IV catheter cannulation in hematology/oncology outpatients.

A two group, randomized controlled clinical design was used. After consent, 128 subjects at the UCH Cancer Infusion Center were randomly assigned to one of two treatments, moist versus dry heat, using towels wrapped around the patient's arm for 7 minutes prior to intravenous cannulation. Towels were warmed to 175°F by using the Equipro Spacabi or Getinge warming cabinet. The Mon-a-therm Thermocoupler monitored skin and room temperatures pre and post warming. Two experienced chemotherapy nurses performed the venipunctures according to protocol using a 24 gauge angiocath. Outcome measures include: number of IV attempts, time to achieve intravenous cannulation post heating, patient anxiety using a VAS pre/post intravenous cannulation, and RN difficulty rating (0–10 cm numeric rating scale) of IV insertion. Data collection is complete; analysis is pending. Using a moderate effect size ( $d = 0.9$ ), power of .8, and familywise alpha set at 0.05 for each dependent variable (two tailed significance), a sample size of 128 subjects; 64 per group was used to detect a statistical difference. Temperature data, patient's self-report of anxiety, nurse's self report of IV insertion difficulty will be analyzed using t tests. 2 x 2 ANOVA will be used to analyze main effects between nurse and outcome, including the two nurses as an independent variable (with each having 32 patients in both moist and dry heat groups).

This study has the potential to delineate a successful protocol to improve the success of peripheral IV catheter cannulation, resulting in less anxiety and discomfort and improved satisfaction of oncology patients.

**Funding source:** The DAISY Foundation

## 2855

**PERIPHERAL NEUROPATHIES AND NEUROPATHIC PAIN IN CANCER PATIENTS TREATED WITH CHEMOTHERAPY.** Cindy Tofthagen, MSN, ARNP, AOCNP®, University of South Florida, Tampa, FL, USA; and Lois Gonzalez, ARNP, PhD, University of South Florida, Tampa, FL, USA.

Peripheral neuropathies are a common side effect of certain types of chemotherapy drugs, including thalidomide, taxanes, platinum-based drugs, and vinca-alkaloids. Neuropathies may last for months or years following treatment and can impact functional performance and quality of life. Re-

search studies examining how chemotherapy induced peripheral neuropathies (CIPN) affect the lives of individuals with cancer are needed.

The purpose of this study is to explore the effects of chemotherapy induced peripheral neuropathies and neuropathic pain on the lives of people with cancer. This study addresses pain and quality of life, two of the top 5 ONS research priorities for 2005–2008.

Phenomenology is the qualitative approach used to gain a deeper understanding of what people with CIPN experience and how symptoms affect their daily lives.

Participants are being recruited from an urban outpatient medical oncology clinic in west central Florida. Semi-structured, private interviews with 14 participants have been audio taped and transcribed. Interview transcripts and field notes were analyzed with the purpose of identifying common themes and patterns. Data collection will continue until information saturation is achieved. It is anticipated that a maximum of 30 participants will be needed to reach saturation.

Participants received paclitaxel, docetaxel, vinorelbine, oxaliplatin, or thalidomide for a variety of malignancies including lung, breast, colon cancer and multiple myeloma. Preliminary analysis of 14 interviews revealed that participants often had difficulty describing neuropathic symptoms but report simultaneous pain or discomfort and loss of sensation in the upper and lower extremities. Injuries secondary to numbness, muscle weakness, and loss of balance were frequently reported. Patients used a variety of coping methods and home treatments to try to alleviate symptoms. Participants voiced feelings of frustration, depression and loss of purpose as a result of having to give up enjoyable activities as a result of neuropathic symptoms. The results of this study emphasize the importance of ongoing assessment and communication with patients about their experiences with peripheral neuropathies. Knowledge of what patients with CIPN experience will guide nurses in suggesting interventions to promote safety and help alleviate physical and emotional symptoms.

## 2857

**NAUSEA AND VOMITING EXPERIENCED BY WOMEN WITH BREAST CANCER WHO UNDERGO SAME DAY PORT PLACEMENT AND CHEMOTHERAPY.** Muff Heffernan, RN, BSN, OCN®, Seattle Cancer Care Alliance, Seattle, WA, USA; and Donna Berry, RN, PhD, AOCN®, University of Washington School of Nursing/Seattle Cancer Care Alliance, Seattle, WA, USA.

Despite recent advances in antiemetic drug treatment, nausea and vomiting continue to be among the most distressing and common side effects of surgical anesthesia and cancer chemotherapy. Surgical placement of an implantable venous access device (port) on the same day as the first chemotherapy treatment for breast cancer is a routine practice associated with narcotic anesthesia. Prior research has shown narcotic medication administered during surgical procedures increases the risk of postoperative nausea and vomiting, particularly in women. Undergoing port placement surgery immediately prior to receiving highly emetogenic chemotherapy may increase the risk of nausea and vomiting. No published study to date, has evaluated these symptoms when surgery and chemotherapy are administered on the same day.

The purpose of this study is to compare the frequency and severity of nausea and vomiting with a woman's first chemotherapy treatment when she has undergone port placement surgery, and her second cycle when she receives chemotherapy alone.

The Human Response Framework (HRF) guided our approach to this research. In the HRF, multiple personal and environmental factors impact the individual human responses, in this case, the experiential response of nausea/vomiting.

Pending Internal Review Board approval, a consecutive-case retrospective chart review will be carried out at the Seattle Cancer Care Alliance. The study population will consist of the medical records of 63 women who have undergone surgical port placement and same day doxorubicin/cyclophosphamide chemotherapy.

The 29 item chart review tool has been developed from demographic, disease and treatment instruments used in surgical and cancer populations and has been reviewed for content validity. Either a paired t-test or Wilcoxon Signed Rank test will be used to compare the incidence of nausea and vomiting in the first and second chemotherapy cycles. This analysis strategy will allow participants to serve as their own controls. Study analyses will be completed by March, 2008.

The results of this study will contribute to the body of knowledge of treatment-related side effects in this patient population by describing the impact of surgical port placement on a woman's initial cycle of chemotherapy.

## 2860

**LEGIONELLA: ENVIRONMENTAL INFECTION RISK FOR CANCER PATIENTS.** Selma Kendrick, RN, MS, OCN®, Banner Good Samaritan Medical Center, Phoenix, AZ, USA; Kerry Montefour, RN, BSN, CIC, Banner Good Samaritan Medical Center, Phoenix, AZ, USA; and Eileen Simpson, MT (ASCP), Banner Good Samaritan Medical Center, Phoenix, AZ, USA.

Infection has been cited as the number one cause of death in cancer patients. The environmental risk of *Legionella pneumophila* is rarely monitored with approximately 2,000 cases occurring as nosocomial infections in healthcare per year. High risk patients are those most severely immunosuppressed and the CDC defines a nosocomial outbreak as 2 or more cases during a 6 month period.

A large hospital in the southwest identified several patients with the organism and identified the source as the water system. This paper will demonstrate the one year action plan in the remediation of the water system.

Patients were immediately restricted on water exposure; drinking, bathing, showering, and washing hands. This eliminated the aerosolization of the contaminated water, while at the same time decreasing the satisfaction of patients and increasing the workload of the nursing staff to find more creative ways to perform ADLs for their patients. The action plan involved superheating the entire water supply, flushing all faucets and showers, the installation of super chlorinators and copper silver ionization equipment. Interaction with multiple regulatory agencies included the CDC, the state and county health departments, and a private consultant. Full disclosure was made to all patients, the staff, the media, and the medical staff to promote a trust in the safety steps underway.

The expense of the year long remediation was \$400,000 excluding labor costs. The action plan was so thorough that neither CMS nor JCAHO identified any deficiencies after multiple surveys. Nine months after lifting the year long water restrictions no further cases have been identified.

Nurses caring for highly immunocompromised patients should be aware of the risk to patients of exposure to aerosolized water and provide education on reducing shower length, removing aerosolizers from faucets, and immediately reporting symptoms of pneumonia, fever, and cough to their healthcare provider.

## 2862

**INTEGRATING THE SPECIALITIES OF ANESTHESIA AND ONCOLOGY TO FACILITATE EXCELLENT ONCOLOGY PAIN MANAGEMENT.** Linda Vanni, RN, MSN, CS, Karmanos Cancer Center, Detroit, MI, USA.

Despite the development of pain management guidelines originating from medical and nursing specialties, the management of oncology pain continues to be an extreme challenge. As a patient's life expectancy increases, and adequate performance status constitutes criteria for cancer treatment, the need for excellent pain management with minimal side effects is essential. Utilizing interventional techniques, performed by Anesthesia pain specialists, may prove to be powerful tools in addition to standard comprehensive medical management of oncology pain. Taking into account the complexity of the oncology patient may preclude the Oncologist from referring the patient to Anesthesia for evaluation of an interventional technique.

The goal was to develop integration between the specialties of Anesthesia and Oncology to facilitate excellent oncology pain management. The under-utilization of advanced pain management techniques is prevalent due to lack of knowledge of their existence. It is essential, that the oncology nurse have a working understanding of these interventional therapies; with their advantages, disadvantages and side effects. Only then, can the nurse be the patient's advocate and safety net.

An advanced practice pain management nurse position was developed to bridge the gap between Anesthesia and Oncology, acting as a liaison for consultation with the Oncologists and oncology nursing staff. This position provides clinical oversight, education, support and communication. Education of both Anesthesia and Oncology residents, fellows and the oncology nursing staff has helped to promote safe, effective and efficient use of the advanced skills of anesthesia.

Oncology nurses play pivotal roles as patient advocates and educators. Increased safe and effective utilization of interventional therapies has occurred with the implementation of the role of the advanced practice nurse.

This evolving process of integration continues with the expansion of the relationship between the two specialties of Anesthesia and Oncology. With the help of oncology nursing, it is hoped that this relationship and respect for one another expand as new advances in pain management continue to develop.

## 2864

**CHALLENGING CONVENTIONAL WISDOM: BRINGING CRITICAL CARE TO THE PATIENT RATHER THAN THE PATIENT TO CRITICAL CARE.** Selma Kendrick, RN, MS, OCN®, Banner Good Samaritan Medical Center, Phoenix, AZ, USA; Amy Brown, RN, OCN®, Banner Good Samaritan Medical Center, Phoenix, AZ, USA; Bow Criddle, RN, BSN, OCN®, Banner Good Samaritan Medical Center, Phoenix, AZ, USA; Robin Gach, RN, BSN, CHTC, Banner Good Samaritan Medical Center, Phoenix, AZ, USA; and Sue Ann Kilgore, RN, BSN, OCN®, Banner Good Samaritan Medical Center, Phoenix, AZ, USA.

The Oncology Nursing Society has indicated through setting educational standards for nursing staff, including specialized chemotherapy and symptom management that the care requirements of cancer patients are unique. Unfortunately, at the time of greatest specialized oncology knowledge and support needs, critical patients in most institutions are moved to a general critical care unit. This practice removes a trusted staff member from patient/family; exposes the patient to increased medical errors due to miscommunication, and oncology specific symptom management can be overlooked.

A bone marrow transplant program in a large southwestern facility designed a new addition to the inpatient unit factoring in not only the environmental safety issues but the care safety issues involved when critical care patients are moved away from the specialized BMT staff.

Early interaction with the Department of Health licensing department assured all regulatory criteria would be met with the new design. The operational design had to meet care requirements for regular BMT, telemetry, and ICU while providing a caring, healing environment. Competency requirements had to be redesigned for staff to meet this continuum of care requirement. A model of mixing experienced ICU staff with experienced BMT staff required blending philosophies and beliefs of care (ex. restrictions vs. none for visitation), which became the most difficult barrier of all to overcome.

The ideal staffing model has taken three years of constant revision and support. Patient/family satisfaction has risen and patient outcomes have improved due to more rapid intervention with a declining condition. The model has been altered to maintaining the critical patient as a 1:1, and with the care requirement of CRRT a second nurse per patient can be added. Operational issues related to patient charges will be discussed. Major medication errors have decreased dramatically.

This model of care is the right model for patient care and patient safety. It is extremely difficult to implement and requires a committed flexible nursing staff and supportive management staff.

## 2867

**DEVELOPMENT OF AN EDUCATIONAL TOOL TO MANAGE MUCOSITIS IN PATIENTS RECEIVING CHEMORADIOTHERAPY FOR SQUAMOUS CELL CANCER OF THE HEAD AND NECK.** Carol Bell, RN, BSN, Stanford University Hospital Comprehensive Cancer Center, Stanford, CA, USA; Ninita Dimaranan, RN BSN, Stanford University Hospital Comprehensive Cancer Center, Stanford, CA, USA; Gail Moore, RN, BSN, Stanford University Hospital Comprehensive Cancer Center, Stanford, CA, USA; Jane Bryce, RN, MSN, National Tumor Institute De Pascale, Naples, IT; Kearney Ann, MA, CCC-SLP, Stanford University Department of Otolaryngology, Stanford, CA, USA; and Donna Healy RN, MSN, Stanford University Hospital Comprehensive Cancer Center, Stanford, CA, USA.

Patients with SCCN who receive radiation sensitizing chemotherapy experience frequent and severe oral mucositis, impacting patient nutrition and communication, and often occurring with severe pain, fatigue, and swallowing disturbances. Oncology nurses have a pivotal role in providing evidence-based (EB) patient education and symptom management. The Stanford University Comprehensive Cancer Center (SCCC) is a regional

referral center patients with SCCHN, but EB patient education standardized multidisciplinary clinical evaluation guidelines are lacking in our setting.

The main purpose of this project is to provide EB education on oral care for patients being treated for SCCHN at the SCCC, and to systematically document oral mucositis assessment, interventions and outcomes within the multidisciplinary team of nursing, oncology, radiology, nutrition, and speech/swallow therapy.

Following a nurse led multidisciplinary review of current EB guidelines for oral mucositis, an educational tool to teach an oral care protocol to reduce severity of mucositis was developed for patients with SCCHN, using expert opinion of ONS PEP oral mucositis resource card. Of many interventions studied to prevent or treat mucositis, not one has been identified that is uniformly effective. This structured oral care protocol, supported by all members of the multidisciplinary team starts when patients initiate treatment and is individualized for patients throughout the treatment period. Staff is being taught to use centralized documentation of oral assessment using the oral assessment guide, interventions according to PEP card, and clinical and functional oral mucositis outcomes using the Common Toxicity Criteria of Adverse Events.

Communication among the multidisciplinary team was enhanced through the process of developing an EB education tool, and created interest in system wide documentation changes. A follow-up audit will be conducted to verify clinician compliance with education and documentation, and to evaluate patient outcomes. A proposed pilot study of the impact of oral mucositis on symptom burden and the possible presence of a symptom cluster in these patients is also under development using the MD Anderson Symptom Inventory Head and Neck Module.

Oncology nurses are in a unique position to teach rigorous oral care and assess patients' understanding of the program. This goal of this simple and straightforward plan to systemize an oral care protocol is to use the best evidence to improve patient outcomes.

## 2869

**USING ONCOLOGY NURSING EDUCATION COUNCILS TO DEVELOP CONTINUING EDUCATION PROGRAMS.** Martha Kershaw, RN, BSN, OCN®, Roswell Park Cancer Institute, Buffalo, NY, USA.

In an era of nursing shortage, nurses are drawn to hospitals that recognize and support the value of continuing professional development. In addition, a key component for recruitment and retention is participatory management in which nurses have input into decision making.

In 2005, our hospital established Nursing Education Councils with nursing staff representation from all areas of the hospital. The council members began initially with a review of Nursing Orientation and as they developed into a cohesive advisory body, they expressed interest in developing continuing education programs for colleagues in the hospital and community.

This presentation is to describe the process used to develop and support the nursing staff from development of topic, selection of speakers, CEU application submission, implementation of the program, and evaluation of the entire process.

Once the topic of "Sexuality and Cancer" was selected, the councils wanted a multidisciplinary approach as reflected in the development of their objectives and evaluation. They looked internally and externally to the physicians, nursing staff, psychologists, social workers and cancer survivors in our hospital and surrounding community. The panel ultimately included a psychologist and cancer survivor, a nurse practitioner, a nurse and a social worker.

Each piece of the program implementation was handled by a council member from communicating with the speakers, developing the flyer, advertising internally and externally, and setting up the environment for the day of the program. Members of the council researched additional resources for the participants including a list of internet resources, brochures and pamphlets from cancer organizations. The CEU application submission was handled by the council chairs with the support of the Director of Nursing Education.

While the program was successful as measured by strong attendance and excellent evaluations, we can improve on the process. The topic should come from a survey of staff for their ongoing continuing education needs utilizing a Needs Assessment. Because we have an existing Needs Assessment tool, this will be implemented for the next program offering.

By involving staff nurses in the process of planning and development of continuing professional education, we will provide a more valuable learning experience.

## 2876

**A STUDY OF INFLUENCING FACTORS ON QUALITY OF LIFE OF FAMILY CAREGIVERS OF PATIENTS WITH LUNG CANCER.** Hwa Jeong Yang, RN, Asan Medical Center, Seoul, KR; and Won Hee Lee, RN, PhD, Yonsei University, Nursing Policy Research Institute, Seoul, KR.

Since 2001 lung cancer emerged as the leading cause of death among cancer patients in Korea. The investigation of influencing factors on quality of life (QOL) family caregivers may provide important information about their capacity for patients support. But there is little research about the QOL of family caregivers of patients with lung cancer. Cancer is family affairs in Korea and family caregivers play an important role in the support of patients during the continuum of care, the influencing factors on their QOL may be useful in planning supportive nursing intervention for family caregivers and patients with lung cancer.

The purpose of this study is to identify the influencing factors on QOL of family caregivers (primary, secondary, tertiary caregiver) of patients with lung cancer.

DESIGN: 1) Descriptive design, cross-sectional survey.

2) Sample: Convenience sample, 202 caregivers participated in the study.

3) Instrument: Family Caregiver Burden scale from Suh Mi Hae & Oh Ka Sil. Korean version of the Caregiver Quality of Life Index-Cancer from Yun Young Ho et al. Demographic data of the patients and the caregivers are collected.

Analysis: The analysis for data were done by SPSS Win 12.0 programs, descriptive statistic, Pearson's correlation coefficient, stepwise multiple regression are used.

The sample of 126 women and 76 men, primary caregivers were 115, secondary caregivers were 68, and tertiary caregivers were 19. The findings primary caregivers( $r = -0.752$ ) experience much higher burden and much lower QOL than the other caregivers( $r = -0.624$ ). QOL of caregivers and burden of caregivers were high negative correlations( $r = -0.737$ ). The strategies for nursing intervention which can reduce family caregiver burden to enhance QOL of family caregiver of patients with lung cancer should be developed.

## 2877

**TILTING AT WINDMILLS: DISCHARGE BY NOON.** Marie Swisher, MSN, RN, OCN®, The Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins Hospital, Baltimore, MD, USA; and Nancy Ruth, BSN, The Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins Hospital, Baltimore, MD, USA.

Anecdotal evidence suggested that the majority of patient admission, discharge, and transfer (ADT) activities occur late in the afternoon. Earlier discharges could decompress the workload. A multidisciplinary group (MDG), (physicians, nurses, utilization nurses, social workers, and pharmacists) convened to analyze our center's discharge process.

The purpose of this presentation is to describe the experience of this NCI designated Comprehensive Cancer Center in identifying variables that affect discharge time and to develop and implement a plan to improve the discharge process. Goals of this project were to achieve 15% of all discharges before noon and spread the ADT workload more evenly throughout the day.

A patient database ( $N = 62$ ) was developed to identify variables affecting discharges. Patient and caregivers were educated about this initiative on admission, and were offered an incentive of free parking on day of discharge. Staff incentives were provided to units achieving the goal.

Initial review of nine months of discharge data showed a 13% improvement. The following three months data were mixed, but still showed a greater than 10% improvement per unit. Initial improvement may have been associated with the Hawthorne Effect, the concept that change initially results in increased productivity. Feedback is provided to units and nursing coordinators by quarterly "report cards" detailing discharge, and unplanned/planned admission data. Physicians receive report cards after their inpatient rotation.

Six Sigma/Lean Sigma methodologies were useful to quickly identify variables that can affect the discharge process and focus the MDG who served as initiative champions. This effort reinforced the complexity of the discharge process for oncology patients, emphasizing that "it takes a village" to succeed. ADTs posted early in the day require diligence



from nursing coordinators, sending and receiving units, and the MDG. Oncology nurses, as patient advocates and often the only consistent members of the unit MDG need to assume the role of discharge champion. Oncology nurses must continue to tilt at the discharge windmill. This can be facilitated by engaging the MDG in the discharge process, addressing variables associated with discharge delays, and implementing and evaluating new strategies in the quest for timely discharges.

## 2878

**INITIATING A FALL REDUCTION PROGRAM IN AN ONCOLOGY INFUSION CENTER.** Phyllis Patterson, MS, RN, CS, AOCN®, University of Michigan Health System, Ann Arbor, MI, USA; Jody Giannotti, MSN, RN, AOCN®, University of Michigan Health System, Ann Arbor, MI, USA; and Janet Goldberg, RN, BSN, MSA, University of Michigan Health System, Ann Arbor, MI, USA.

Multiple risk factors place many cancer patients at risk for a fall. Much of the fall literature addresses hospitalized patients. We were charged with developing a fall reduction program for our ambulatory infusion centers. Our risk data showed that we had five falls per year. This is a small number in comparison to the number of patients who visit our center (750–800 per week), but the resulting injury can have a significant effect on a patient's and family's quality of life.

The goal for this project was to develop a fall reduction program that included a risk assessment tool (specific to oncology population), interventions, and patient and staff education.

After the fall risk assessment tool was developed, we piloted the tool in our five ambulatory infusion sites. Staff was educated about the fall reduction program.

Medical assistants were engaged in the first steps of data collection and RNs completed the assessment, chose the interventions and conducted the patient education. The hospital based patient education brochure indented to be used during the pilot, lacked specificity for ambulatory care patients and was excluded during the pilot.

Safe Management Services evaluated our work environment to identify any environmental hazards. Wheeled stools were relocated and storage areas provided for equipment.

A total of 1,762 patient assessments were reviewed. Of these, 16% had a history of falls. There was no correlation with any one risk factor and 42% had no other risk factor. Since analysis of the data shows no correlation of risk factors with a history of falls, we recommended managing all patients uniformly. A fall reduction standard of care was developed acknowledging the multiple risk factors of cancer patients.

A teaching tool was designed for ambulatory care patients addressing safety measures to follow during treatment, as well as at home follow-up treatment.

Recognizing that multiple risk factors place cancer patients at a greater risk for injury from falls, oncology nurses need to have an awareness of this risk. Oncology nurses will be able to use the information presented to help guide the development of their fall reduction program.

## 2880

**THE KOMEN MARYLAND AFFILIATE NURSING PARTNERSHIP: ADVANCING EDUCATION AND PRACTICE.** Nina Trocky, MSN, CNA-BC, CCRA, University of Maryland School of Nursing, Baltimore, MD, USA; Sandra W. McLeskey, PhD, RN, University of Maryland School of Nursing, Baltimore, MD, USA; Deborah B. McGuire, PhD, RN, FAAN, University of Maryland School of Nursing, Baltimore, MD, USA; and Abby Plusen, MSSW, University of Maryland School of Nursing, Baltimore, MD, USA.

A traditional nursing curriculum devotes minimal time to cancer in general and breast cancer specifically. Yet, 1 in 8 women will be diagnosed with breast cancer in their lifetime. Clinical courses are taught by overworked generalists who usually have limited expertise in oncology and must deal with an existing packed curriculum. As nurses and nursing students are often seen as health experts, they need to be equipped with adequate breast cancer knowledge. A cost-effective and evidence-based curricular change was vital to insure that breast cancer content in the nursing curriculum at University of Maryland School of Nursing (UMSON) was current and evidence-based.

The Komen Maryland Affiliate Nursing Partnership: Advancing Education and Practice enabled oncology nurse scientists to address this knowledge gap.

The UMSON received an educational grant from The Komen Maryland Affiliate. The grant identified five interrelated components addressing student, faculty and community breast cancer educational interventions: The Komen Visiting Professor, the Komen Scholar-in-Residence, the Komen Distinguished Lectureship, the Komen Conferees, and the Komen Educational Outreach. The Scholar in Residence (SIR) component resulted in sustainable and reusable web-based educational modules. Dr. Sandra McLeskey developed six educational modules containing evidence-based and scientifically rich content on breast cancer. Packaged as a unit, the six modules were integrated into undergraduate and graduate core courses.

Informal formative evaluations from students note an increase in knowledge post completion of the six web modules. Faculty identified core curriculum as being enriched through evidenced-based content.

Through the use of innovative teaching methods and unique community collaborations, the Komen Partnership has heightened the awareness, knowledge, and skills of nursing students about the current state of science concerning the prevention, detection, and treatment of people with breast cancer without taxing faculty members who are teaching a packed curriculum.

## 2884

**ADVANCED PRACTICE NURSES (APNs) AS CREATIVE "FIRESTARTERS": SPARKING A GRASS ROOTS CAMPAIGN TO EMPOWER ONCOLOGY NURSES BY DEVELOPING A PALLIATIVE CARE RESOURCE NURSE (PCRN) TEAM AT UNIVERSITY MEDICAL CENTER (UMC), TUCSON.** Susan Kay Bohnenkamp, MS, APRN-BC, CNS, CCM, University Medical Center, Tucson, AZ, USA; and Virginia LeBaron, ACNP-BC, AOCN®, ACHPN, University of Arizona College of Nursing, Tucson, AZ, USA.

Prior to October, 2006, University Medical Center (UMC) had no formalized palliative care services, despite its prominence as a leading medical institution and Comprehensive Cancer Center in the Southwest. To help nurses address the needs of patients and families coping with difficult illness, and as a preliminary step in establishing formalized palliative care services at UMC, APNs initiated a Palliative Care Pilot Project.

To create and train a cadre of specialized PCRN to advocate for optimal and holistic symptom management, serve as mentors and disseminate knowledge to colleagues, and identify patients as appropriate consults for a future palliative care service.

RN representatives selected from units throughout UMC and cancer center invited to attend an intensive 9 month palliative care training series based on the End of Life Nursing Education Consortium (ELNEC) curriculum. Training, conducted by UMC and community APNs, began March, 2007 with a presentation by Dr. Nessa Coyle, and continued monthly until November, 2007. Lunch and continuing education credit provided as attendance incentives. Educational sessions broadcast to health care providers in rural Arizona using telemedicine technology and archived electronically for future viewing on UMC public website. PCRN received formal recognition at a "graduation" ceremony and encouraged to join hospital palliative care committee (PCC) to participate in case presentations and journal club.

RN participants surveyed at pre-determined time-points to measure perceived comfort level with various palliative and end of life care competencies. Participants also evaluated each specific training session. Initial data analysis suggests extreme satisfaction with this training and increased confidence with palliative care competencies over time. Focus groups within the hospital-wide PCC established interest and potential content for future palliative care educational sessions.

The creation of the PCRN team by APNs will not only enhance the overall delivery of palliative care at UMC, but empowers oncology nurses with education and training to competently care for the sickest and most vulnerable patients and caregivers. This model of nursing palliative care education can be replicated by APNs at other medical institutions who wish to improve delivery of palliative care at the grass roots level.

## 2885

**STRATEGIES TO REDUCE CATHETER-ASSOCIATED BLOOD STREAM INFECTIONS: IMPLEMENTATION OF THE BIOPATCH IN THE ONCOL-**

OGY POPULATION. Amy Moore, MSN, RN, OCN®, Hospital of the University of Pennsylvania, Philadelphia, PA, USA; Margaret Pridgen, BSN, RN, Hospital of the University of Pennsylvania, Philadelphia, PA, USA; Deana Potts, MSN, CRNP, AOCNS®, Hospital of the University of Pennsylvania, Philadelphia, PA, USA; Mary Denno, MSN, RN, Hospital of the University of Pennsylvania, Philadelphia, PA, USA; Katie Smith, MSN, RN, Hospital of the University of Pennsylvania, Philadelphia, PA, USA; and Kelly McCunney, BSN, RN, Hospital of the University of Pennsylvania, Philadelphia, PA, USA.

Catheter associated blood stream infections (CA-BSIs) are a major cause of morbidity and mortality in oncology patients. Despite the risk of infections, the establishment of central line access for chemotherapy, blood products and medications is essential for the care of these patients. A literature review reveals that the Biopatch™, a chlorhexidine gluconate impregnated dressing is effective in reducing central line infections.

Implement the Biopatch™ with specific oncology guidelines in an effort to reduce catheter associated blood stream infections in the oncology population.

At the Hospital of the University of Pennsylvania specific guidelines for Biopatch™ use in the oncology population were developed. Oncology nurses on three medical oncology units received Biopatch education including hands on demonstration of the Biopatch™ placement procedure and review of the written guidelines. Guidelines included target population, exclusions for use, the dressing change application procedure, documentation of placement and assessment of Biopatch™, and instructions for discharge. Surveillance of correct Biopatch™ placement and use was conducted throughout the implementation phase. Monthly CA-BSI rates were followed.

Fiscal year quarterly data pre and post Biopatch™ implementation demonstrated a significant reduction in CA-BSIs in the oncology population on units utilizing the Biopatch™. Data collection is ongoing.

Evidence based management of central lines in oncology patients is essential to reducing morbidity and mortality associated with CA-BSIs in this vulnerable patient population. Existing evidence suggests that Biopatch™ is effective in reducing CA-BSIs. The implementation of the Biopatch required a literature review, nursing product & infection control approval, development and dissemination of guidelines and a plan for ongoing surveillance of CA-BSI rates.

## 2886

A MODEL TO INCREASE CLINICAL TRIAL ACCURAL. Christine Muir, RN, BSN, OCN®, National Institutes of Health, Bethesda, MD, USA; and Caryn Steakley, RN, National Institutes of Health, Bethesda, MD, USA.

Maintaining steady accrual of patients onto clinical trials is a challenge. Less than 5% of cancer patients enroll onto clinical research studies. A model was developed between a local, community based practice and the National Cancer Institute's (NCI) Intramural Program, Center for Cancer Research (CCR) to enable easy access to a large portfolio of clinical trials for their patients.

To develop a collaboration between a community-based oncology/hematology practice and a local center to increase patient accruals onto clinical trials.

A Memorandum of Understanding (MOU) between the two organizations outlined the expected roles and responsibilities. The NCI/CCR provides a full time research nurse to work in the community practice, equipment and supplies, data collection/monitoring (data manager), and oversight of the program. The community practice provides the patients and space to conduct information interviews and consenting discussions. Meetings are held bi-weekly between the two organizations to ensure open communication and discuss any issues that may arise. In addition, each month faculty from NCI/CCR visit the community practice and provide information pertaining to their clinical research programs. This provides a mechanism for the community based physicians to partner with the NCI faculty and have access to the most current research findings. The referral nurse and community physicians meet weekly to discuss potential patients, new protocols, study closings, and any other information needed to enhance the referral process. Data is collected weekly and shared between the two organizations to evaluate the effectiveness of this program.

After 13 months, there were a total of 155 patient referrals to the research nurse. Of those, 52 were ineligible for enrollment. 60 patient appointments at the NCI/CCR were scheduled with 30 (19%) patients enrolled onto a clinical research trial.

This model has been successful in increasing accrual to clinical trials and can be used as a prototype for other collaborations. This approach eases patient and physician stress, offers patients easy access to novel treatment options, and provides better communication between referring and treating physicians.

## 2888

ADVANCING THE PRACTICE OF CLINICAL RESEARCH NURSES: THE NURSE RESEARCHER ROLE. Jane Bryce, RN, MSN, AOCNS®, National Cancer Institute, Napoli, IT; Marzia Falanga, RN, BSN, S.G. Moscati Hospital, Avellino, IT; Mariagrazia Catapano, RN, BSN, Istituto Nazionale dei Tumori, Napoli, IT; Gianluca Catania, RN, MSN, Istituto Nazionale per la Ricerca sul Cancro, Genova, IT; Anna Maria Colussi, RN, Centro Riferimento Oncologico, Aviano, IT; Marianna Connola, RN, BSN, Istituto Nazionale dei Tumori, Napoli, IT; and Carol Bell, RN, BSN, Stanford Medical Center, Palo Alto, CA, USA.

Oncology Clinical Research Nurses (CRNs) in Italy are defining their advanced role competencies. Beyond advocate, educator, coordinator, and expert clinician is the attribute of nurse researcher.

Recent literature confirms the emergence of models for conducting nursing research within cancer cooperative groups (CCG) and transprofessional clinical research networks.

The purpose of this project is to promote the role of the CRN as nurse researcher within Italian CCGs.

CRNs from the two Italian CCGs identified priority areas of study through brainstorming, literature review, discussion with CCG leadership of ongoing and proposed protocols. The overarching theme of symptom research emerged with identified priorities: comparing symptom burden of different treatments and impact on global distress/QOL indicators; symptom clusters along the continuum of disease; pre-diagnostic symptom patterns and patient/clinician responses. CRNs planned to present a nursing research proposal to each CCG within six-month timeframe.

CRNs have proposed two studies to the CCGs:

Symptom burden and clusters in lung cancer patients. Purpose: To describe symptom burden and identify symptom clusters in patients receiving first-line chemotherapy versus biotherapy for advanced NSCLC. The Memorial Symptom Assessment Scale will be administered to patients at baseline and every three weeks during treatment. Symptom burden will be analyzed according to MSAS-SF scoring guidelines. Cluster analysis will be used to identify the presence of symptom clusters, according to the Miaskowski de novo concept of symptom cluster research.

Pathway to diagnosis of ovarian cancer (OC). Purpose: To describe the symptomatology and pathway to diagnosis of OC in Italian women. Directed patient interviews, completion of ovarian cancer symptom index, review of clinical documentation will be used to identify sentinel events and time intervals: onset of persistent symptoms, first physician visit, and diagnosis of OC. Interval actions will be categorized according to Andersen's "total patient delay" model. Logistic regression analysis will be applied to symptom index.

A key aspect of the advanced practice role is conducting nursing research. Identification of research priorities, protocol development, acceptance and transprofessional collaboration within CCG were important initial steps. Ongoing challenges will be the coordination, implementation and evaluation of these multicentered national projects.

## 2891

"WHAT'S OLD IS NEW" STRATEGIES TO CREATE AN ELDER FRIENDLY ENVIRONMENT ON AN ACUTE MEDICAL/ONCOLOGY/PALLIATIVE MEDICINE UNIT. Mary Eanniello, RN, MSN, OCN®, CHPN, Hartford Hospital, Hartford, CT, USA.

Significance and background: Approximately 60% of all cancers occur in patients older than age 65 and the number of aging Americans continues to grow. Health care providers in the hospital setting are charged to create an environment of patient safety and the geriatric oncology population poses a unique challenge to this patient centered goal. Hartford Hospital has been designated as a national NICHE (Nurses Improving Care for Healthsystem Elders) site.

Purpose: The goal of our Cancer Program has been goal is to develop a program to embrace the GRN (geriatric resource nurse) model as a framework for creating evidenced based care and interventions for our

geriatric oncology patients. The GRN model utilizes the unit based GRN to role model mentor and teach evidence based assessments and interventions for our geriatric hospitalized patient. The GRN group on the medical oncology floor has created multiple avenues to identify these unique patients and to share knowledge and clinical expertise related to their develop appropriate nursing care plans.

**Interventions:** The plan provides multiple opportunities for patients to benefit from the GRN's specialized geriatric training. Interventions include a monthly Geriatric Oncology Journal Club, a unit based research project describing the incidence of delirium in the geriatric cancer patient, a geriatric oncology bulletin board, a hospital website dedicated to the care of the geriatric patient, yearly GRN retreats, quarterly continuing education luncheons, participation in AJN video on use of the CAM as a tool for detection of delirium, and a Wellness Workout program aimed at mobilizing hospitalized patients,

**Evaluation:** The program is evaluated through safety statistics and patient satisfaction surveys. The results of the CAM research data are pending. The unit fall rate has consistently improved using recommended interventions. The unit has developed a culture of being "elder friendly" at the bedside to increase patient safety and to maintain function for the elderly oncology patient.

**Discussion:** Our challenge is to help our geriatric patients live each day to its fullest. The interventions empower our nursing staff to deliver care using evidence based interventions.

## 2894

**ASSESSMENT OF THE CHALLENGES OF ORAL CHEMOTHERAPY ADHERENCE IN ADULT ONCOLOGY PATIENTS.** Marsha Fonteyn, RN, PhD, OCN®, Dana-Farber Cancer Institute, Boston, MA, USA; Leslie Spenser, RN, OCN®, Dana-Farber Cancer Institute, Boston, MA, USA; and Anne Gross, MS, RN, CNA, Dana-Farber Cancer Institute, Boston, MA, USA.

Oral Chemotherapy is increasingly being prescribed to treat a number of cancer diseases, yet the range of challenges associated with adherence to this type of therapy have not yet been fully described or addressed. Members of the Nursing Practice Council at our NCI-Designated Cancer Center developed a patient questionnaire assessing issues associated with adherence to oral chemotherapy that patients could complete while waiting to be seen for an appointment.

Our purpose was to develop an evidence-based survey tool to identify problems or issues associated with adherence to oral chemotherapy that was comprehensive yet easy for patients to complete at the time of an appointment in our facility.

After a thorough review of the literature and perusal of several published oral adherence survey instruments, we developed a 24-item questionnaire to collect information about adherence issues in three broad areas: medication knowledge and understanding, medication management, and medication procurement; as well as general demographic data. The questionnaire was reviewed and assessed for face and content validity by nurses, physicians, pharmacists and patient and family members at our institution. In addition a study team of nurses from 3 other NCI Designated Cancer Centers provided feedback on the questionnaire.

After numerous revisions and improvements, we have created what we believe to be a useful and feasible assessment tool. We have received IRB approval to pilot-test the instrument by recruiting 30 adult oncology patients to complete it. Eligibility requirements will include: (off-study) oral chemotherapy for a minimum of one month (10 each from 3 disease groups: Thoracic, GU, Breast).

Our survey tool may be useful to oncology nurses from a variety of practice settings who care for patients receiving oral chemotherapy. Our questionnaire will provide information that will give further understanding of the issues associated with patients' adherence to oral chemotherapy.

## 2896

**INTERVENTIONS TO MANAGE COMPASSION FATIGUE IN ONCOLOGY NURSES.** Nancy Aycock, RN, BSN, OCN®, CHPN, St. Dominic Jackson-Memorial Hospital, Jackson, MS, USA; and Deborah Boyle, RN, MSN, AOCN®, FAAN, Banner Good Samaritan Medical Center, Phoenix, AZ, USA.

Work-related stress associated with close interpersonal patient/family relationships may result in emotional, physical, social, and spiritual du-

ress in oncology nurses. Historically, this phenomenon has been termed "burnout." However, recent deliberation has resulted in the suggestion that more appropriate nurse-specific terminology be used to describe this phenomenon, namely "compassion fatigue." While the risk factors, causality, defining characteristics, and prevention of compassion fatigue require in-depth investigation, the scope and nature of existing strategies to manage its prominence can be discerned.

The goal of this survey was to identify available workplace resources to counter the negative sequelae of compassion fatigue.

A literature search targeted the topics of compassion fatigue, secondary post-traumatic stress, professional friendships, vicarious trauma, cumulative grief, soul pain, moral distress, and existential suffering in oncology nurses. Three themes from the literature formed the basis for survey development.

1. Accessibility to onsite resources
2. Provision of education
3. Availability of retreats

Surveys were sent to 243 ONS local chapter presidents requesting at least one response be completed and submitted per chapter.

A 42% response rate was achieved with 103 of the 243 chapters participating. Employee Assistance Programs and pastoral counseling were the onsite resources most commonly noted by respondents. While one in five nurses (22%) reported access to psychiatrically-trained staff, numerous barriers interfered with consultative use of these colleagues. Nearly one-half of respondents (45%) had no access to education targeting knowledge and skill development in coping and self-care. Retreats were rarely offered.

While the scope of compassion fatigue in oncology nurses is unknown and its effects on nurse retention unquantified, conventional wisdom attests to this phenomenon's prominence. It's potential in deterring thousands of oncology nurses' pursuit of professional longevity must become a national agenda.

## 2901

**THE UNIQUE ROLE OF THE NURSE EDUCATOR IN AN INNOVATIVE NEW GRADUATE NURSE INTERNSHIP PROGRAM.** Susan Sartorius-Mergenthaler, BSN, Johns Hopkins Hospital, Baltimore, MD, USA; Janice Hoffman, RN, PhD, Johns Hopkins University School of Nursing, Baltimore, MD, USA; and Jeannette Sufliata, MA, MS, Johns Hopkins Hospital, Baltimore, MD, USA.

New graduate nurses, at an NCI designated comprehensive cancer, are particularly vulnerable to high levels of stress to meet the physical, psychosocial and emotional challenges of patient care. In this high acuity environment, these challenges can negatively influence job satisfaction and lead to nurse turnover. The Social and Professional Reality Integration for Nurse Graduates (SPRING) Program offers an intensive socialization and education experience to support and enhance the new graduate nurse's transition into their first professional role.

Program goals include decreasing attrition of new graduate nurses and providing a structured, skills-intensive learning experience to complement clinical orientation facilitating full productivity in a controlled and supportive environment. With focus on early socialization and support of the new graduate, the Oncology SPRING Nurse Educator (OSNE) is integral to program success.

The SPRING Program augments the Departmental Orientation Program, by providing ten classes through out the first year that focus on communication, psychomotor and critical thinking skills. In addition to the seminars, the OSNE makes regular clinical rounds to the SPRING Intern to support their transition and professional development. As an expert in the orientation and professional development of the new graduate nurse, the OSNE also provides consultation to nurse managers and preceptors.

Coaching and mentoring by the OSNE supports the interns in early problem identification. This results in candid conversations about role transition issues: coordinating care for groups of patients, communicating with preceptors, scheduling issues, balancing home and career, identifying family and personal concerns, and addressing issues of accountability and responsibility. Since the SPRING program's implementation in 2002, 101 new graduates have successfully completed the program, representing an 81.0% retention rate within their first year.

The Nurse Educator with expertise in the clinical area is an essential component of this program. Dedicated to supporting the intern, this



educator provides timely, ongoing progress checks, continuous feedback and problem-solving interventions. The OSNE plays an integral role as liaison between interns, preceptors, unit educators and nurse managers. This personalized support helps to promote and foster a new graduate nurse's sense of identity, belonging and commitment to the unit.

## 2902

**POOR SLEEP QUALITY AND MOOD DISTURBANCES IN PATIENTS WITH ADVANCED LUNG CANCER.** Grace Dean, PhD, RN, SUNY University at Buffalo, Buffalo, NY, USA; Ann E. Rogers, PhD, University of Pennsylvania, School of Nursing, Philadelphia, PA, USA; Lynn Steinbrenner, MD, VA Western New York Healthcare System at Buffalo, Buffalo, NY, USA; Suzanne Dickerson, DNS, RN, SUNY University at Buffalo, Buffalo, NY, USA; and Nalaka Gooneratne, MD, University of Pennsylvania, School of Medicine, Philadelphia, PA, USA.

Few researchers have examined sleep disturbances in patients with cancer as a primary variable. Depression and anxiety are common responses to a cancer diagnosis, especially near the end of life, and are associated with disturbed sleep.

The purpose of this study was to examine the impact of mood disturbances on sleep quality in advanced lung cancer.

The Two Process Model of Sleep Regulation guided this study.

Participants were recruited from VA Clinics in Philadelphia and Buffalo. Participants completed the Pittsburgh Sleep Quality Index, the Hospital Anxiety and Depression Scale, and questions on demographics, stage of disease and treatments. Descriptive, correlational analyses were utilized.

Among 38 participants, the mean age was 62 years ( $SD = 9.3$ , Range = 47–84), with 97% male, 58% African American, 84% with nonsmall cell lung cancer and 76% received both chemotherapy and radiotherapy. Participants spent 7.6 ( $SD = 1.9$ ) hours in bed, but only 5.6 ( $SD = 1.7$ ) hours asleep; they thus had a markedly low sleep efficiency of 74%,  $SD = 24\%$  (normal  $> 85\%$ ). Mean sleep latency was 37 minutes,  $SD = 31$  (normal  $< 15$  minutes). Mean overall global sleep quality was 8.9 ( $SD = 4.2$ ) with 76% of the sample above the clinically significant cut-off score of five. The majority of participants (76%) rated their sleep quality better than all the component scores except for one-daytime dysfunction-indicating a misperception of poor sleep. Mean anxiety score was 6.1 ( $SD = 4.4$ ) with 8% reporting significant anxiety ( $> 10$ ). Mean depression score was 5.4 ( $SD = 3.7$ ) with 8% reporting significant depression ( $> 10$ ). There were no significant correlations between sleep quality and demographics, disease and/or treatment factors. Marital status was negatively related to anxiety ( $r = -0.39$ ;  $p = 0.018$ ) while global sleep quality was positively related to anxiety ( $r = 0.37$ ;  $p = 0.026$ ). Data suggest that anxiety was related to poor sleep quality and that poor sleep quality is common but under-recognized by participants. Further investigation is warranted using more objective measures to examine the nature and impact of sleep problems in this population. Data collection is ongoing.

## 2904

**INTERVENTIONS TO PREVENT AND TREAT ANXIETY: A REVIEW OF THE EVIDENCE AND IMPLICATIONS FOR PRACTICE.** Susan Swanson, RN, MS, AOCN®, Harris Methodist Fort Worth Hospital, Klabzuba Cancer Program, Fort Worth, TX, USA; Amy Dolce, RN, APN, MS, AOCN®, CHPN, Arlington Heights, IL, USA; Kathy Marsh, RN, Arlington Heights, IL, USA; Julie Summers, RN, BSN, Harris Methodist Fort Worth Hospital, Fort Worth, TX, USA; and Lisa Kennedy Sheldon, PhD, ARNP, AOCNP®, NH, USA.

Anxiety is a common response to the diagnosis and treatment of cancer. The prevention and treatment of anxiety has historically been a focus of oncology nursing. Professional nursing is guided by evidence-based practice (EBP), employing research-based evidence into clinical practice. The Oncology Nursing Society sponsored the Putting Evidence Into Practice (PEP) teams to determine EBP for common problems in oncology such as anxiety.

The purpose was to conduct a systematic review of the literature to determine the evidence for effective interventions to prevent and treat anxiety in adults with cancer.

A literature search for the past five years was conducted using CINAHL, PsycINFO, and PubMed databases, with the search terms: cancer,

oncology, neoplasms, and anxiety. Research regarding pharmacotherapy was reviewed for the previous twenty years. The evidence was assigned to hierarchical levels (ONS PEP Weight of Evidence) regarding the strength of the findings. The evidence supported psychoeducational interventions to prevent and treat anxiety including orientation programs, patient-centered education materials (written, video and audiotapes), and education regarding self-care strategies. The evidence also supported the use of psychosocial interventions such as cognitive behavioral therapy, individual/group counseling, and support groups. Pharmacotherapy was likely to be effective but few studies had sufficient sample sizes to determine the most effective agents despite a review of the literature extending back twenty years. However, expert opinion (NCCN Guidelines for Distress) supports the use of psychosocial interventions with/without pharmacotherapy for the treatment of anxiety. The effectiveness of many therapies such as complementary and alternative medicine (CAM), art therapy, distraction, meditation, reflexology, massage, reiki, breathing exercises, and therapeutic touch has not been established.

Evidence supports the use of psychoeducational and psychosocial interventions to prevent and treat anxiety in adult oncology patients. The types of interventions varied between studies. Expert opinion supports the use of pharmacologic agents in conjunction with psychosocial interventions for the treatment of anxiety and distress but the most effective agents have not been identified.

Psychosocial and psychoeducational interventions with or without pharmacologic agents are useful in the prevention and treatment of anxiety in adults with cancer.

## 2905

**ONCOLOGY NURSES AS KEY STAKEHOLDERS IN DEVELOPMENT AND IMPLEMENTATION OF STATE CANCER CONTROL PLANS.** Bonnie Miller, RN, BSN, OCN®, Fox Chase Cancer Center/Fox Chase Cancer Center Partners, Philadelphia, PA, USA; Evelyn Gonzalez, MA, National Cancer Institute: Cancer Information Service, Philadelphia, PA, USA; Kathryn Stadler, PAC3, Pittsburgh, PA, USA; Joyce Grater, MSW, University of Pittsburgh, Pittsburgh, PA, USA; Brenda Kluhsman, MSS, PhD, Appalachia Community Cancer Network, Hershey, PA, USA; and Margaret O'Grady, RN, MSN, OCN®, Fox Chase Cancer Center, Philadelphia, PA, USA.

Oncology nurses have an opportunity to be key stakeholders in the development and implementation of their own state's cancer control plan. The Pennsylvania Cancer Control Consortium (PAC3) is a unique partnership among the public, private, and voluntary sectors across the commonwealth to assess the cancer control priorities. PAC3 membership includes 112 oncology nurses who bring clinical expertise to assist in the mission of reducing the human and economic burden of cancer for all citizens.

As part of the development and implementation of the state cancer control plan, the oncology nurse can assist in creating synergy across organizations, engage in dialogue and decision making with other key stakeholders, access resources and expertise in all areas of cancer control, participate in identifying, developing, implementing, and evaluating successful cancer control models.

In Pennsylvania, the planning and implementation of the Pennsylvania Comprehensive Cancer Control Plan is guided by five implementation teams addressing the cancer continuum, one of which is the Quality of Life (QOL) team. In 2006, the American Alliance of Cancer Pain Initiatives awarded the state a C+ grade in pain management. The QOL Team embarked on a project to develop a tool to improve communication between healthcare providers and patients regarding pain management.

Project goals and objectives were developed using evidence-based practice models to support the effort. An assessment instrument was designed along with the tool for field testing among health care providers, patients and caregivers. Data was collected and analyzed and appropriate modifications were instituted. Current efforts are focused on a state wide dissemination plan which includes PAC3 members, local ONS chapters, physicians, and Wellness Communities.

Oncology nurses play a critical role in the implementation of state cancer control plans. In addition to expertise in clinical care, oncology nurses lend keen insight into institution practice of state initiatives and/or program.

As leaders in oncology practice, oncology nurses can have a voice regarding cancer care and prevention on a state level.

## 2907

**EFFECTIVENESS OF GONADOTROPIN-RELEASING HORMONE AGONISTS IN PREVENTION OF OVARIAN FAILURE IN FEMALE CANCER PATIENTS: UPDATE ON CURRENT PRACTICE AND REVIEW OF LITERATURE.** Monica Gilliam, MSN, APRN, BC, CNS, Genentech USA BioOncology, San Francisco, CA, USA.

Significance and background: Premature ovarian failure (POF) is side effect of chemo in female (F) cancer patients (pts) of childbearing age. Risk factors are older age, multiple chemo, alkylating agents, or pelvic radiation. POF refers to the loss of fertility and loss of estrogen production of the ovaries.

Purpose: GnRH-a have shown effectiveness in decreasing POF & preserving fertility. GnRH-a can induce ovarian shutdown, decrease follicular insult, & preserve ovarian function (OF). The purpose is to evaluate current evidence-based practices as well as review current options available to F cancer patients.

Methods: A review of literature was performed utilizing PubMed with key words of fertility, cancer treatment, GnRH agonists, ovarian failure, ovarian preservation. 18 articles discussed ovarian preservation, fertility options, rate of infertility, administration, effectiveness, tolerability, & success of contraception with GnRH-a.

Evaluation: The literature emphasizes the role of GnRH-a in OF by inducing a prepubertal state. Achieving prepubertal state prior to chemo has benefit in preventing POF. 90 pts injected with Qmos GnRH-a vs 100 pts in control (age 14–40) without GnRH-a. < 7% in GnRH-a group vs 50% in control had POF. Similar efficacy in 56 F pts age 14–45. 30 pts received GnRH-a 1–2 weeks prior & Q4wk intervals. Serum E2 & inhibin B levels were measured to mark ovarian recovery. 27 of 30 in GnRH-a group returned to normal menses in 4–30 wks. One achieved pregnancy. 20 of 26 in control developed POF.

Discussion: GnRH-a is effective in preserving OF in F cancer pts. Eligible F pts are not routinely being offered GnRH-a. Certain factors have prevented option of GnRH-a therapy i.e lack of insurance coverage, knowledge of benefits, prior chemo in relapsed setting. Discussion of appropriate time to initial dosing, frequency & age at diagnosis has a direct correlation with rate of POF. In conclusion, GnRH-a are effective in preserving ovarian function & should be considered for F cancer patients prior to chemo.

## 2909

**IMPLEMENTATION OF AN ONCOLOGY NURSE INTERNSHIP TO IMPROVE RECRUITMENT AND RETENTION.** Mary-Jean Austria, RN, BSN, OCN®, Huntsman Cancer Hospital, University of Utah, Salt Lake City, UT, USA; and Susan Childress, RN, MN, OCN®, Huntsman Cancer Hospital, University of Utah, Salt Lake City, UT, USA.

As a result of an LDI project, an Oncology Nurse Internship program was developed to address several needs at an intermountain cancer hospital: a nursing shortage, a lack of experienced oncology nurses, and the desire to expand nursing orientation beyond the unit level. An extensive literature review and examination of several cancer hospitals with intern programs revealed that both recruitment and retention were enhanced in institutions that supported internship programs.

The Internship's intention is to improve recruitment and retention by increasing competence and subsequently, confidence in novice oncology nurses.

Program structure was determined by a collaborative workgroup of nurse managers, nurse educators and staff nurses. Following a literature review and an online staff survey, budgetary support was approved.

With the commitment of resources for a trial class, the curriculum was developed and the program advertised through nurse recruitment. A 16 week comprehensive orientation was implemented that focused on didactic and clinical instruction that examined all aspects of the patient's cancer experience. Clinical rotations included four week rotations through BMT, medical, and surgical oncology as well shift rotations in various outpatient clinics. Didactic was provided by various members of the multidisciplinary team from specialty areas. Information was summarized and reviewed by discussion, case studies, and exams.

The internship program was successfully implemented.

An ongoing evaluation of intern, preceptor, and coordinator performance, presenter effectiveness, and program merit was conducted. As a result of evaluations, curriculum and selection process were modified. RN turnover rates will continue to be evaluated on a quarterly basis.

Examination of the efficacy of an internship program to yield competent oncology nurses and as a consequence, positively impact recruitment and retention is a worthwhile expenditure of resources.

## 2911

**TAKING THE MYSTERY OUT OF RECEIVING BONE MARROW TRANSPLANT (BMT): DEVELOPING AN ORIENTATION PROGRAM.** Tracy Krimmel, RN, MSN, AOCN®, APN-C, Cancer Institute of New Jersey, New Brunswick, NJ, USA; and Leah Scaramuzzo, MSN, RN, AOCN®, Cancer Institute of New Jersey, New Brunswick, NJ, USA.

Over the past few years, a newly developed BMT program at an NCI-designated Comprehensive Cancer Center has experienced significant growth. Patients and families must learn and retain highly technical and complex information about the BMT process and self-care management interventions. Failure to comprehend this information may result in poor outcomes. Current nursing practice is to provide one-one education with each new patient. However the growth in patient population has led to time constraints making it difficult to offer in-depth teaching.

The purpose of developing the program was to provide patients/families with an overview of the BMT process, evidence-based self-care strategies, and support resources using adult-learning principles. Literature suggests formal classes are a successful strategy to standardize teaching, maximize time spent with the nurse, and facilitate patient networking opportunities with others facing transplant. Evidence demonstrates effective education fosters treatment compliance, promotes early recognition of adverse events, improves clinical outcomes, decreases healthcare expenditures, and empowers patients to become active participants in their healthcare.

Oncology nurses identified a lack of patient information regarding the actual treatment phase of transplant when benchmarking with other BMT patient education programs. A curriculum was designed that included information on pathophysiology, types of transplant, eligibility criteria, donor specifics, conditioning regimens, reinfusion, side effects and management, survivorship issues, roles of the healthcare team, and support resources. Patients and families are required to attend a class presented by various members of the multidisciplinary team and given a resource book with printed materials to reinforce content.

The program is set to launch January 2008 and has been well received by the multidisciplinary team. A written evaluation will be completed by all participants at the conclusion of the class. Responses will be reviewed and appropriate modifications will be made.

Awareness was raised among national organizations about the lack of multi-media educational materials regarding the actual treatment phase of BMT. This program template promotes effective and efficient use of limited resources. Oncology nurses can implement a similar didactic in their setting for various patient teaching concepts.

## 2912

**MANAGING NEUTROPENIA IN OLDER CANCER PATIENTS RECEIVING CHEMOTHERAPY IN A COMMUNITY SETTING.** Irene Flores, RN, OCN®, Institute for Advanced Studies in Aging, Gaithersburg, MD, USA; and William Ershler, MD, National Institute in Aging, Gaithersburg, MD, USA.

Approximately two-thirds of patients with cancer are 65 years of age or older. Although older patients can benefit from receiving the standard doses of chemotherapy offered to younger patients, many believe that this is not possible because of the risk of toxicities, including that of febrile neutropenia (FN). Older patients may benefit from prophylactic use of colony-stimulating factors (CSFs) to reduce the risk of FN; however, CSFs are often used reactively in clinical practice in response to severe or febrile neutropenia.

IASIA in affiliation with The Geriatric Oncology Consortium participated in a large, multicenter study designed to compare the rates of FN in patients who received pegfilgrastim from the first cycle of chemotherapy with those who were treated with pegfilgrastim in subsequent cycles reactively.

As the population ages, the elderly will represent an increasing proportion of those treated for cancer. Nurses play an important role in implementing strategies to promote best supportive care for these patients. Data from this study suggest that older patients can receive standard doses of myelotoxic chemotherapy when pegfilgrastim is used from the first cycle to reduce the incidence of febrile neutropenia.

Patients of at least 65 years with either solid tumors or non-Hodgkin lymphoma were randomly assigned to receive pegfilgrastim from their first chemotherapy cycle, or after the first cycle in response to neutropenic events. The number of patients experiencing FN (defined as absolute neutrophil count [ANC] <1 x 10<sup>9</sup>/L and temperature ≥38°C occurring on the same day) in each group was assessed. The inclusion criteria for this study were specifically designed to be inclusive of older patients and, unlike most traditional clinical studies, allowed patients to enroll with comorbidities.

This multi-center trial enrolled 852 patients at oncology practices across the United States. Approximately two-thirds of patients were aged 70 years or older. Patients who received pegfilgrastim from their first cycle of chemotherapy were less likely to experience FN than those receiving pegfilgrastim reactively in later cycles. Prophylactic pegfilgrastim use also reduced hospitalizations due to neutropenia and febrile neutropenia by approximately 50%.

**Funding source: Amgen**

## 2913

**NURSING IMPLICATIONS FOR mTOR INHIBITION THERAPY.** Nancy Gardner, PhD, RN, ANP, B-C, Rutgers University, Newark, NJ, USA.

Neuroendocrine tumors (NETs) are uncommon tumors that arise in various locations in the body. Although often indolent, most are metastatic at diagnosis and generally are resistant to treatment with conventional cytotoxic chemotherapy. Historically, treatment has been limited to palliative surgical debulking and symptom control. Molecular targeted therapies such as mammalian target of rapamycin (mTOR) inhibitors are being investigated for the treatment of NETs. The biology of cell-signaling pathways is challenging for most nurses. The average prelicensure nursing curriculum does not include courses in molecular biology or medical genetics, yet nurses are required to understand the mechanism of mTOR inhibitors well enough to provide knowledgeable guidance and education to patients.

The goals of this presentation are to

1. Increase nursing knowledge in the biology of mTOR cell signaling and the mechanisms of action of mTOR inhibitors.
2. Increase nursing competence in managing the care of patients with NETs undergoing treatment with mTOR inhibitors.

The educational intervention will utilize visual educational materials, including diagrams and flow charts, that clearly and concisely describe intracellular communication, abnormal signaling in the mTOR pathway associated with the development and spread of NETs, and the mechanisms of action of mTOR inhibitors. The clinical pharmacology materials will include an algorithm to guide management of side effects and a guide for patient education that targets barriers to compliance.

Nurses will demonstrate increased confidence and competence in their knowledge of and communication to patients regarding mTOR signaling in the development and spread of NETs and the mechanism of action of mTOR inhibitors. Nurses will demonstrate competence in properly identifying and triaging patients for appropriate treatment of side effects, with a decrease in the number of patients who are noncompliant with their therapy.

By focusing on competence in understanding cell signaling related to NETs and the mechanism of action of mTOR inhibitors, the nurse will be better prepared to address the educational needs and clinical management of patients with NETs.

## 2915

**WHEN ONLY ONE PATIENT CAN ENROLL: DEVELOPMENT OF AN ETHICAL PATIENT SELECTION SYSTEM IN PHASE I CLINICAL TRIALS BY ONCOLOGY RESEARCH NURSE CLINICIANS.** Cecilia Thomas, BA, RN, OCN®, The Cancer Institute of New Jersey, New Brunswick, NJ, USA; Stephanie Beers, BSN, RN, OCN®, The Cancer Institute of New Jersey, New Brunswick, NJ, USA; Phaedra Kirin, BSN, RN, OCN®, The Cancer Institute of New Jersey, New Brunswick, NJ, USA; Patrick Hill, PhD, The Cancer Institute of New Jersey, New Brunswick, NJ, USA; and Eric Rubin, MD, The Cancer Institute of New Jersey, New Brunswick, NJ, USA.

Phase I Clinical Trials (P1CT) identify the dose and adverse effects of novel anticancer agents, and are administered with therapeutic intent in the oncology population. Typically, only 1 to 3 patients are accrued per dosing cohort and multiple cancer center sites may compete for "slot" allocation.

Often there are more interested patients than openings, creating perceived competition for each slot. Several P1CT programs throughout the US were contacted and were found to have a "first-come, first-served" method of accrual, but no specific ethical or other guidelines were utilized.

Define a fair, ethical and efficient system to manage an imbalance of clinical trials (CT) candidates to number of available CT openings.

Selection criteria is grounded in principle of justice in that patients with similar clinical conditions should be treated equally, not first come first served. A Bio-ethicist was included in the team developing the following.

- Eligible patients are grouped by 3 week intervals, based on when they first received a consent (analysis of intake/scheduling data revealed average initial patient visit wait of three weeks).
- When opening becomes available, "lottery"/selection process is initiated by listing waiting/eligible patients alphabetically and applying the Excel random number generator program. The patient with the highest number is enrolled first.
- Patients not selected for enrollment cohort can choose other treatment options or are guaranteed a slot for next cohort.
- Team leader (MD) describes selection system process to internal/external referring MDs.

Referring MDs and potential patients are informed as early as possible when a possible "lottery" situation exists. This assists patients in treatment decision-making, having realistic expectations of treatment and time frames, and they consistently report feeling this process is fair. Neither referring MD's nor patients feel that they must "sell" their case in order to receive a slot allocation.

Research Nurse Clinicians (RNC) are the focal point for the sponsor, referring MDs and patients. Establishing an ethical patient selection system eliminates inequality and unrealistic patient expectations while also ensuring that patients are selected in a just manner.

## 2916

**DEVELOPMENT AND IMPLEMENTATION OF A CLINICAL TRIAL ACUITY TOOL.** Donna Catamero, RN, BSN, OCN®, CCRC, New York University (NYU) Cancer Institute, New York, NY, USA; Louise Lynch, RN, NYU Cancer Institute, New York, NY, USA; Juliet Escalon, RN, OCN®, ANP, CCRC, NYU Cancer Institute, New York, NY, USA; Zenona Lesko, RN, BSN, NYU Cancer Institute, New York, NY, USA; Sara Parise, RN, BSN, NYU Cancer Institute, New York, NY, USA; Susan Moore, APRN-BC, AOCNP®, NYU Cancer Institute, New York, NY, USA; and Minerva Utate, RN, BSN, OCN®, NYU Cancer Institute, New York, NY, USA.

An NCI-designated cancer institute provides an opportunity to translate scientific advances into cutting edge research. The increasing number of complex disease-focused clinical trials (CT) coupled with increasing regulatory and financial requirements present challenges associated with clarifying productivity and justifying new staffing needs. The clinical trial nurse (CTN) is a valuable resource to the fast growing CT program. A concise and consistent method is needed to evaluate the time and resource commitment to manage a CT.

The purpose of this project is to create a tool defining the levels of complexity for each protocol component using a numerical scale which takes into consideration the clinical, regulatory, and financial aspects of the trial.

1. Literature search was performed to determine existing methods being utilized to assign a CT's level of complexity.
2. Time in motion study was performed to validate protocol component check sheet and to determine time spent on each activity.
3. Revision of protocol component check sheet based on results of the literature review and time in motion study.
4. Based on literature review and time in motion study, a scale of acuity was assigned to each protocol component.
5. The numerical value assigned to each individual component was tallied; based on the total score an overall numerical grading will be assigned.

The CT acuity tool is currently being piloted. This tool will provide the following quantifiable information regarding the role of the CTN: transparency regarding work load, need for cross coverage, new position needs, and regulatory and financial compliance outcomes.

The CT acuity tool will provide needed data to support appropriate budgeting and staffing so that program growth and professional development needs will be met.



## 2918

**APPLICATION OF A KNOWLEDGE-NEEDS ASSESSMENT FOR ONCOLOGY NURSES: A NEW LOOK AT THE OLD LEARNING NEEDS ASSESSMENT.** Mary Kanaskie, RN, MS, RN-BC, AOCN®, Penn State Hershey Medical Center, Hershey, PA, USA; and Rebecca Gingrich, BSN, RN, OCN®, Penn State Hershey Medical Center, Hershey, PA, USA.

Nurses new to oncology settings vary in clinical experience and practice backgrounds. The need to recruit experienced RNs and graduate nurses in all oncology settings presents challenges in providing meaningful orientation experiences. The nursing literature describes the "learning needs assessment" as the primary method of identifying education needs. Many of these instruments list topics of interest or perceived needs of the individual nurse but do not address their knowledge base. Examples of basic knowledge assessment tests (BKAT) exist in critical care settings but not in oncology.

Recent integration of nurses, from a medical oncology unit and stem cell transplant unit into one, raised the question of staff competency and knowledge. Varied learning needs between the groups were anticipated; however measures were needed to identify specific knowledge differences among nurses. A "Knowledge Needs Assessment" was developed to measure each nurse's knowledge related to oncology and stem cell transplant and to identify learning needs of nurses across the newly integrated unit. Information obtained would then be used to individualize a nurse's orientation, as well as, to plan educational programs for the entire staff.

A "Knowledge Assessment" consisting of 57 questions was developed to include questions related to general oncology nursing care, cancer treatment and side effects, stem cell transplant and oncologic emergencies. The knowledge assessment was completed by all RN staff members in one day. Staff completed the assessment during the first hour of a scheduled 4-hour competency review session in the computer lab. The Oncology Nurse Educator introduced the concept of the assessment and staff accessed the tool via an email link.

Individual nurse responses were available to only the Nurse Educator and reviewed with each nurse in developing an individual learning plan. Total responses per question were also reviewed to determine common learning needs of the entire staff. Cumulative results were shared with the Education Council and Nursing Leadership for planning education programs.

Research is needed to develop a valid and reliable test of basic knowledge in oncology nursing. A knowledge needs assessment for oncology nursing can enable educators to plan and develop meaningful orientation and continuing education experiences.

## 2921

**LIVING WITH CANCER: EXPLORING THE EXPERIENCE OF LIVING WITH TREATABLE BUT INCURABLE CANCER.** Linda Watson, RN, BScN, CON(C), Tom Baker Cancer Center, Calgary, CA.

Due to the development of a new class of cancer medications known as "cytostatic drugs" a shift in cancer care is occurring. The current paradigm of attempting to cure cancer by obliterating the diseased cells, which results in multiple toxicities is being displaced by an alternative paradigm where the goal is biological control of the cancer cells themselves, limiting their proliferation. This is leaving cancer patients in unfamiliar territory, as what they expect cancer treatment to offer (cure), and the reality of what cancer treatments are being designed to offer (maintenance, control, and suppression) are not in alignment.

This research is in line with the ONS Research Agenda as it focuses on an emerging population of cancer patients across the disease spectrum, and attempts to begin to articulate what living with cancer as a chronic disease is like for the individual.

As little research exists in this topic area, a qualitative interpretive analysis study, guided by philosophical hermeneutics was designed and implemented. This method was selected to allow the researcher and participant to meet in meaningful conversations about what it is like to live with incurable cancer and its ongoing treatments.

Six participants with a variety of chronic cancers were interviewed. Participants articulated isolation as a central experience. These participants indicated that both their families and the cancer care team were reluctant to talk to them about their cancer experience that was outside of the boundaries of drugs, treatments, and side effect management.

The findings of this study indicate that our patient's appreciate and value the conventional aspects of cancer treatments, but feel that the emotional support provided by both society and cancer care professionals are lacking. The participant's indicated that they would feel more emotionally supported if healthcare professionals could take the time to listen to their stories and experiences, acknowledging them as individuals. Indications for further research include how system change can be facilitated to create healthcare systems where time to listen is valued and honored as essential to excellent patient care, and the development of educational tools to augment healthcare professionals listening skills, specific to this population.

## 2925

**IMPROVING THE PROCESS AND MANAGEMENT OF ONCOLOGY PATIENT CALLS.** Virginia Martin, RN, MSN, AOCN®, Fox Chase Cancer Center, Philadelphia, PA, USA; and Tracy Christie-McLain, MBA, Fox Chase Cancer Center, Philadelphia, PA, USA.

The Ambulatory Care Telephone Triage Program of Fox Chase Cancer Center fields an average of 180 patient calls per day. This program addresses patient concerns that include symptom or medication management, urgent care, scheduling, insurance authorization, and patient education. Telephone calls are managed by utilizing a Web based, secure messaging system that allows for real-time, synchronous communication of calls to relevant clinical providers and administrative staff. The nursing staff identified diminished efficiency in two major areas: lack of physician participation and the organization, prioritization, and status of patient phone calls.

A process improvement project was initiated to improve the telephone triage workflow and increase physician participation. The purpose was to identify the components of the secure messaging process that led to inefficient message management, identify programmatic and workflow changes to improve this management, and incorporate enhancements that would encourage physician participation.

The team included several RNs, a project manager, a clinical director, and Web development programmers. The team held focus groups and validation sessions to identify key elements that contributed to inefficient patient message management. Data was collected prior to implementation of the changes and after implementation; data will be collected to determine the degree of improvement.

The changes to be implemented include more detailed statuses and prioritization of calls; identification of urgent calls; identification of ownership; and the ability for physicians to review completed telephone messages without the need to act or respond. Data will be reviewed and analyzed after changes have been implemented for one month and will continue on a monthly basis.

Telephone triage is most effective when communication eliminates duplicative processes such as documenting the patient call, emailing the physician, and calling the physician. Providing more effective tools for communication and message management will ultimately improve patient satisfaction due to improved processes for problem resolution. More physicians will participate because the process will be more efficient and their patients will be more satisfied.

## 2926

**A NEW LOOK AT AN OLD COMPLICATION: BK VIRUS AND HEMORRHAGIC CYSTITIS.** Carolyn McClerking, RN, MS, CNP, OSU James Cancer Hospital, Columbus, OH, USA; and Terry Sylvanus, H. Lee Moffitt Cancer Center, FL, USA.

Nearly 100% of the U.S. population has antibodies to human polyoma BK virus (BKV) by late childhood; subsequent reactivation can produce disease in immune compromised hosts. BKV is associated with graft loss, hemorrhagic cystitis (HC) and other painful, debilitating and potentially life-threatening complications after allogeneic Hematopoietic Stem Cell Transplant (HSCT). It has also been implicated in the oncogenesis of prostate, bladder, brain and pulmonary neoplasms, and as a disease agent in non-HSCT oncology patients. No consensus currently exists as to monitoring, diagnostic or treatment methods and successful disease resolution can be elusive. In addition, while some oncology nurses may be aware of the consequences of BK virus reactivation, many are uninformed or unfamiliar with this potential threat to their patients.

This clinical review was designed to increase general oncology nurses' awareness about etiology and clinical presentation of BKV disease, and

to provide advanced oncology nurse practitioners with a guide to surveillance and therapeutic interventions.

**Method:** Two expert oncology nurses reviewed published English-language guidelines, reviews and studies on adult and pediatric oncology populations from 1987–2007 located through Pubmed and CINAHL using relevant search terms, as well as hand-searches of bibliographies. Of 413 studies retrieved, 185 abstracts were reviewed, and selected articles were critiqued and evaluated as to quality and level of evidence by both reviewers according to the Oxford Centre for Evidence-based Medicine Levels of Evidence. Studies were then summarized into three evidence tables: etiologic factors, surveillance and diagnosis, and treatment.

**Findings:** BKV appears to be emerging as a complication of viral reactivation in susceptible non-HSCT oncology populations. No currently published studies have determined whether therapeutic prophylaxis may reduce the risk of viral reactivation in patients with asymptomatic viruria. No evidence-based guidelines for treatment have been published to date. Several gaps in the literature were noted, which help identify areas for future research.

**Discussion:** There is a need for large, well-designed, prospective trials to identify risk factors that predispose oncology patients to BKV reactivation, cost-effective strategies to screen patients at risk, and effective therapies for prevention and disease resolution.

## 2927

**A COORDINATED APPROACH TO SUPPORT NURSES' DISSEMINATION EFFORTS IMPROVED THE QUALITY AND QUANTITY OF PRESENTATIONS AT PROFESSIONAL CONFERENCES.** Marsha Fonteyn, RN, PhD, OCN®, Dana-Farber Cancer Institute, Boston, MA, USA; Naoe Suzuki, MFA, Dana-Farber Cancer Institute, Boston, MA, USA; Lillian Vitale Pedulla, RN, BSN, MSN, Dana-Farber Cancer Institute, Boston, MA, USA; and Anne Gross, MS, RN, CNNA, Dana-Farber Cancer Institute, Boston, MA, USA.

Dissemination of new evidence through presentations at professional meetings is essential to build the body of knowledge to guide oncology nursing practice. To assist in this effort, the nursing research center at our NCI designated Cancer Center has structured and refined a process for providing help to our nursing staff in the development of conference abstracts and poster and podium presentations.

Our purpose was to systematically improve the quality and quantity of our nurses' abstract submissions and subsequent presentations, thus advancing evidence-based practice by sharing new knowledge from our institution at professional meetings with our colleagues.

Our nursing research center organized and coordinated a process for peer review of nurses' abstracts prior to their submission to professional conferences. Once an abstract has been accepted, staff from the center assists individuals to get guidance in developing and refining PowerPoint presentations (and provides an opportunity for practice presentation sessions). Nurses can also receive help in preparing the content and layout for their poster presentations. Additionally, since the administrative specialist in the nursing research center is also an artist, the center produces finished posters that have a polished, professional appearance.

In the last several years, since our nursing research center began this coordinated substantive effort, the number of abstracts submitted to and accepted for presentation at professional conferences by nurses at our facility has more than doubled, feedback has been very positive, and several of the posters developed through our center have won national and international awards.

Dissemination of new information at professional conferences is essential for evidence-based practice. Following a planned approach for supporting nurses efforts to give professional presentations, such as the one we describe, can significantly increase the quality and quantity of evidence that becomes available to guide our practice.

## 2935

**THERAPEUTIC APPROACHES TO THE DIAGNOSIS AND MANAGEMENT OF VERTEBRAL COMPRESSION FRACTURES IN ONCOLOGY.** Beth Faiman, RN, MSN, AOCN®, CNP, Cleveland Clinic, Cleveland, OH, USA; and Kena Miller, RN, MSN, FNP, Roswell Park Cancer Institute, Buffalo, NY, USA.

In 2007, the American Cancer Society estimates more than 1.4 million new cancer cases and over 559,000 deaths will occur in the United States.

Bone metastases are common with many tumor types, and the vertebrae are the most common sites for metastasis. Vertebral compression fractures (VCFs), put our patients at risk for increased morbidity in terms of poor pain control leading to inactivity, secondary infections, such as pneumonia, and poor quality of life. In addition, many patients have osteoporosis due to cancer related treatment or other factors that increase their risk of VCFs. With the advent of novel therapeutics, patients with metastatic disease and multiple myeloma are living longer than ever. Therefore, it is imperative for nurses to be aware of existing preventative, and newer treatment strategies to increase quality of life (QOL), and improve functioning.

Oncology nurses must understand the impact of metastatic cancer, multiple myeloma and osteoporosis on spine health. Also understanding the treatment goals and therapeutic modalities for addressing pain related to VCFs are essential.

Nurses can employ preventative and supportive care techniques, such as weight bearing exercise, bisphosphonates, calcium and vitamin D, which can be effective in strengthening the bones of our patients. Traditionally, open surgical repair of the spine has been contraindicated in patients with metastatic disease, yet newer techniques, such as vertebroplasty and balloon kyphoplasty, both minimally invasive surgical techniques, are now used to stabilize the fracture and reduce pain with or without radiation therapy.

Nurses play a unique role in managing the needs of our patients. Prevention of VCFs is important, but early identification and appropriate management, may decrease morbidity and improve QOL.

Nurses whom understand the pathogenesis of bone metastases, and are successful in identifying and employing preventative and treatment strategies, will lead to improved patient outcomes if affected by metastatic disease or myeloma.

## 2937

**ADHERENCE TO PRIMARY SYSTEMIC BREAST CANCER (BC) THERAPY: WHITE VERSUS BLACK WOMEN IN ONE URBAN BC CLINIC.** Ashleigh Slater, RN, BSN, OCN®, University of Pittsburgh School of Nursing, Pittsburgh, PA, USA; Brenna Conroy, BS, University of Pittsburgh, Pittsburgh, PA, USA; Meredith Frisina, University of Pittsburgh, Pittsburgh, PA, USA; Adam Brufsky, MD, PhD, University of Pittsburgh School of Medicine, Pittsburgh, PA, USA; and Margaret Rosenzweig, PhD, APN-BC, AOCNP®, University of Pittsburgh, Pittsburgh, PA, USA.

The 5-year survival following first diagnosis of BC is 13% lower in black than in white American women. Nonadherence to BC primary systemic therapy, not just late stage presentation, may be a contributing factor to BC survival disparity.

Adherence and disparity in cancer care are ONS research priorities. The purpose of this study was to describe BC treatment adherence to first medical oncology BC primary systemic therapy recommendation. The secondary aim was to compare black versus white treatment adherence.

Kressin's Conceptual Model of Health Disparity hypothesizes that three components of health disparity—patient, physician and system—uniquely influence underserved/minority patient decision making regarding adherence to recommended medical (BC) treatment.

The study was a one year retrospective review of adherence to recommended primary systemic BC treatment (2006) of new patient at an urban BC clinic. Inclusion criteria included all patients diagnosed with non-metastatic infiltrating ductal carcinoma. Adherence was defined as completing full or appropriately dose reduced chemotherapy or documented adherence to hormonal therapy according to patient report. Chart review was completed according to protocol abstraction.

There were 777 new patient visits. Analyzed cohort was of returning patients seeking treatment for non-metastatic infiltrating ductal BC, (n = 498; black, n = 37, white, n = 461) in 2006. Mean age overall was 56.9, SD 12.6. Of all women, n = 275 (55.2%) were recommended to have chemotherapy and n = 200 (40.2%) to have hormonal therapy as primary systemic BC therapy. There was no recommendation for systemic BC therapy for n = 26, (5.2%). A racial difference (p = .015) among black and white women in adherence to first recommended systemic BC treatment was present.

Age (B) 60.5, SD 13.4; (W) 56.7, SD 12.4

Recommended Chemotherapy (B) N = 19, 52.8%; (W) N = 256, 53.9%

Chemotherapy Adherence (B) N = 12, 63.2%; (W) N = 209, 81.3%

Recommended hormonal therapy (B) N = 13, 35.1%; (W) N = 187, 36.4%

Hormonal Adherence (B) N = 9, 64.3%; (W) N = 166, 86.5%

Overall adherence (B) 63.6%; (W) 83.5%

Reasons for non-adherence were not documented.

These results indicate adherence disparity to first recommended systemic BC treatment. Interventions directed toward the patient, provider and/or cancer setting are needed to positively influence adherence.

## 2938

**NURSING RESEARCH INITIATIVE AND PROPHYLACTIC INTERVENTION WITH ACYCLOVIR RESULTS IN DECREASED INCIDENCE OF BORTEZOMIB ASSOCIATED HERPES ZOSTER IN PATIENTS WITH MULTIPLE MYELOMA.** Dawn DePaolo, RN, BSN, CCRP, Roswell Park Cancer Institute, Buffalo, NY, USA; Amy Whitworth, RN, BSN, Roswell Park Cancer Institute, Buffalo, NY, USA; Barbara Anderson, RN, Roswell Park Cancer Institute, Buffalo, NY, USA; and Kena Miller, FNP, Roswell Park Cancer Institute, Buffalo, NY, USA.

**Introduction:** Bortezomib, a proteasome inhibitor is an effective anti-myeloma therapy. We recently reported that multiple myeloma patients treated with bortezomib or bortezomib based combination regimen resulted in a higher incidence of herpes zoster (HZ) reactivation. The exact etiology of this side effect remains unknown though our investigation demonstrated prolonged lymphopenia among patients treated with bortezomib. The high incidence of HZ observed by nurse research team among patients treated with bortezomib prompted a prospectively investigation of antiviral prophylaxis in this patient population. Here we report the efficacy of this strategy in preventing bortezomib associated HZ, an initiative pioneered by the nurse research team.

**Patients and methods:** We prospectively evaluated the impact of oral acyclovir (400 mg PO twice daily for the duration of bortezomib therapy) on the incidence of HZ.

All patients with multiple myeloma who were treated with bortezomib or bortezomib based regimens, and received prophylactic acyclovir were evaluable for this analysis.

**Results:** A total of 51 consecutive patients (27 M and 24 F) received acyclovir as prophylaxis. The median age was 61 (range 40–81 years), with advance stage MM noted in 86% (n = 44) patients. Among these 69% had previously untreated MM while 31% had relapsed or refractory disease. Single agent bortezomib was given to 11 patients and 40 patients received bortezomib in combination with other antimyeloma agents (such as thalidomide, pegylated liposomal doxorubicin, dexamethasone, cyclophosphamide and/or lenalidomide).

The overall incidence of HZ was 0% among patients receiving the acyclovir prophylaxis versus 13% in the historical control.

**Conclusion:** This research initiative was lead by the myeloma research nurse group of Roswell Park and is the first report on the efficacy of the prophylactic use of acyclovir for the prevention of bortezomib associated HZ in MM patients. Although bortezomib is an effective antimyeloma therapy, reactivation of HZ is an important side effect with significant morbidity. Nursing education and recognition of this side effect is imperative in patient compliance and treatment outcome. Our research finding suggests that prophylactic use of antiviral agents is an effective strategy in prevention of this debilitating side effect.

## 2940

**CULTURAL INTERSECTIONS IN THE CARE OF MEXICAN AMERICANS WITH METASTATIC CANCER.** Barbara Owens, RN, PhD, OCN®, UTH-SCSA, San Antonio, TX, USA; Mary Jackson, RN, MSN, OCN®, UTH-SCSA, San Antonio, TX, USA; and Lupita Martinez, MSW, UTHSCSA, San Antonio, TX, USA.

In spite of new treatment options to extend life for cancer patients, metastatic disease claims the lives of more than half a million patients every year. Cancer is the second leading cause of death in the U.S. Little data exists to provide insight into the expert communication processes associated with transitioning to end-of-life care in Mexican American (MA) patients with metastatic cancer in South Texas.

The purpose of this exploratory research study is to describe the factors that contribute to culturally appropriate communication and care for MA with metastatic cancer who have immigrated to south Texas.

The framework for this inquiry was based on Leininger's Theory of Culture Care Diversity and Universality, is based on the belief that people of different cultures can inform health care professionals about

the kind of care they desire or need and the mid-range theory, Peaceful End-of-life Theory.

A qualitative, content analysis is proposed for this study. Interviews focused on understanding the factors that contribute to quality care through the eyes of five participants. Interviews took place in a clinic setting in the privacy of the treatment area. Inclusion criteria were adults, 18 and over, who have metastatic cancer.

Five interviews were transcribed and coded this analysis. (Three men and two women) The investigators received referrals from staff for patients who were willing to be interviewed. Factors that were of prime importance to these patients included purpose in life through religious beliefs, dedicating their life to their children, having others pray for them, security with care provided by family. They did not ask "Why me?" but accepted "what is going to happen will happen." Factors that did not facilitate communication included not wanting to complain or "talk back" to their doctor, being spoken to like a child, and being told to do whatever they wanted because it did not matter. This qualitative pilot study will provide information to assess the feasibility and improve on a larger study with the aim of improving quality care for MA coping with metastatic cancer.

## 2941

**PREVALENCE OF STRESS MANAGEMENT CURRICULA IN NURSING EDUCATION PROGRAMS: SURVEYS OF 500 ONCOLOGY NURSES AND 34 CALIFORNIA SCHOOLS OF NURSING.** Kathy Kravits, RN, MA, City of Hope, Duarte, CA, USA; Christina Kirk, City of Hope, Duarte, CA, USA; Marcia Grant, City of Hope, Duarte, CA, USA; and Randi McAllister, City of Hope, Duarte, CA, USA.

Nurses experience high levels of stress and burnout. A connection has been reported between those nurses identified as experiencing burnout and their reports of fair-poor quality of care on their units, decreased job satisfaction and increased risk of failure to recognize patient distress. It is imperative that the degree of emotional/psychological burden attached to nursing practice be considered as a risk factor for nursing burnout and reduced patient safety. This project examines reports by nursing faculty and practicing oncology nurses of the amount, type and value of self-care and stress management education included in nursing school curricula.

The purpose of this project is to assess the prevalence of self-care and stress management curriculum offered in fundamental nursing education programs as reported by California schools of nursing and practicing oncology nurses. Caregiver needs are identified as a priority in the ONS research agenda.

Four concepts are used to create the framework for this study. First, nursing practice puts nurses at risk for burnout. Second, burnout adversely impacts patient care. Third, nurses are inadequately prepared to monitor and respond to signs of practice related burnout. Fourth, preparation in self-care and stress management, as part of the basic nursing education, will have a positive impact on reducing burnout.

Surveys were administered by mail to 76 California schools of nursing with a response rate of 34/76 (45%). Surveys were administered in person to 500 practicing oncology nurses with a return rate of 500/500 (100%). Data were coded, entered into SPSS, and verified. Descriptive statistics were used to examine results.

The findings for the faculty and practicing nurses were consistent with each group reporting limited self-care and stress management content. Both groups acknowledged that self-care and stress management content was valuable. The nursing faculty cited competing educational priorities as a challenge to implementing additional self-care and stress management content. Implications for nursing practice include adjusting educational priorities to acknowledge the psychological burden of nursing practice and to actively prepare nurses to proactively respond to their own self-care needs.

## 2942

**NEW AND UNEXPECTED; SIGNIFICANT TRANSITIONS FOR RURAL PERSONS WITH ADVANCED CANCER AND THEIR FAMILIES.** Wendy Duggleby, PhD, RN, AOCN®, University of Saskatchewan, Saskatoon, CA; and Patricia Berry, PhD, RN, APRN, BC-PCM, University of Utah, Salt Lake City, UT, USA.

Terminally ill persons and their families experience many confusing and at times traumatic transitions which are further intensified in rural areas. In order for oncology nurses to effectively provide care for this rural popula-



tion, it is important to understand these transitions, their significance and impact. As one of 10 studies being conducted by an international research team funded to research timely access and seamless transitions for palliative care patients and their families in rural areas, this qualitative study was completed focusing on transitions experienced by this population.

The purpose of this qualitative study is to explore transitions experienced by older rural palliative patients and their families from the perspective of bereaved family members. This addresses the ONS research priority of research on families and their cancer experience.

Charmaz's Constructivist Grounded Theory qualitative approach was used.

Using theoretical purposive sampling, 20 open-ended, in-depth audiotaped interviews were conducted with 10 caregivers (8 females and 2 males; mean age 62 years and mean length of time caregiving 19.7 months) within the first year of bereavement after providing care to a spouse with terminal cancer. Data were analyzed using constant comparative methods as part of the descriptive initial coding phase of Charmaz's analysis.

Participants described their most difficult transitions as being unexpected, sudden and new as they had no prior experience with these transitions. Two emerging themes reflected the most significant transitions: a) changes in the environment and b) roles and relationships. Changes in the environment included physical transitions within the home environment during the person's illness and changes in the setting of care from home to hospital and/or long term care. Changes in roles and relationships evolved as the terminally ill person became more dependent in activities of daily living. These findings provide a greater understanding of transitions in an understudied population and a focus for the development of interventions for oncology nurses. Although it was clear in the findings that transitions varying depending upon individual situations, preparing families and palliative care patients for these transitions through advance planning could possibly mitigate the associated distress.

## 2945

**UNIT-SPECIFIC EVIDENCE-BASED PRACTICE NURSING CHAMPIONS.** Jo Hanson, RN, MSN, CNS, OCN®, City of Hope, Duarte, CA, USA; and Marcia Grant, RN, DNSc, FAAN, City of Hope, Duarte, CA, USA.

Over the past ten years, nursing Evidence-Based Practice (EBP) has evolved from an obscure concept to a necessary component of quality patient care. EBP combines care that integrates best scientific evidence with clinical expertise, knowledge of pathophysiology and psychosocial issues, and decision-making preferences of patients. Until recently, most nursing education has not emphasized an EBP approach in the clinical setting; without this training, nursing staff rely on tradition and advice from colleagues for guidance. Although EBP has become the expected standard of care, knowledge and attitudes surveys indicate staff nurses are not prepared to make the transition. A three year (2007–2010) project, Evidence-Based Practice Nurse (EBN), is an effort to prepare for this change.

This project was designed to develop, present, and evaluate nursing educational workshops, and to use aggressive unit-specific project goal directed follow-up aimed at developing evidence-based skills in staff nurses.

Workshop recruitment of staff nurses relies on self-selection, manager recommendation, and/or shared governance council support. Application information includes biographical data, an EBP unit-specific project idea, and a letter of support from the unit manager. Small groups (<15) attend a one-day interactive workshop which includes EBP-expert presentations, mentored hands-on computer exploration, facilitated small group project work, and large group EBP unit-specific presentations. Participants from the same unit are encouraged to form a team. Post-workshop, participants begin implementing their EBP unit-specific project. Facilitators, managers, and the EBN project staff from Nursing Research and Education provide nine month follow-up support via phone, email, and personal meetings.

Three workshops were held in the first year for a total of 35 staff nurses. Participant course and faculty evaluations were overwhelming positive; on a scale of 1–5 (5=best) overall course = 4.93 and faculty = 4.98. Project examples will be presented. Workshop recruitment was the biggest challenge due to staffing issues.

Changing nursing culture to embrace EBP as the primary method for decision making in clinical practice will take time. Critical to success, along with education, is aggressive participant follow-up. Providing educational staff workshops along with easily accessible follow-up support is a first step in achieving this culture change.

## 2946

**INTEGRATION OF PEP RESOURCES INTO CLINICAL PRACTICE: PRACTICAL APPLICATION STRATEGIES.** Susan Dempsey-Walls, RN, MN, AOCNS®, ACHPN, M.D. Anderson Cancer Center Orlando, Orlando, FL, USA; and Patricia Geddie, RN, MS, AOCNS®, M.D. Anderson Cancer Center Orlando, Orlando, FL, USA.

Advanced Practice Nurses have a significant responsibility to ensure clinical practice is evidence-based (EBP) in their setting. The Oncology Nursing Society took a progressive position on integration of EBP in oncology nursing with the development of the Putting Evidence into Practice (PEP) Resources, first distributed at the 2006 ONS Congress. Since 2006, the challenge has been to develop practical strategies to incorporate the PEP resources into daily clinical staff practice to positively impact patient outcomes.

To develop realistic and practical strategies to integrate the PEP Resources into oncology clinical practice at a community inpatient & outpatient adult oncology program.

Clinical Nurse Specialists initiated an oncology collaborative practice team as an avenue to address clinical practice guidelines, issues, and trends. A gaps analysis tool was developed to compare and evaluate current practice to the ONS PEP Resources. Opportunities for practice improvement were identified. This tool also includes a review of current protocols, staff education, patient/family educational materials, current critical check resource, standing order sets, information systems capabilities, policies and procedures, interdisciplinary involvement. After prioritization of opportunities for practice change, the team chose "Prevention of Infection" for a performance improvement project which supports both the national and corporate sepsis initiative. The CNSs take an active leadership role during the PI processes related to the PEP Resources.

The gaps analysis for all PEP Resources has been completed; opportunities for improvement identified; prioritization of practice changes selected; the first performance improvement project for "Prevention of Sepsis/Identification of Early Sepsis" initiated with clinical indicators established. Assessment of clinical outcomes is crucial when utilizing the PEP Resources as well of dissemination of the data through posters, presentations and publications.

Since the initial distribution of PEP Resources in 2006, APNs and oncology nurses have attempted to integrate the evaluated evidence into clinical practice by seeking effective, realistic integration strategies. This abstract describes one such strategy developed by Clinical Nurse Specialists in community oncology program that may be duplicated successfully in other oncology clinical settings. This strategy requires a commitment by an interdisciplinary clinical team, dedicated time and resources to the practice change project, and oncology program leadership support to succeed.

## 2947

**AN EVIDENCE-BASED APPROACH IN EDUCATION OF NURSES AND THEIR ROLE IN CARE OF THE ONCOLOGY PATIENT WITH A CHEST TUBE.** Janet Taubert, RN, MSN, AOCN®, M.D. Anderson Cancer Center, Houston, TX, USA; Sonia Bungay, RN, BSN, M.D. Anderson Cancer Center, Houston, TX, USA; Clemen Banaglorioso, RN, BSN, M.D. Anderson Cancer Center, Houston, TX, USA; Allison Adams, RN, BSN, M.D. Anderson Cancer Center, Houston, TX, USA; Jaya Mathew, RN, BSN, M.D. Anderson Cancer Center, Houston, TX, USA; and Emily Magana, RN, BSN, M.D. Anderson Cancer Center, Houston, TX, USA.

Utilizing chest tubes in the oncology patient is a common approach to the management of complications including malignant pleural effusions, postsurgical resection of lung tumors, lung infections, and post procedures that result in pneumothoraces. Nurses play a critical component in management of chest tubes. Our evidence-based practice nursing group on a Thoracic Cardiovascular/Surgical Intermediate Care Unit chose this topic to focus on, based not only on the needs of our unit but also the needs of our nurses throughout the institution.

The goal of our project was the development of evidence-based standards for the care and management of the oncology patient with a chest tube. Today, a multitude and variety of chest tubes and chest drainage systems exist, both used in the ambulatory and inpatient setting. As primary resource for the institution, we wanted to share with our nurses an evidence-based approach to effectively understanding and caring for the oncology patient with a chest tube.

Multiple interventions were undertaken to develop practice standards. These included the following.

1. Pre-evaluation of the staff to identify baseline knowledge
2. An evidence-based literature review
3. Development and dissemination of guidelines
4. Creation of a "Chest Tube Jeopardy" interactive game
5. Chest tube post test
6. Creation of an online chest tube educational module

A post-test conducted showed significant improvement in nurses' knowledge, understanding, and expertise with chest tube management. Participation of 50 nurses demonstrated pre-test scores of a 66% passing rate to post-test scores reaching a 100% passing rate.

In the implementation of our evidence-based chest tube care and management, we have set the standard for the institution in providing consistent care to patients with a chest tube. The use of interactive methods for education has been shown to be effective in helping nurses not only achieve but also retain this knowledge. The online chest tube module serves as a teaching tool for new nurses and also as a valuable resource for all nurses, familiar or unfamiliar with chest tubes. Nurse involvement was a key to our success.

## 2949

**CCONS COLLABORATIVE BREAST CANCER EDUCATION IN THE COMMUNITY.** Molly Loney, RN, MSN, AOCN®, Hillcrest Hospital, Mayfield Heights, OH, USA; Kristina Austin, The Gathering Place, Beachwood, OH, USA; Angela Bailey, RN, BSN, Cleveland Clinic, Cleveland, OH, USA; Shirley J. Seay, MSN, MEd, OCN®, CTR, Marymount Hospital, Garfield Heights, OH, USA; Jeannie Davis, RN, MSN, AOCN®, Marymount Hospital, Garfield Heights, OH, USA; and Petrina Patterson, RN, BSN, Northeast Ohio Neighborhood Center, Cleveland, OH, USA.

Despite major advances, breast cancer remains the most common cancer in women. Although fewer African American women develop breast cancer than white women, a recent Komen report cited a 35% higher breast cancer death rate in African American women. Ohio's breast cancer death rates are among the highest in the US, with 27 deaths per 100,000 in 2004. Priority action is needed to resolve healthcare and lifestyle disparities contributing to these trends. CCONS secured funding through ONS and partnered with breast cancer survivors, community organizations, and local churches to increase breast cancer awareness in African American women living in Cleveland.

Targeting underserved African American women in Cleveland, goals included:

1. Mobilize community resources to provide breast cancer education.
2. Offer resources to reinforce advocacy and healthy self-care strategies.

At 6 area churches, offered a women's meeting on need-to-know breast cancer facts, with insights from survivors and healthcare professionals. Invited each woman at the churches to bring a friend/sister/mother to Fashion Show, Luncheon, Program, and Vendor Fair at a central community hall. 25 vendors offered health/wellness information. 9 breast cancer survivors modeled fashions from a local retailer and discount evening-gown shop. Deforia Lane, Music Therapist and survivor, and colleagues presented a unique musical play spotlighting kitchen table wisdom about breast cancer.

The collaborative partnership was effective with survivors making "real" the importance of early detection. 415 women participated, with 240 at 6 church programs and 175 at the luncheon. The play put the topic of breast cancer "on the kitchen table" for factual discussion. Participating vendors and volunteers enjoyed the Luncheon program as much as the public, offering to help if repeated. The most valuable feedback came from the words of thanks shared by many participants and their verbal commitments to practice breast health.

Education can be provided effectively by women from any background with multicultural insight. Many churches were proactive in already offering breast health programs, but were eager for reinforcement. The collaborative model needs to become a standard for community outreach.

## 2950

**"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, USA.

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. Within 18 months our breast cancer program is expected to expand, both in volume and in dimension of its physical space. The author has been asked to collaborate with the Psychosocial Care Task Force in developing a parent/child program, which will include an on-site social worker, dedicated to assisting patients and families on a one-to-one basis.

## 2951

**CONFIRMING STAFF NURSES' PERCEPTIONS OF PROFESSIONAL BEREAVEMENT AND RESILIENCY.** Michelle Teel, RN, MSN, MBA, OCN®, Johns Hopkins Hospital, Baltimore, MD, USA; and Sharon Krumm, PhD, RN, Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, MD, USA.

Oncology nurses invest considerable emotional and physical energy when caring for their patients. Oncology nurses may suffer acute or latent feelings of grief or a sense of meaninglessness in their work when patients die. If these losses go unsupported, oncology nurses may burn out, or chose to leave their specialty, institution or the nursing profession altogether. When supported in time-sensitive and helpful ways, nurses create and share a culture of self-care and self-respect. A work culture which is supportive promotes a wider range of interpersonal functioning, wellness and resiliency, thereby potentially reducing staff inclinations to terminate positions or the specialty.

The purpose of the Staff Bereavement and Resiliency Program (SBRP) at this NCI designated comprehensive cancer center is to promote a supportive work culture for adult and pediatric oncology nurses based on results from a mixed methods study.

An electronic survey was sent to every adult and pediatric oncology nurse to further clarify themes identified in earlier focus groups and to learn more about the impact of stress on the nurses. After educational sessions on resiliency and self-care, specific interventions identified by the survey results will be implemented to better support these nurses at individual, unit, and departmental levels.

Evaluation of the educational presentation(s) and of each intervention's effectiveness will be completed by the nurses. Nurse satisfaction, patient safety, absenteeism, and nurse turnover and vacancy data will also be evaluated.

It is important to learn directly from the staff what they identify as significant work-related stressors and what interventions they believe can best support them. Experienced, professional oncology nurses contribute significantly to patients' well-being and clinical outcomes, and to the advancement of the art and science of oncology nursing. Oncology nurses are precious resources and should be nurtured and supported. This SBRP program can serve as a model for other cancer centers in supporting and nurturing their oncology nurses.

## 2952

**THE APPROPRIATENESS OF UTILIZING INSTRUMENTS TO MEASURE EXERCISE, FATIGUE, AND QUALITY OF LIFE (QOL) IN TAIWANESE CANCER PATIENTS—PILOT STUDY.** Ya-Jung Wang, SUNY at Buffalo, Buffalo, NY, USA; Marcia Boehmke, SUNY at Buffalo, Buffalo, NY, USA; Yow-Wu, Bill Wu, SUNY at Buffalo, Buffalo, NY, USA; Suzanne Dickerson, SUNY at Buffalo, Buffalo, NY, USA; and Cheng-Hsu Wang, Hope Society for Cancer Care, Taipei, Taiwan, TW.

In Western culture, evidence has shown that exercise decreases fatigue and improves QOL. However, very little about exercise has been examined in the Asian cancer population. Only one predictive study related to exercise was found involving Taiwanese breast cancer survivors. Additionally, exercise is not part of routine cancer care in Taiwan although evidence is strong in Western culture. Therefore, it is important to introduce the exercise concept to Taiwanese cancer patients.

Based on ONS research priorities of individual psychosocial and behavioral research, purposes were to examine patients' ease and understanding of available instruments regarding exercise, fatigue, and QOL, and to determine exercise behaviors of Taiwanese cancer patients before and after cancer diagnosis.

This pilot study is a foundation for future research based on Bandura's self-efficacy theory.

This pilot study used a survey design. Patients were recruited from Hope Society for Cancer Care and 2 medical centers in northern Taiwan. Patients completed Godin Leisure Time Exercise Questionnaire and Functional Assessment for Cancer Treatment-General and -Fatigue while waiting for clinic appointments. Validity and reliability of these instruments have been well established. SPSS 15.0 was used to analysis data.

Forty-one patients included various cancer diagnoses (breast, lung, leukemia, etc) with 100% Taiwanese, 58.5% women, 68.3% married, and 73.2% living with family. Only five patients had difficulty in answering 3 out of 43 questions; the ease and understanding of these instruments was acceptable. After cancer diagnosis, 76% patients changed exercising behavior from not exercising to exercising and walking was the most popular (71.4%). Sixty percent of patients exercised at least 3 times a week; 30–120 minutes per time. Ease and understanding of these instruments for Taiwanese cancer patients was appropriate. Surprisingly, the majority of cancer patients changed exercising behavior from not exercising to exercise although no exercise recommendation was provided by healthcare providers. Future research will focus on adapting an exercise program for Taiwanese cancer patients based on its effectiveness in Western culture.

## 2953

**USING A PATIENT PORTAL FOR ELECTRONIC COMMUNICATION WITH ONCOLOGY PATIENTS: IMPLICATIONS FOR NURSES.** Elizabeth Rodriguez, MA, RN, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY, USA; Rori Salvaggio, MS, RN, Memorial Sloan Kettering Cancer Center, New York, NY, USA; Maryellen O'Sullivan, RN, MA, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY, USA; David Artz, MD, MBA, Memorial Sloan Kettering Cancer Center, New York, NY, USA; and Laurie Ochs, MBA, Memorial Sloan Kettering Cancer Center, New York, NY, USA.

Evidence based guidelines for e-mail communication between nurses and patients were implemented at this Center two years ago. To protect the patient's privacy, encryption software was utilized through a standard e-mail application. Two years after guideline implementation, a survey revealed that only half of the outpatient nurses had integrated e-mail into practice. Nurses cite concerns regarding security of e-mailing with patients. Utilization of the electronic messaging center within the hospital's patient portal web site was seen as a possible solution.

An electronic messaging center provides bi-directional security not found on conventional e-mail applications. This year, patient portal enrollment was offered to patients in two outpatient areas and roll out continues on an ongoing basis.

The nurses were educated on the security advantage and functions of the patient portal. The portal offers the ability to view appointments and test results, update demographic information, access patient education materials, request prescription refills, and electronic messaging. In response to nurse and patient user feedback, a variety of enhancements will be incorporated into the electronic messaging center. These include

standard templates for common message topics such as requests for prescription refills, test results, nutritional or treatment information, and pre-certifications. The templates ensure that required information is captured in each message. Additionally, standardized subject lines assist the nurse in triaging the priority of incoming messages.

A survey of nursing staff will be conducted and compared with the baseline survey prior to portal roll out. Patient satisfaction survey results will also be shared.

Great potential exists to utilize the internet advantageously for the care of the oncology patient. Patient enrollment to the portal and electronic messaging is voluntary; thus, supporting autonomy and improving patient satisfaction. The methodology used for implementing the portal, the templates for messaging, guidelines for electronic communication between nurses and patients, and future enhancements will be shared. Nurses play a crucial role in developing new systems that support electronic communication. This presentation will demonstrate one Center's experience of integrating a new communication medium into practice and the implications for nursing.

## 2955

**DEVELOPMENT OF A MULTIDISCIPLINARY PATIENT CARE TEAM: A COLLABORATIVE APPROACH TO OPTIMIZE CARE FOR PATIENTS WITH HEAD AND NECK CANCER.** Eileen Duffy, RN, OCN®, Duke University Health System, Durham, NC, USA.

Patients with head and neck cancer being treated with combination therapies experience a multitude of problems, not limited to but including physical, nutritional, and psychosocial stresses. In the past the primary care nurse has struggled to meet the medical and emotional needs related to this group of patients, due in part to lack of effective communication between the various disciplines involved in patient care.

The goal was to develop a multidisciplinary team of experts to assist the nurse in efficiently addressing the needs and therefore providing the best care to these complicated patients.

After assessing the various qualities that each member would bring to the team, it was decided that a group including the primary nurse, the attending doctor(s)/resident, dietitian, social worker, support counselor, physical therapists, and a medical oncology nurse practitioner would meet for weekly sessions. At each meeting, each patient's specific medical, nutritional, and psychosocial concerns would be addressed, in an attempt for early intervention to correct any problems.

The primary nurse has found that by implementing this team approach, staff communication has greatly improved, resulting in optimized care for the patient. Furthermore, colleagues feel supported by each other on the team. This collaborative effort in patient management, combined with early intervention, has helped to reduce complications during the patient's treatment.

By placing the primary focus on the individual needs of the patient and working collectively to create a plan that is best for that patient, the staff also benefits by feeling supported and committed in the clinical setting.

## 2957

**CENTRAL VENOUS CATHETER INFECTIONS AND BLOOD DRAWING: AN ASSOCIATION?** Karen Gilbert, RN, Thomas Jefferson University Hospital, Philadelphia, PA, USA; Patricia Worthington, RN, MSN, CNSN, Thomas Jefferson University Hospital, Philadelphia, PA, USA; Carm Corraglia, BSN, CIC, Thomas Jefferson University Hospital, Philadelphia, PA, USA; Suzanne Henss, RN, OCN®, Thomas Jefferson University Hospital, Philadelphia, PA, USA; and Jacqueline Sullivan, PhD, RN, Thomas Jefferson University Hospital, Philadelphia, PA, USA.

Background: Bloodstream infection is a frequent, expensive, potentially fatal, and largely preventable complication of central venous catheterization. In an effort to reduce hospital-acquired complications, CMS recently announced plans to end Medicare reimbursement for catheter-related bloodstream infections (CRBSI). Impressive reductions in CRBSI have been reported using a "bundle" of evidence-based actions developed by the Institute for Healthcare Improvement (IHI). Using this approach, plus sutureless stabilization devices and chlorhexidine patches, the ICUs in our 900 bed teaching hospital reduced their CRBSI rate for fiscal year (FY) 2006 to 5.34/1000 device days, slightly above the national rate. In an effort towards further reduction, an interdisciplinary working group convened to focus on additional issues, such as empowering nurses to interrupt CVC



insertion if a break in technique occurs, attention to hub care, and avoiding catheter-tubing disconnections during routine patient care. Because nursing audits revealed that blood sampling from CVC lines was common, a targeted effort was made to eliminate this practice.

**Objective:** To evaluate the relationship between the frequency of blood drawing from CVCs and CRBSI rates in ICU patients.

**Methods:** Monthly point-prevalence audits tracking blood drawing rates via all CVCs on patients in 5 ICUs were analyzed during 4th Q-FY 2006 and 2007. Concurrent CRBSI rates were determined using CDC definitions. During the interim, nurses, physicians, laboratory personnel and patients were educated through varied formats aimed at limiting the use of CVCs for blood drawing.

**Results:** 4th Q-FY06 group: 37 episodes of blood drawing, 90 CVCs (41.1%; CRBSI=5.5 /1000 catheter days). 4th Q-FY07 group: 2 episodes of blood drawing, 119 CVCs (1.7%; CRBSI = 2.29). The data represent a 95.9% decrease in the frequency of CVC blood drawing and a 58.5% decline in CRBSIs during a 12-month period.

**Conclusions:** Our results demonstrate a decline in CRBSI rates after staff and patient education succeeded in dropping the frequency of blood drawing from CVCs. These results support the best practice of accessing catheter hubs only when absolutely necessary, and suggest that avoiding blood drawing from CVCs can further enhance results achieved by the IHI Bundle. A more rigorous scientific investigation on this important issue is warranted.

## 2958

**COMPREHENSIVE BREAST CANCER CARE PROGRAM: UTILIZING THE CANCER CONTINUUM.** Margaret Helsley, RN, MSN, OCN®, Henrico Doctors' Hospital, Richmond, VA, USA; Susan Guckenberger, LCSW, OSW-C, Henrico Doctors' Hospital, Richmond, VA, USA; Carrie Schaeffer, LMSW, Henrico Doctors' Hospital, Richmond, VA, USA; and Esther Desimini, RN, MSN, ACNP, Henrico Doctors' Hospital, Richmond, VA, USA.

A surgical oncology clinical nurse specialist in a large community hospital, responded to the lack of cancer focused education, psychosocial support and fragmentation in patient care for women with breast cancer. In collaboration with oncology social work and a large surgical practice, known for their breast subspecialty, a specialized program for breast surgery patients was developed to incorporate the multitude of care providers and care settings.

The goals of this program were to:

1. Ensure an excellent patient experience along the breast cancer continuum regardless of care setting
2. Foster a strong collaboration with breast surgeons
3. Provide comprehensive education and psychosocial support to patients and their caregivers with breast cancer
4. Orchestrate cohesion amongst all the clinical settings in order provide continuity of care

Utilizing the framework of a breast cancer continuum, assessments were conducted at various points of care, including the different care settings patients traversed and the specialists they encountered. In addition, patient focus groups and mailed surveys, surgeon interviews and ancillary department surveys were conducted in order to capture detail and refine services. As a result of the assessment, a pre-admission visit and pre-operative education class, inpatient nursing care protocols, standardized surgical orders, discharge instructions, and an educational resource folder were developed.

Newly instituted evaluative measures are aimed at capturing satisfaction amongst patients and physicians, symptom control post-operatively, and distress levels pre- and post-operatively as measured by the screening tools adapted from the National Comprehensive Cancer Network v.1.2007.

Oncology nurses, in various roles, are in unique positions to evaluate and impact a woman's experience with breast cancer by utilizing the cancer continuum. A comprehensive program can be achieved through different services and personnel offered along the continuum. This ensures seamless and supportive care, regardless of setting or point in time. This continuum approach is now being extrapolated to other disease populations.

## 2959

**COUNSELING, COMMUNICATION, AND COMPLIANCE: THE 3 Cs TO SUCCESSFUL CLINICAL TRIALS NURSING MANAGEMENT IN**

**A PHASE I TRIAL INVOLVING RAD001 AND BEVACIZUMAB IN PATIENTS WITH ADVANCED SOLID TUMORS.** Christy Arrowood, BSN, Duke Clinical Cancer Trials Service (Phase I), Durham, NC, USA.

RAD001 is a novel oral agent that inhibits mammalian target of rapamycin (mTOR). It has been studied in renal cell carcinoma, neuroendocrine tumors, and colorectal cancer. Bevacizumab, an FDA-approved monoclonal antibody that inhibits vascular endothelial growth factor (VEGF), is combined with chemotherapy in the treatment of metastatic colorectal cancer and non-small cell lung cancer. In a phase I trial of RAD001 and bevacizumab in patients with advanced solid tumors, the clinical trials nurse (CTN) developed strategies to overcome unique challenges.

Challenges included:

1. Educating patients on the mechanism of action of RAD001 and bevacizumab
2. Explaining the side effects of each drug and potential combination side effects
3. Explaining protocol schedules and requirements and the potential for drug-drug and food-drug interactions
4. Maintaining patient follow-up with the CTN and treating physician
5. Ensuring patient adherence with an oral drug.

The CTN addressed these challenges through counseling, communication, and compliance.

Counseling included education about the drugs and their side effects and protocol requirements during the informed consent process, weekly first cycle follow-ups, and monthly follow-ups. Communication involved providing the patient with important contact numbers and keeping the patient's local physicians current on treatment status. Compliance was achieved by providing the patient with calendars, drug diary cards, and symptom logs. The poster will exhibit examples of the CTN's practice and protocol materials.

The most common adverse events (AEs) observed in the study were low-grade mucositis, pain, fatigue, anorexia, rash, bleeding, hyperlipidemia, and hypertension, which were easily managed by the treating physician and CTN. There were no dose-limiting toxicities in the first cycle. The recommended doses for the combination were RAD001 10 mg/day and bevacizumab 10 mg/kg every 2 weeks (full doses of each drug).

Diligence in counseling, communication, and compliance was important in limiting AEs. The 3 Cs are important as investigational oral anticancer agents transition from clinical trials to the community setting. The lessons learned by the CTN will prove valuable to oncology nurses in the community setting and ultimately to patient care.

## 2960

**RADIATION RECALL DERMATITIS: PLANNING NURSING INTERVENTIONS WITH THE IOWA MODEL.** Carole Bauer, RN, BSN, OCN®, CWOCN, The Barbara Ann Karmanos Cancer Center, Detroit, MI, USA.

The Iowa model of evidence-based practice has been utilized to identify the best method to treat radiation recall dermatitis in a patient undergoing stem cell transplant. Often the treatment of radiation recall is to discontinue the offending agent. This is not possible for the patient undergoing stem cell transplant. Thus, an alternative therapy needed to be selected to manage the radiation recall symptoms.

To identify current best evidence for treatment of radiation recall and formulate a plan of action for the oncology nurse to follow to manage the radiation recall symptoms.

A review of the literature was performed to explore the available evidence on radiation recall dermatitis and the recommended topical treatments. Little is known about radiation recall although there are several hypotheses about the cause. Even less is known about the effectiveness of treatment for radiation recall. This paucity of evidence on topical therapy extends to the treatment of radiation dermatitis in general. Since there is not a sufficient research base, practice was based on case reports and expert opinion as recommended by the Iowa model. A cream with hyaluronic acid was selected and implemented to minimize skin damage associated with the radiation recall. The cream was applied twice daily to the affected area until there was resolution of the symptoms of radiation recall.

The healthcare team embraced the use of a new treatment plan for the management of radiation recall when the plan was based on the available evidence. The patient experienced rapid resolution of the radiation recall dermatitis with topical application of a cream with hyaluronic acid.

The Iowa model provided a firm foundation to review the evidence and determine a course of action for providing evidence based care.

The process of using the Iowa model for decision making in patient care process can help oncology nurses to incorporate research based evidence as well as to use evidence in the form of case reports when randomized clinical trials is lacking. The Iowa model also allows for the advancement of research by encouraging the oncology nurse to develop research studies when the base of evidence is lacking.

## 2965

**EVIDENCE-BASED PREVENTION AND MANAGEMENT OF DIARRHEA IN POSTOPERATIVE HEAD AND NECK SURGICAL ONCOLOGY PATIENTS RECEIVING ENTERAL NUTRITIONAL SUPPORT.** Elizabeth Grahn, RN, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY, USA.

Certain head and neck cancer surgeries preclude oral alimentation during the initial postoperative period secondary to functional limitations. Therefore, it is necessary to provide nutritional support via nasogastric or percutaneous gastrostomy enteral tube feedings. Inadequate nutrition secondary to diarrhea may impair wound healing and ultimately result in failure to resume speech and swallowing function. At this NCI-designated comprehensive cancer center, these patients receive intermittent enteral nutrition support (IENS). Diarrhea is a common concomitant symptom monitored and managed by oncology nurses.

The goal of this project was to examine evidence regarding prevention and management of diarrhea in patients receiving IENS versus continuous enteral nutrition support (CENS). Evidence shows that withholding tube feedings and switching from IENS to CENS are frequently utilized, though ineffective and potentially detrimental, interventions. Oncology nurses need more effective strategies for diarrhea management.

An exhaustive literature search was undertaken, and levels one and two evidence were reviewed. Expert opinions were sought from clinicians, nutritionists and pharmacists. Clinical resources and guidelines from professional organizations, including the American Society for Parenteral and Enteral Nutrition, were gathered.

The evidence reviewed demonstrated that enteral feeding is the preferred method of providing nutrition support and that patients receiving enteral feedings often experience diarrhea concurrently. As the etiology of diarrhea may be osmotic, malabsorptive, secretory, infectious or exudative, the most effective diarrhea management strategy addresses its cause.

Evidence-based recommended interventions were detailed. For example, use of liquid medications containing sorbitol should be minimized, nosocomial infection should be disproved after 72 hours of hospitalization and enteral formula osmolality should be individually optimized.

Evidence reveals withholding tube feedings and switching from IENS to CENS are ineffective diarrhea management strategies. Rarely, true dumping syndrome occurs, characterized by tachycardia, hypotension, and diaphoresis, and may be managed by switching to CENS. Educating oncology nurses on the diverse causes and effective management of diarrhea may improve outcomes and comfort.

Following head and neck surgeries, patients must adapt to many novel stimuli including enteral nutrition. Nursing's goal is to facilitate adaptive responses, alleviate discomfort, and minimize adverse effects. This review of evidence may help clinicians optimize diarrhea management strategies.

## 2969

**INFUSION THERAPY REGIMEN TEMPLATES USING THE ELECTRONIC MEDICAL RECORD.** Jill Poll, RN, BA, Huntsman Cancer Hospital, Salt Lake City, UT, USA; William A. Dunson, Jr., MD, Huntsman Cancer Hospital, Salt Lake City, UT, USA; and Lisa Cox, PharmD, Huntsman Cancer Hospital, Salt Lake City, UT, USA.

Exceptional evidence-based infusion and chemotherapy ordering, administration and management are vital for the health and safety of the Oncology patient. Oncologists, Fellows, Pharmacists and Nurses struggle to keep current with their knowledge of the latest cited chemotherapy regimens. Chemotherapy medication orders are very complicated and when written by hand can be illegible and confusing. Even typed orders from various Oncologists can deviate substantially as to require many verbal verifications from nursing and pharmacy staff before clear

interpretations can warrant the mixing and administration of these high impact, sometimes precarious and expensive medications.

The purpose of this abstract is to outline our conversion to templates. The template project offers standardized, approved and literature referenced infusion and chemotherapy regimen orders in a template format within our electronic medical record system. Also template use increases legibility, provides a consistent format for ease in writing and of interpreting, saves time entering orders and provides orders that have been referenced in study literature for increasing patient safety. The project has reduced the need for verification phone calls and reduced patient wait time thereby improving patient satisfaction.

Over 130 chemotherapy and other infusion regimens were pre-approved by Oncologists, Nurses and Pharmacists before they were entered for use in the electronic medical record system. Oncologists, Fellows, Pharmacists, Mid Levels and Nurses received specialized training on the functionality and implementation of the Infusion Template process. An Infusion Template Oversight Committee meets monthly making decisions for ongoing modifications, STAT modifications, new regimens and quality assurance.

A trial period and then a full implementation proceeded using the approved templates. Qualitatively, there was an overwhelming verbal and written positive response from all clinician types that templates were an improvement over former processes. Tracking measurements continue to measure reduction of clarification phone calls and clinician feedback.

By providing clinicians with electronic tools, training and new processes, we are observing and measuring a corresponding improvement in the ordering and administration of medication for both clinicians and patients respectively. Templates are easily developed and clinicians learn the process quickly to provide increased physician and staff satisfaction.

## 2970

**EXPLORING SPIRITUALITY IN URBAN POOR LIVING WITH ADVANCED CANCER.** Anne Hughes, RN, PhD, AOCN®, FAAN, Laguna Honda Hospital and Rehabilitation Center/SFDPH, San Francisco, CA, USA; Maria Gudmundsdottir, RN, PhD, CT, University of California San Francisco, San Francisco, CA, USA; and Betty Davies, RN, PhD, CT, FAAN, University of California San Francisco, San Francisco, CA, USA.

The everyday experience of living with a life-threatening condition is manifold. Besides managing illness symptoms and treatment side effects, the cancer experience is shaped by an understanding of the world of illness, searching for meaning, recognizing important relationships, and wondering what lies ahead. These practices are aspects of spirituality. Many studies have emphasized the importance of addressing the spiritual needs of seriously ill persons; few reports explore spirituality among the urban poor living with cancer.

Interpretive phenomenology was the philosophical framework which guided this qualitative study.

This report derives from a larger study that used mixed methods to understand the experience of the urban poor living with advanced disease and to describe the meaning of dignity. Patients were recruited from outpatient clinics in a public hospital, case managers and home health clinicians working with this marginalized population. Up to three interviews were conducted with participants, and were audiotaped, transcribed and texts verified for accuracy. Transcripts and field notes provided the data for this analysis. Data were read thoroughly; the first author wrote interpretive memos of narrative findings that were then discussed and revised in collaboration with the research team.

Participants comprised 9 women and 8 men with stage III or IV cancer; 3 had HIV. Mean age was 54 years (range 39–69); 9 were persons of color. Most informants found great comfort in their spiritual beliefs and practices. Many believed in God and described their religious affiliation as Christian. Few spoke about attending organized religious services. Some hesitantly described idiosyncratic beliefs and rejected traditional religious doctrine. Several read spiritual texts, including the Bible, and listened to televangelists. Some were distrustful of the beliefs and actions of some religions. Several discussed how painting, poetry and music connected them to something other than living with cancer. Nursing care that focuses primarily on illness symptoms and treatment side effects overlooks what for the urban poor may be a greater need, tending to their souls.

## 2972

**PATIENT INVOLVEMENT IN PREVENTION OF ORAL MUCOSITIS: WHAT IS THE EVIDENCE?** Tara Wray, APRN-BC, M.D. Anderson Cancer Center, Houston, TX, USA.

Oral Mucositis (OM) can be a debilitating and dose limiting condition experienced by adult hematologic oncology patients undergoing chemotherapy. To date there are several assessment scales used in practice. Not one scale is universally accepted as reliable or valid that includes clinical skill and patient perspective. Since the release of the 2006 ONS guidelines, several studies have addressed this discrepancy. Incorporating patient participation and perspective with risk assessment and clinical examination using a current OM ranking scale may identify potential problems and curtail complications through early prevention and intervention.

The goal was to conduct a systematic review of the literature to determine the evidence supporting the use of nursing and patient focused assessments of oral mucositis in adult oncology patients receiving chemotherapy. Databases searched included PubMed/Medline, Cochrane, Scopus, CINAHL, and Up To Date.

Five studies were examined to determine whether newly developed assessment tools for OM that incorporate patient participation are reliable and valid in prevention, identification, and ultimately treatment of OM.

An evidence table was constructed to compare the reliability and validity of the OM scales that incorporated patient participation. There are limited randomized controlled studies examining patient participation in oral mucosal assessment. Study results concluded that patient assessment tools were reliable and valid in diagnosing OM. Patient assessment and participation led to an increased awareness of oral mucosal health, increased participation in preventative measures including basic oral care, and earlier identification in oral mucosal changes compared to clinical examination by professionals.

Providing hematologic oncology patients undergoing chemotherapy the basic skills and assessment tools in caring for their oral mucosa is a reasonable preventative strategy against OM. Involving patients in their daily assessment and care empowers the patients to become proactive in preventing and treating OM. Early intervention appears to decrease patient pain and suffering; cost; possible delays in treatment; and ultimately improve quality of life.

## 2974

**THE DEVELOPMENT OF AN ACUITY TOOL FOR STAFFING BASED ON COMPLEXITY OF PATIENT TREATMENTS.** Julie Delisle, RN, Oncology Alliance, Milwaukee, WI, USA.

Staffing needs in an ambulatory oncology infusion setting can be challenging. The workload of nurses and the time it takes to provide patient care are increasing. Oncology Alliance is an eleven clinic private oncology practice in southeastern Wisconsin. The majority of patient care occurs in the infusion rooms. The volume of patients in each infusion room ranges from ten to seventy on any given day. With the addition of new targeted therapies and complicated treatment regimens that require closer monitoring the nurses felt that the increased patient complexity should be recognized when determining staffing on a daily basis. This dissatisfaction on the part of the nurses led to the development of a more efficient way to staff our infusion rooms.

The purpose of this project is to describe the development of an acuity tool for staffing infusion nurses based on the complexity of the patient treatments.

The project included two phases. The first focusing on data collection by using the tool assess what happened on a daily basis over a two month period of time and to work out any problems with the tool. The second phase was to use the tool on a daily basis to staff the infusion rooms. The tool was based on a prototypical method of classification which assigned levels to each patient treatment.

The nurses felt the tool provided a better representation of the acuity in the infusion rooms by connecting complexity of patient treatments with staffing on a daily basis.

This tool is very adaptable to the ever changing treatment regimens for oncology care. It provides a solid base for assessing complexity in order to staff an infusion room. This acuity tool could be adapted to help better staff other ambulatory oncology clinics based on treatments provided by that particular setting.

## 2975

**LYMPHEDEMA: IDENTIFYING NURSING STRATEGIES FOR PREVENTION AND MANAGEMENT IN BREAST CANCER PATIENTS.** Mattie McDowell, RN, BSN, University of Texas M.D. Anderson Cancer Center, Houston, TX, USA; and Kristine Dice, BSN, RN, University of Texas M.D. Anderson Cancer Center, Houston, TX, USA.

As treatment modalities and novel therapies for breast cancer increase, resulting in cancer survivorship, sequelae from these treatments have also increased. This study seeks to provide a literary review of one such sequela, upper extremity lymphedema in post-treatment breast cancer patients through the utilization of efficacious evidence-based strategies for prevention and management. Upper extremity lymphedema (ULE), an understudied, under-reported and debilitating side effect of breast cancer treatment is characterized by an accumulation of protein-rich fluid in the interstitial space, resulting from obstruction of lymph vessels.

Identify, through a review of literature, current strategies utilized in the prevention and treatment of this chronic, painful and debilitating problem.

Literature investigation revealed several methods employed to produce measurable outcomes to enhance QOL through prevention and management strategies. The literature also supports early identification of at-risk patients through enhanced assessment techniques, monitoring, standardizing at-risk assessment tools and increased awareness through educational efforts of the healthcare team. Implementation of effective strategies can lead to decreased incidences of lymphedema and manageable occurrences in patients. Although several predisposing factors were attributed to the development of ULE, multiple modality treatments were also noted in managing occurrences.

Several studies noted increased awareness through educational forums, didactic learning modules, as well as increasing the number of research studies focusing on this sequelae as vital components in addressing this problem.

Clinical practice outcomes are applicable to Oncology Nursing as this research confirms the importance of the awareness of upper extremity edema as a primary sequelae which greatly impacts breast cancer patients' QOL. Urgent methods are needed for the implementation of ongoing educational patient and staff training, as well as employing efficacious strategies to produce measurable outcomes to enhance patients' quality of life.

Nurses are encouraged to take a more proactive role in utilizing vehicles to disseminate this information, including participation in multidisciplinary conferences aimed at addressing this little understood problem. Nurses also play a pivotal role in early identification and implementation of strategies to prevent and manage this debilitating side effect of breast cancer therapies.

## 2980

**EVALUATION OF REGENECARE® TOPICAL GEL FOR TREATMENT OF ADVERSE RASH SYMPTOMS ASSOCIATED WITH EGFR INHIBITOR DRUGS.** Patricia Gowland, RN, BSN, OCN®, CCRC, Ingalls Cancer Research Center, Harvey, IL, USA; Joy Vlamakis, RN, Ingalls Cancer Research Center, Harvey, IL, USA; Julie Koch, RN, BSN, Ingalls Cancer Research Center, Harvey, IL, USA; Kimberly Lloyd, MS, MPM, Medical Inc., Irving, TX, USA; and J.B. Spaulding, PhD, University of Texas, Denton, TX, USA.

Targeted cancer therapies that inhibit the epidermal growth factor receptor (EGFR) have emerged as a novel and effective therapy against various malignancies such as breast, lung, head and neck, and colorectal cancers. EGFR inhibitor drugs are attractive treatment options because they are more tumor-specific and have a more manageable toxicity profile compared to traditional chemotherapy. Unlike standard chemotherapy, which affects most replicating cells, EGFR inhibitors target pathways that are crucial for cancer cell growth and survival. Despite these benefits, the increasing clinical use of EGFR inhibitors have led to the identification of a commonly occurring side effect of an acneiform rash in about 88% of treated patients. This adverse event can result in treatment dose reduction, interruption, or cessation. Oncology nurses need new insights into managing this common adverse side effect.

The purpose is to provide the oncology nurse with an evidence based adjunct therapy to treat rash symptoms at initial onset for optimum patient management.



A single center, prospective pilot study enrolled 20 patients treated with EGFR inhibitor drugs to evaluate Regenecare® topical gel (MPM Medical Inc., Irving, TX) in reducing itching and pain associated with EGFR inhibitor rash. The gel contains marine collagen, aloe vera and 2% lidocaine. This ingredient combination has shown evidence for wound healing, and reduction in pain and itching. Participants were instructed to apply gel four times daily to rash areas at initial onset. Nurses assessed rash severity weekly using NCI CTCAE version 3. Patients responded weekly and at end of treatment cycle to quality of life questionnaires. A statistician evaluated original data and reported results.

The topical aloe, collagen and lidocaine gel showed 92.9% and 85.7% affectivity in reducing itching and pain respectively, the most commonly reported adverse symptoms of patients with grade 1–2 rash. The gel was reported to reduce these symptoms within 15–30 minutes after application.

Evidence-based symptom management of EGFR inhibitor rash is important for the oncology nurse in providing optimal care for this patient population. The clinical results indicated the gel is a safe and effective adjunct therapy for managing grade 1–2 rash symptoms.

## 2982

**GENETIC ASSESSMENT TOOL FOR HEALTH ASSESSMENT OF RISK (GATHAR).** Julie Eggert, RN, PhD, NP-BC, GNP, AOCN®, Clemson University, Clemson, SC, USA; Emily Ayers, BSN, Greenville Hospital System, Greenville, SC, USA; Stephanie Jacobs, BSN, Bon Secours St. Francis Health System, Greenville, SC, USA; and Leslie Renwick, BSN, Bon Secours St. Francis Health System, Greenville, SC, USA.

Genetics/genomics is being recognized for its impact on risk for development of cancer. Once a risk is identified oncology nurses can educate the patient and family about necessary lifestyle changes, chemoprevention potential and early detection guidelines.

The purpose of this study is to determine if the collection of family history in three generational pedigree format provides a more complete view of patients' health risk than the traditional collection method. Specifically, this research addresses the ONS Research Priority 3. Research in health promotion: Primary and secondary prevention.

Pedigrees have been used for decades as a tool to identify genetic and behavioral relationships beyond those of first degree relatives. This project extends the use into a cancer screening for low income under-insured individuals.

This non-experimental comparative study was conducted at a health screening through a mobile wellness center. Twenty-one patients were interviewed, in ten minutes or less. The corresponding traditional health history for each patient was obtained from the chart. Targeted health conditions included cancers. The pedigree tool was from the US Surgeon General's Family Health History website.

Due to a small ( $n = 21$ ) and skewed sample a non-parametric Wilcoxon Signed Ranks statistic was used for data analysis. To answer the research question: Can a pedigree tool identify more families at risk than the traditional health history the results were statistically significant ( $z = -3.981$ ,  $p = .0005$ ). Regarding the research question: Can a pedigree tool identify more families at risk for cancer in families than the traditional health history the results were statistically significant ( $z = -3.487$ ,  $p = .0005$ ).

Results indicate that use of pedigrees in the practice setting is valuable in obtaining detailed incidence of disease in families. Patients were more motivated once they had the "visual" of the disease filtering through the generations. Once a pedigree type family history collection tool is standardized and becomes a routine part of nursing assessment, the information gathered can be used to develop a prescription for individualized prevention of disease for patients and even their families.

Continued efforts must also be made to increase the population's awareness about the importance of knowing what diseases are present in their family. The use of pedigrees can play an important role in patient education to combat these identified risk factors.

## 2985

**A TEAM APPROACH TOWARD PROMOTING PATIENT ADHERENCE TO ORAL CHEMOTHERAPY PROTOCOLS.** Carol Blecher, RN, MS, AOCN®, APNC, Aptium Oncology–Trinitas Comprehensive Cancer Center, Elizabeth, NJ, USA; Jeanette Barefoot, RN, MSSL, OCN®,

Aptium Oncology–Trinitas Comprehensive Cancer Center, Elizabeth, NJ, USA; Diane Davis, RN, BSN, OCN®, Aptium Oncology–Trinitas Comprehensive Cancer Center, Elizabeth, NJ, USA; Juanita Fryar, RN, BSN, OCN®, Aptium Oncology–Trinitas Comprehensive Cancer Center, Elizabeth, NJ, USA; and Julio Fumoso, BS, RPh, Aptium Oncology–Trinitas Comprehensive Cancer Center, Elizabeth, NJ, USA.

With the increased use of oral anticancer therapies, multiple risks and challenges have been identified. Oral therapy provides for greater flexibility and convenience for patients serving to enhance quality of life, while presenting challenges such as increased risk of dosing errors, drug interactions, and non adherence. Studies regarding adherence to hormonal therapy for breast cancer described adherence rates ranging from 83% down to 77% within the first two years of therapy. These figures continue to decrease over time to a range of 50% to 64% within four to five years. Based on this data and a literature review we developed a program to promote adherence to oral anti-cancer protocols.

The purpose of this program is for the physicians, nursing and pharmacy to partner in providing safe and effective management of oral anticancer regimens. Checks and balances are instituted throughout the process in order to maximize safety and adherence.

Staff education programs were presented regarding oral regimens and the new policies being instituted. A new oral anticancer therapy order sheet was developed by pharmacy. The physicians request oral agents on these sheets and obtained chemotherapy/biotherapy consents. The order sheets are sent to pharmacy where current medications were reviewed for interactive potential. An appointment is made for an education session where the patient is instructed regarding proper use, side effects/toxicities and safe handling of the agents. Patients are given printed materials and calendars to monitor medication use and they are given the prescription. Prior authorization is completed if necessary. Phone interventions are conducted weekly for the first month, biweekly for the second and third month and monthly thereafter. Patients are instructed to bring their prescription bottles with them for each visit and these are sent to pharmacy for pill counts. A program is also offered to local pharmacists to educate them regarding the oral agents, toxicity profiles and safe handling.

Adherence is evaluated through pill counts, evaluation of calendar use and monitoring of prescription renewals.

By combining safeguards, patient education strategies and intensive follow up we are attempting to ensure adherence and optimal outcomes for patients receiving oral chemotherapy regimens.

## 2986

**RAPID AND EFFECTIVE CONTROL OF BREAKTHROUGH PAIN (BTP) AND FAVORABLE TOLERABILITY IN CANCER PATIENTS TREATED WITH BEMA™ (BIOERODIBLE MUCOADHESIVE) FENTANYL.** WD Charlie Hill, RN, Invisions Consultants, LLC, San Antonio, TX, USA; David Blum, MD, BioDelivery Sciences International, Raleigh, NC, USA; and Eldred Giefer, MS, Statisticians Without Borders, Bahama, NC, USA.

Transmucosal delivery of fentanyl can provide prompt control of breakthrough pain (BTP) in cancer patients taking stable doses of opioids for chronic pain.

The BEMA™ drug delivery system was designed for rapid oral transmucosal drug delivery with dose to dose reliability of plasma concentrations and ease of patient use. BEMA™ Fentanyl consists of a small, dissolvable, polymer disc formulated with the opioid narcotic fentanyl for application to the buccal membranes. The mucoadhesive polymers adhere to the membrane and rapidly deliver fentanyl into the bloodstream.

Eighty adult cancer patients on stable opioid doses who achieved adequate control of BTP with BEMA™ Fentanyl (200 to 1200µg) in an open label titration phase were treated for up to 9 BTP episodes with the previously determined BEMA™ Fentanyl dose (6 episodes) and placebo (3 episodes) in a double-blind random sequence. Subjects recorded pain intensity (PI; 11 point scale) at the time of treatment, and at 5, 10, 15, 30, 45, and 60 minutes after treatment; the primary outcome measure was the sum of PI differences (SPID) at 30 minutes. Subjects also recorded their overall satisfaction with study medication (5 point categorical scale) at 60 minutes after dosing or at the time of rescue medication use.

A total of 394 BTP episodes were treated with BEMA™ Fentanyl and 197 with placebo. SPID values for BEMA™ Fentanyl-treated episodes

were statistically significantly greater than placebo-treated episodes beginning at 15 minutes through 60 minutes. At 60 minutes after dosing or at the time of rescue medication use, subjects rated their overall satisfaction with study medication as 'Good' or better for 67.1% of their BEMA™ Fentanyl-treated BTP episodes compared with 47.2% of placebo-treated BTP episodes. The mean score for overall satisfaction with study medication was statistically significantly greater for BEMA™ Fentanyl compared with placebo. The most commonly reported treatment related adverse events were somnolence (6.0%), nausea (5.3%), dizziness (4.6%), and vomiting (4.0%), which are commonly associated with opioid use. There were no reports of treatment related mucositis or respiratory depression.

BEMA™ Fentanyl provides patients with a rapid, effective, and convenient means to control cancer BTP with a favorable tolerability profile.

**Funding source: BioDelivery Sciences International**

## 2988

**AFTER BEING DIAGNOSED WITH BREAST CANCER, WHO DO WOMEN CANDIDLY COMMUNICATE WITH?** Marcia Boehmke, DNS, ANPC, RN, University at Buffalo, The State University of New York, Buffalo, NY, USA.

**Significance and background:** Communication, after the diagnosis of breast cancer, is essential in order for women to effectively cope, not only with the diagnosis of breast cancer, but with adjuvant treatments, side effects, and symptom distress. Research, regarding communication in breast cancer women, has focused on spouses and/or significant others, physicians, and the Internet as sources of support. However, women have a tendency to protect their spouses/significant others from their symptoms and distress; physicians are busy and women typically do not want to "bother" them; Internet use, recognized as a potential source of communication, support, and information, can be both confusing and upsetting.

**Purpose:** In concert with the ONS research agenda that focuses on psychosocial research, the purpose of this study was to explore who women communicate with, sharing both their symptoms and symptom distress.

**Philosophical framework:** Hermeneutic phenomenology that focuses on the lived experiences of individuals undergoing the event guided this study. Women were asked who they shared their feelings/distress with and who they were most forthright with.

**Methods and analysis:** Narratives were analyzed using the seven-stage hermeneutic process. The Principal Investigator was the primary reviewer and derived the themes. If there were any questions about the narratives, an expert in hermeneutic phenomenology was consulted until 100% agreement was achieved.

**Findings:** Two themes emerged: Protection and Communication. Women wanted to protect their spouses and family from symptoms they were enduring. They would go through great lengths to maintain a sense of normalcy and hide symptoms they were experiencing. When spouses/significant others asked them how they were feeling, the answer was resoundingly "OK". In short order, they called their girlfriend, cried, and shared how they really were doing.

**Implications:** This study suggests that contrary to some research, women do not always share concerns with spouses, physicians, or the Internet, but are usually very open with female friends. Health care providers need to be aware of this communication pattern and not be judgmental when spousal support is not visible, for it may be the woman's choice. Fostering paths of communication women with breast cancer find most helpful is essential.

## 2989

**THE RELATIONSHIP BETWEEN JOB SATISFACTION AND JOB-RELATED STRESS AND HOW IT INFLUENCES INTENTION TO LEAVE ONCOLOGY NURSING.** Natasha Ramrup, RN, MSN, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY, USA; and Maria Pacis, MS, APRNC, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY, USA.

The US Bureau of Labor Statistics estimates that by 2010, the nursing shortage will exceed one million nurses. As cancer is among the most prevalent diseases in the elderly, the fastest-growing age demographic in the US, the oncological patient population will continue to increase in size. As such, oncology nurse retention is an important factor in providing quality healthcare and helping to alleviate the nursing shortage.

The purpose of this study is to examine the relationship between job satisfaction and job-related stress, and how these factors influence intention to leave oncology nursing. This study relates to the ONS Research Agenda in that retention of oncology nurses has the potential to lead to an increase in research output, as experienced nurses are better able to generate research questions based on their years of practice.

Frederick Herzberg's motivation – hygiene theory is used to understand work-related behavior in the relationship between job satisfaction and job related stress among oncology nurses.

A convenience sample derived from the inpatient registered nursing staff of an NCI-designated comprehensive cancer center was utilized. Two valid and reliable tools (McCloskey/Mueller Satisfaction Scale and Nursing Stress Scale) were used to measure job satisfaction and stress. Participants were also asked to provide demographic information and state their intention to leave their current position within the next six and 12 months. All responses were anonymous and voluntary. Data was analyzed using descriptive statistics, correlation, t-testing, and one-way ANOVA.

The survey was distributed to 503 nurses, with a response rate of 65% (N=327). Age and experience were positively correlated with job satisfaction, and negatively correlated with stress and intention to leave. Other findings suggest that satisfaction with one's immediate supervisor, recognition from superiors, and satisfaction with social contact with colleagues are inversely correlated with intention to leave.

This suggests that emphasis should be placed on factors that increase job satisfaction and decrease stress levels of younger, less experienced nurses in order to increase retention. Interventions should be directed at fostering a good relationship with one's supervisor, having supervisors acknowledge a job well done and providing a nurturing environment that promotes collegial social contacts.

## 2991

**FORCES OF MAGNETISM IN ONCOLOGY SERVICES: MAY THESE FORCES BE WITH YOU!** Nicole Reimer, BSN, RN, OCN®, Lehigh Valley Hospital and Health Network, Allentown, PA, USA; and Melissa Kratz, MSN, RN, AOCN®, Lehigh Valley Hospital and Health Network, Allentown, PA, USA.

The American Nurses Credentialing Center (ANCC) identifies 14 "Forces of Magnetism" that describe Magnet hospitals. These forces are defined as "elements that contribute to an organizational culture that permits patients to receive excellent care, from nurses practicing in an excellent health care environment." Twenty years of evidence show these Forces create an ideal practice environment. Thus, attention to the Forces should not only be undertaken in organizations desiring ANCC Magnet designation; rather it is a culture for which all organizations should strive.

The 14 Forces provide tangible goals to attain an organizational culture of Magnetism. Lehigh Valley Hospital and Health Network (LVHNN) achieved Magnet designation in 2002 and redesignation in 2006. This presentation will describe each of the 14 Forces, as defined by ANCC. Also detailed will be actions by LVHNN staff members on a 26-bed inpatient oncology unit that demonstrate each Force. Finally, proven foundation underpinnings to promote the Magnet culture will be shared.

Some of the more innovative actions include: an Integrated Oncology Care Committee to promote care throughout the continuum; computerized physician order entry; medication administration using barcode scanning; six-sigma initiative to eliminate chemo- and bio-therapy administration errors; peer review for performance appraisal and untoward event analysis; 100% staff participation in cancer related community outreach; strong shared governance model; consultation support by 2 clinical specialists, nurse practitioner, and master's prepared educator; and, philanthropic support for staff to attend regional and national meetings and a six month oncology nursing internship, in which staff rotate through all Network oncology services.

The primary outcome was Magnet designation. Other quantitative outcomes include but are not limited to: receipt of numerous internal and external, regional and national quality awards; regular attainment of patient satisfaction raw scores in the 90s; and, employee satisfaction scores exceeding national benchmarks.

The national attention to health care quality and patient safety provides oncology nurses with leverage to lead the transformation of the

health care environment. Knowledge of and attention to the Forces of Magnetism can provide the foundation to achieve this transformation for delivery of oncology nursing care.

## 2993

**EVALUATION OF THE INTEGRATION OF GENETICS AND GENOMICS INTO NURSING PRACTICE.** Kathleen Calzone, RN, MSN, APNG, FAAN, National Cancer Institute, Genetics Branch—Center for Cancer Research, Bethesda, MD, USA; Jean Jenkins, PhD, RN, FAAN, National Human Genomic Research Institute, Bethesda, MD, USA; Jan Yates, PhD, RN, National Institutes of Health, Clinical Center, Bethesda, MD, USA; Georgie Cusack, MS, RN, AOCN®, National Institutes of Health, Clinical Center, Bethesda, MD, USA; and Coleen McBride, PhD, National Human Genome Research Institute, Bethesda, MD, USA.

Genetic/genomic science is redefining the understanding of the continuum of human health and illness. Recognition of genetics/genomics as a central science for nursing is essential. Healthcare increasingly demands that the registered nurse (RN) use genetic and genomic information and technology. With the establishment of the Essential Nursing Competencies and Curricula Guidelines for Genetics and Genomics (2006), this an ideal time to establish a benchmark of attitudes, practices, receptivity, confidence and competency of integrating genetics/genomics into nursing practice.

The aim of this survey was to benchmark genetic/genomic nursing competency at a large research institution to serve as the basis by which to measure effectiveness of planned education activities.

Roger's Diffusion of Innovation theory guided this study.

We report findings from the baseline online survey utilizing a convenience sample of practicing nurses. The survey assesses nurses' knowledge, skills, and attitudes related to collecting family history, beliefs about the usefulness of genetic/genomics in nursing practice, and use of race and ethnicity and other patient characteristics in clinical decision making related to genetic testing. Results were tabulated and analyzed using descriptive statistical techniques.

239 licensed RNs responded for a response rate of 25%. Respondents ranged in age from 22–72, mean age 47, with an average of 19.5 years in practice. Most were Caucasian, female and the majority prepared in nursing at the baccalaureate level. 73% considered genetics to be very important to nursing practice but only 32% had ever heard or read of the Essential Competencies. 81% rated their understanding of the genetics of common diseases as poor or fair and most felt this lack of understanding limited their ability to discuss the genetics of common diseases with their patients. 39% reported attending a course in which genetics was a major component and 75% stated they intended to learn more about genetics. In conclusion, most respondents felt genetics was important, felt inadequately prepared to incorporate genetics and genomics into their practice, and were unaware of the Essential Competencies. Most were receptive to learning more or had already pursued education in genetics/genomics, the essential first step to translating genetic/genomic discoveries to benefit patient care.

## 2999

**WHAT DO YOU DO WHEN THERE IS NO PUBLISHED EVIDENCE-BASED GUIDELINES—ONE FLOOR'S SOLUTION.** Portia Velasquez, BSN, RN, OCN®, University of Texas M.D. Anderson Cancer Center, Houston, TX, USA; and Donna Gerber, RN, CNS, PhD, AOCN®, University of Texas M.D. Anderson Cancer Center, Houston, TX, USA.

Current nursing practices need to be Evidenced Based. The days of doing care because it is traditional are rapidly going by the wayside. Many of the anti-neoplastic agents that are given to the patients have side effects regarding their renal function. Dopamine, a vasopressor, usually administered in hemodynamically unstable patients has clear guidelines in the literature on vital sign monitoring requirements in this setting. There is published evidence that low dose Dopamine at 3–5 mcg/kg/min. will reverse the renal toxicities of Interleukin-2 and high dose Ifosfamide given to most of the patients on our Melanoma/Sarcoma inpatient unit. Thus, low dose Dopamine is frequently a part of the treatment regimens. The question arose on the best practice to monitor the patients in regard to frequency of vital signs when initiating, changing doses, and tapering off of low dose Dopamine.

Patient safety was the primary concern of the nurses on the unit, but the workload of frequent vital signs for several hours was burden-

some. Data was needed to ascertain how patients respond to low dose Dopamine so that appropriate guidelines could be written regarding the frequency of vital signs.

An Evidence-Based team was formed and developed a project to collect data from the subjects receiving low dose Dopamine with their chemotherapy regimens which contained either Interleukin-2 or high dose Ifosfamide. Data collected included the type of chemotherapy they were receiving and the vital signs that are presently required by our institution during initiation, dose changes, and tapering. The goal was to collect data on at least 100 cycles of treatment and is presently ongoing and will be completed shortly.

The data will be analyzed and recommendations for nursing practice for patients receiving low dose Dopamine not for hemodynamic purposes will be made to The Cardiac Medication Monitoring Committee at the institution for changes in the guidelines.

This poster will describe the process (including recommendations) of how nurses can be instrumental in exploring nursing practice questions in the absence of published evidence in the literature.

## 3002

**DEVELOPMENT OF EFFECTIVE GRAFT-VERSUS-HOST-DISEASE MANAGEMENT: STANDARD OF CARE OF THE POST ALLOGENIC BONE MARROW TRANSPLANT PATIENT.** Anne Smith, RN, OCN®, Roswell Park Cancer Institute, Buffalo, NY, USA; Kathleen West, BS, PharmD, Roswell Park Cancer Institute, Buffalo, NY, USA; and Lisa Privitere, RN, OCN®, Roswell Park Cancer Institute, Buffalo, NY, USA.

Evidence-based symptomatic management in oncology nursing practice continues to be a challenge. Methotrexate (Mtx) is an agent commonly utilized in graft-versus-host-disease (GVHD) prophylaxis for patients who undergo allogeneic blood or marrow transplant (BMT). As an antiproliferative agent, Mtx impairs mucosal regeneration and can delay engraftment. Although the conditioning regimen is the most common cause of mucositis, Mtx contributes to the prolongation and exacerbation of mucositis. Oral mucositis in BMT is associated with adverse economic and clinical outcomes and often results in a long and complicated hospital stay. At RPCI we have previously used GVHD prophylaxis regimens containing "Standard" Mtx (10 mg/m<sup>2</sup> on days 1, 3, 6 and 11 post stem cell infusion) or "Mini" Mtx (5 mg/m<sup>2</sup> on days 1, 3 and 6). We now present our experience with "Micro" Mtx 2.5 mg/m<sup>2</sup> on days 1, 3, and 6.

Our "Micro" Mtx regimen has been designed to provide a reduced dose of Mtx in order to reduce the incidence and severity of mucositis and without affecting time to engraftment.

Mtx was administered to four patients for GVHD prophylaxis on 2.5 mg/m<sup>2</sup> on days 1, 3, and 6. Oral mucositis was assessed by nursing, utilizing the World Health Organization (WHO) mucositis scoring guideline. The nursing staff drew daily blood, which was evaluated by Laboratory Medicine at RPCI.

The first four consecutive patients received allogeneic transplantation with Fludarabine (125 mg/m<sup>2</sup>) and Melphalan (140mg/m<sup>2</sup>) as conditioning. Patients received unmanipulated peripheral blood stem cell grafts, Tacrolimus and MMF on d-1. The median age of patients was 57, gender two male and two female. Patients 1&2: WHO Mucositis score at d15 was grade 0. patient 3 WHO mucositis score was grade 1 orally at d8. Patient 4 WHO mucositis score was grade 0 at d7. Patient 1 engrafted on d8, Patient 2 engrafted on d11. Patients 3 and 4 are still early post BMT and have not engrafted yet.

The preliminary findings of this small trial have shown promising results. The incidence and severity of mucositis was reduced. Time to engraftment was not effected in the evaluable patients. We show that micro Methotrexate is well-tolerated.

## 3006

**AN INTEGRATED EDUCATION PROGRAM TO SUPPORT EVIDENCE-BASED ONCOLOGY NURSING PRACTICE.** Elizabeth Johnson, RN, MSN, AOCN®, AOCN®, Massachusetts General Hospital, Boston, MA, USA; Mimi Bartholomay, MSN, RN, Massachusetts General Hospital, Boston, MA, USA; Judith Curran, MSN, RN, Massachusetts General Hospital, Boston, MA, USA; Susan Finn, MSN, RN, Massachusetts General Hospital, Boston, MA, USA; and Hannah Lyons, MSN, RN, Massachusetts General Hospital, Boston, MA, USA.

The knowledge base that supports oncology nursing practice is extensive and complex given the ongoing implications for multiple body



system involvement. Even experienced nurses new to oncology can be overwhelmed by the intricacies of cancer patient care. There is a core of baseline knowledge which supports oncology nursing practice in multiple specialties.

The oncology clinical nurse specialists at a tertiary academic medical center sought to establish an educational program which would guide and support knowledge development for staff nurses working in various subspecialties of cancer care.

An oncology educational program was developed to address the learning needs at system and unit levels. An overview course on oncology care is presented every other month, alternating with the ONS Chemotherapy/Biotherapy Course, which is presented each alternate month. All nurses who practice on an oncology unit must attend both of these courses as a part of their orientation or provide evidence of content mastery. Individual units present additional formal education programs to support their practice, such as a bone marrow transplant course on the hematology/BMT unit and intraperitoneal chemotherapy on the gynecologic oncology unit. An eight-hour workshop on medical emergencies related to cancer was piloted in 2007 and will be repeated for open enrollment twice in 2008. Approved contact hours are awarded for all oncology educational offerings.

Response to the program has been very positive based on course evaluations and leadership feedback. In 2007, over 100 nurses from various cancer treatment units attended the overview course and then went on to complete the ONS Chemo course and courses on specific treatments. The program has matured to become part of the fabric of oncology nursing practice in the institution.

Collaboration among oncology CNSs enables shared responsibility for program development and implementation, opportunities to learn from and support each other, and presentation of quality programs. Presenting courses for all cancer nurses in the facility provides opportunities for standardization of practice, promotion of evidence-based nursing care, and cross pollination among individual oncology units. Overview courses enhance nurses' abilities to benefit from more specific content and skill development activities in their practice areas.

### 3007

**A PILOT STUDY OF THE OPTIMAL TOPICAL AGENT TO MINIMIZE RADIATION DERMATITIS DURING WHOLE BREAST IRRADIATION GIVEN AS PART OF BREAST CONSERVING THERAPY.** Maria Fenton-Kerimian, NP, NYU Clinical Cancer Center, New York, NY, USA; and Frances Cartwright, PhD, NYU Clinical Cancer Center, New York, NY, USA.

Breast cancer conservation therapy includes lumpectomy followed by whole breast irradiation (WBI). All women who receive WBI will experience some degree of radiation skin reaction ranging from mild erythema to moist desquamation resulting in treatment interruption and symptom distress. To reduce the risk of tumor cell repopulation, avoiding treatment interruption is a goal of treatment planning. Despite both the empirical and theoretical support for the need to know how skin care agents are related to these outcomes, little research has been conducted to capture these data. There is a need to determine efficacy of current skin care regimens according to the following outcomes: grade of radiation dermatitis and associated distress, treatment interruption and satisfaction with skin care regimen. The findings can be used by radiation oncology nurses to guide development of interventions that will identify the optimal standard of skin care for women undergoing WBI after breast conserving surgery.

**Purpose:** The NCI and ONS recommend that research be conducted to address treatment related concerns. This study was designed to address a gap in the literature regarding lack of evidence based data that is needed to standardize RT skin care regimens.

The NCI and ONS recommend that research be conducted to address treatment related concerns. This study was designed to address a gap in the literature regarding lack of evidence based data that is needed to standardize RT skin care regimens.

Dodd et al. Symptom Experience Model provides a framework to examine the influence of skin care regimens on incidence and severity of radiation dermatitis associated pain and distress, treatment interruptions, and satisfaction with skin care regimens.

Using a longitudinal RCT design, data will be collected from 300 women assigned to one of three topical treatments (hydrogel agent, derivative of marigold flower, hydrocortisone cream) during treatment and

90 days after. Outcomes will be measured using the NCI radiation dermatitis grade reaction scale, and the Dermatology Quality of Life Survey (DQLS). The mean, SD, and frequency distribution scores on the NCI Grading Criteria and the DQLS will be calculated for each time point. One way ANOVA will be used, treating each of the interventions as an independent variable with skin dermatitis as the dependent variable.

Study implementation is pending IRB approval.

### 3008

**A PEER REVIEW MODEL FOR CLINICAL LADDER PROGRAMS ACROSS ALL PRACTICE SETTINGS: AN 18-YEAR EXPERIENCE.** Mary Louise Kanaskie, RN, MS, RN-BC, AOCN®, Penn State Hershey Medical Center, Hershey, PA, USA; Margaret Felmler, BS, RN, OCN®, Penn State Hershey Medical Center, Hershey, PA, USA; and M. Lynn Shay, RN, OCN®, Penn State Hershey Medical Center, Hershey, PA, USA.

Recruitment and retention of experienced oncology nurses remains a challenge for nurse administrators in all practice settings. Historically, professional clinical ladder programs were developed to create a promotional system that would reward and recognize nurses who continue to practice at the bedside. Registered nurses value clinical competence and a career ladder that accurately reflects levels of practice. Many existing programs incorporate selection criteria that do not provide the objective criteria to truly measure nursing practice.

The Professional Ladder Committee has 18 years of experience with a peer review model that encompasses practice in both acute and ambulatory care settings. The clinical ladder is based on Benner's model of clinical knowledge development and consists of four levels and seven domains of practice. Staff progress from Level 1 to 2 at the completion of orientation. Levels 3 and 4 are voluntary and require application. The model also enables newly hired but experienced nurses to achieve the appropriate ladder recognition at completion of the employment probationary period. This poster describes the peer review process for application and renewal to the professional ladder and the decisions that have been tested.

A five-member team reviews the application for evidence of meeting objective criteria through clinical narratives, letters of reference and interviews. To achieve a level 3 or 4, applicants must consistently exhibit 90 percent of the criteria. Committee members have developed an evaluation tool for scoring criteria and identified those characteristics that are absolute. An appeals process for committee decisions is also well established.

Nurses achieving Levels 3 and 4 are evaluated annually on the practice characteristics. Midyear, the nurse manager and two peers complete an evaluation using the scoring tool. The clinical ladder committee reviews the reports of all level 3 and 4 nurses. Nurses who do not consistently meet the criteria have an opportunity to improve their performance midyear between annual performance appraisals.

Objective criteria grounded in actual nursing practice have provided the structure for consistent judgments and rewards. This peer driven process can serve as a model for oncology nursing leaders in all practice settings.

### 3009

**EDUCATING THE PLAIN COMMUNITY: A CANCER EDUCATION PROGRAM FOR THE AMISH.** Karen Schwaderer, RN, BSN, OCN®, University of Pittsburgh Medical Center, McKeesport, PA, USA; Elaine Martz, BS, Jameson Health System, New Castle, PA, USA; Peggy Berkley, RN, Pennsylvania Department of Health, New Castle, PA, USA; Randee Ankeny, RN, Pennsylvania Department of Health, Somerset, PA, USA; and Michele Swanhart, MSN, CRNP-BC, Planned Parenthood of Western PA, Inc., Johnstown, PA, USA.

Cancer education and promotion of early detection screenings has been proven to decrease the mortality rate of cancer. One group of people where there has been little documented cancer education and cancer screening is a religious secular group known throughout Pennsylvania as the Amish. Known for their simple, plain lifestyle, traditional cancer education and screenings would not suffice for this unique group of people.

The purpose was to promote and initiate cancer education, awareness and screenings in two geographically different groups of Amish/Mennonite people by using non-traditional education methods.

The Amish are a close knit, cloistered group that typically shun the outside world and modern conveniences. By using a trusted health

professional, who was well known to the community, discussion groups with cancer educators were held to assess the present knowledge base and gain input as to their concerns about cancer throughout their community. During these discussions, information was ascertained as to which education methods the community preferred.

In a small community located north of Pittsburgh, Pennsylvania, the Amish faithfully read a section of the local newspaper dedicated strictly to the Amish community. It was suggested that cancer information be distributed via articles in this section. An Amish volunteer has worked with the cancer education staff to edit the articles to accommodate language barriers and educational understanding. Fifteen published articles addressed issues that were relevant to community members. Seemingly, as a result of these articles, prostate screenings have increased from 12 participants in 2005 to 34 participants in 2007. Beginning in 2007, fecal occult blood tests were distributed at the prostate screening with a 68% return rate for analysis. In a small community located southeast of Pittsburgh, Pennsylvania, the first breast and cervical cancer screening was held in this rural and remote area in October 2007, with 16 women initially participating.

Gaining trust may be the most important step to bringing cancer education, awareness and screenings to underserved communities. By using known community members and making cancer education understandable and relevant to the people can significantly impact your cancer outreach efforts.

### 3013

**PROVEN STRATEGIES TO MAKE THE MOST OUT OF EMPLOYEE SATISFACTION ASSESSMENTS.** Nicole Reimer, BSN, RN, OCN®, Lehigh Valley Hospital, Allentown, PA, USA; Melissa Kratz, MSN, RN, AOCN®, Lehigh Valley Hospital, Allentown, PA, USA; and Deidre Kutzler, BSN, RN, Lehigh Valley Hospital, Allentown, PA, USA.

There is no component more important to healthcare quality than employees. Though many organizations conduct employee satisfaction surveys, evidence shows for these to truly impact positive outcomes, the process must be robust, incorporating key concepts and components. This presentation will describe a successful, biannual employee satisfaction assessment process utilized within a twice designated Magnet academic community hospital, with special focus on oncology services.

Results of a 1999 assessment for the designated organization, inclusive of oncology services, revealed much discontent among employees, evidenced by quantitative scores and qualitative comments. The organization committed to and implemented an in-depth, evidenced based process to interpret results and action plan for improvements. This same comprehensive process has been utilized for subsequent biannual assessments, through the present.

Prior to dissemination of biannual assessment results, all department heads attend education related to subsequent required actions, defined within an internally developed "Toolkit." The Toolkit prepares managers to be receptive to results and then, in collaboration with their staff, interpret results; select "Items for Celebration"; identify "Moments of Truth" (opportunities for improvement); and, action plan for improvements. Accountability is enhanced via electronic reporting of action plans to senior management.

The 2006 results were compared to a national database of 170 hospitals. Of 34 questions, the organization scored at or above the 90th percentile on 16 questions and between the 75th–90th percentiles on 15 questions. In the categories identified as most important to nursing satisfaction, the organization ranked in the top 4–13 percentiles. Overall staff satisfaction for inpatient oncology was 3.56, compared to the departmental database of 3.49, and there are no vacancies and no turnovers since March 2007. Qualitative feedback from oncology staff relates an enhanced culture, associated with a new leadership team and implementation of strategies to impact Moments of Truth.

The employee satisfaction assessment process utilized since 1999 has significantly impacted employee satisfaction throughout the organization and Oncology Services. This offering, through review of associated evidence and actions instituted within the presenting organization, will share proven strategies that can be modeled by any healthcare organization.

### 3014

**BEDSIDE SHIFT REPORT: A PATIENT SAFETY INITIATIVE.** Joanna Benestante, RN, BSN, M.D. Anderson Cancer Center, Houston, TX,

USA; and Ginger Mitcham, RN, BSN, M.D. Anderson Cancer Center, Houston, TX, USA.

The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) has developed standards to encourage patients' active involvement in an individualized plan of care as a patient safety strategy. A review of the literature provided supporting evidence that better health outcomes result when patients actively participate in their treatment plans. Traditional methods of shift-to-shift report, such as taped and verbal one-to-one reports, no longer meet patients' expectations and standards for safe and effective care. Implementation of a strategy to conduct bedside shift reports can increase patients' involvement in discussions and decisions about available treatment options, increase patient and staff satisfaction, promote teamwork, and increase team member accountability during shift exchanges.

A Quality Improvement initiative for bedside shift reporting was implemented to promote patient safety by creating an environment where patients could be more involved in their care. Bedside shift reporting supports the organization's patient care delivery model, "Connected through Caring," by placing the patient at the center of his/her own care decisions.

Prior to implementation of bedside reporting, an informal survey of team members revealed that only 19% of the nurses (n = 35) believed that bedside reporting would improve patient safety. The new process of bedside shift reports at shift change was implemented after overcoming some team members' resistance. Bedside shift report is a process in which oncoming and outgoing nurses meet at the patient's bedside to discuss patient's medical status, plan of care and progress towards care goals. Infusion pump settings and patient's status are also verified. Nurse managers supported the process with coaching and supervision.

After implementation, 62% of the nurses (n = 35) agreed that bedside shift reporting improved patient safety. Champions of the new strategy provided support and advocated patient benefits accomplished by providing opportunities for active participation in healthcare decisions.

The current focus on patient safety in healthcare demands that patients are provided opportunities, such as bedside shift reporting, to become more involved in their healthcare. Oncology nurses are in a unique position to utilize bedside shift reporting to promote patient safety by allowing patients options to actively participate in their own care.

### 3017

**NUTRITIONAL SYMPTOM SEVERITY AND BODY COMPOSITION OUTCOMES OF AEROBIC EXERCISE IN WOMEN WITH BREAST CANCER DURING AND AFTER CHEMOTHERAPY.** Jean Brown, PhD, RN, FAAN, University at Buffalo, Buffalo, NY, USA; Carol DeNysschen, PhD, MPH, RD, University at Buffalo, Buffalo, NY, USA; Maria Cho, PhD, RN, University of California, San Francisco, San Francisco, CA, USA; and Marilyn Dodd, PhD, RN, FAAN, University of California, San Francisco, San Francisco, CA, USA.

Few studies have examined nutritional symptoms and body composition outcomes of aerobic exercise in cancer.

The effects of tailored, 5-days/week aerobic exercise on nutritional symptoms and body composition during and after chemotherapy were tested on women with breast cancer. Research questions were

1. What were the frequency and severity of nutritional symptoms during and after chemotherapy?
2. What were the relationships of nutritional symptoms with body composition?

Hypotheses were

1. Women who exercised during and/or after chemotherapy reported fewer and less severe nutritional symptoms than those who did not exercise controlling for baseline nutritional symptoms.
2. Women who exercised during and/or after chemotherapy had better body composition than those in other groups, controlling for baseline measures.

Brown's biopsychosocial model of cancer-related nutrition and UCSF symptom model.

Using a single-blind randomized design, women were randomly assigned to exercise during and after chemotherapy, after chemotherapy only, or not exercise. Symptoms were measured by an 11-point Likert scale. Weight and height were measured using one balance beam scale and stadiometer. Percent body fat and lean body mass were measured

with DEXA. Bio/psychometric properties of all measures are well established. Analysis included descriptive, correlational, and regression techniques.

101 women participated whose average age was 49.9 years ( $SD=9.6$ ). 70% were married or partnered, 76% were white, most had graduated from college, and most had incomes  $< \$50,000$ . 85% received adriamycin/cytosin chemotherapy, and 56% also received radiotherapy. 37–43% had mild taste changes, nausea, constipation, and anorexia at baseline and end of treatment, but these diminished post treatment. There were no significant correlations of nutritional symptoms with body composition. No group differences were found in the total symptoms or symptom severity. Women who exercised during and after chemotherapy had significantly lower body weights than those in other groups when baseline weight was controlled. There is strong evidence that breast cancer recurrence may be associated with overweight and obesity, and aerobic exercise may reduce the weight gain that many women with breast cancer experience. Future studies should test effects of resistance exercise on body composition.

### 3018

**SYMPTOM PREVALENCE ACROSS SIX PHASES OF THE OVARIAN CANCER DISEASE TRAJECTORY.** Heidi Donovan, PhD, RN, University of Pittsburgh School of Nursing, Pittsburgh, PA, USA; Chantiel Umberger, University of Pittsburgh School of Nursing, Pittsburgh, PA, USA; Xiaoli Lu, MS, University of Pittsburgh School of Nursing, Pittsburgh, PA, USA; Susan Sereika, PhD, University of Pittsburgh School of Nursing, Pittsburgh, PA, USA; and Paula Sherwood, PhD, RN, CNRN, University of Pittsburgh, Pittsburgh, PA, USA.

Women with ovarian cancer experience a high number of co-occurring symptoms. Symptom experiences across different phases of the disease trajectory are not well documented and could guide assessment and intervention efforts.

Patient education is an oncology nursing research priority. The purpose of this study is to compare symptom prevalence in women with ovarian cancer at six different phases in the disease trajectory to focus patient education efforts.

The M.D. Anderson Symptom Research Group framework guides the study. This framework focuses on shifting away from a dependence on patient initiation of symptom reports toward a systematic clinician assessment in order to improve cancer symptom management.

Disease, treatment and symptom severity data were extracted from a dataset of 713 women with a history of ovarian cancer. Disease and treatment phase was classified as: (I) no evidence of disease (NED) and never received chemotherapy ( $n = 64$ ); (II) NED  $< 5$  years after primary treatment ( $n = 180$ ); (III) NED  $> 5$  years after primary treatment ( $n = 94$ ); (IV) NED after recurrence ( $n = 96$ ); (V) on treatment for recurrence ( $n = 155$ ); and (VI) not receiving treatment for recurrence ( $n = 90$ ). Due to non-normality of the symptom severity data, non-parametric methods were used in comparative analyses.

The strongest distinguishing symptoms across phases were hair loss, lack of appetite, nausea, weight loss, vomiting, shortness of breath, bowel disturbances, and numbness & tingling. The most prevalent symptoms at each phase will be discussed. Phase V (on treatment for active recurrence) had higher symptom prevalence rates than all other phases. Interestingly, Phase III subjects reported a lower prevalence of bowel disturbances, depression, fatigue, and sexuality concerns when compared to their chemo naïve counterparts (Phase I).

Patient education about all possible cancer and treatment related symptoms is time consuming and overwhelming to patients. Greater understanding of the specific prevalence of symptoms at different phases of disease can facilitate optimal assessment and intervention efforts.

### 3019

**NEW WARNINGS AND RESTRICTIONS ON THE USE OF ERYTHROID STIMULATING AGENTS (ESAs): NURSING IMPLICATIONS AND THE DEVELOPMENT OF A NEW RISK ASSESSMENT TOOL.** Kathleen Pelc, RN, BSN, OCN®, North Shore University Hospital, Lake Success, NY, USA; Robin B. Brenner, RN, North Shore University Hospital, Lake Success, NY, USA; Karen Gleason, RN, North Shore University Hos-

pital, Lake Success, NY, USA; and Richard J. Gralla, MD, North Shore University Hospital, Lake Success, NY, USA.

ESAs have been among the most frequently used agents in oncology. Recent analyses have questioned both efficacy and safety. The FDA no longer allows claims of fatigue or quality of life improvement and has placed “black box” safety warnings in the package insert. A Cochrane meta-analysis with 9353 patients demonstrated a trend toward decreased survival with increase in thrombosis. An earlier analysis reported an increase in hypertension. The impact of the warning and decreased coverage by CMS (hemoglobin  $< 10\text{g/dl}$ ; no coverage for non-chemotherapy anemia) led to reduction of ESA prescribing (ESA use has decreased 70% in our practice). These newly identified risks present challenges to nursing.

Our goal is to provide Oncology Nurses with evidenced-based Risk Assessment tools enabling the incorporation of identified risks into their practice. Ambulatory care nurses are in a position to assess thrombotic risk factors, be alert to concomitant treatments with overlapping toxicities, assess hypertension, assess fatigue, and allay anxiety related to withholding of ESA use. Thrombosis and hypertension are particularly significant as they are also side effects of anti-VEGF agents such as Bevacizumab.

After the development of the evidence based Risk Assessment Tool, and the patient self care literature, the nursing staff was able to identify patients at high risk for ESA-related adverse events (AEs). Patients were identified based on diagnosis, ESA use, anti-VEGF treatment, and comorbidities.

The nursing staffs' use of the Tool identified potential or actual AE's and became standard operating procedure (SOP). Patient education for self care related to identifying and seeking medical care for ESA-related AEs also became SOP. The purpose of our study is to demonstrate the Tool and its acceptance among nursing staff.

Changes in use of oncologic agents can have a major impact on oncology nursing. This is the case with the newly identified decreased efficacy and increased risks with ESAs. Our risk assessment tool is a practical approach for making newer evidence part of daily practice. Nurses empowered with such current information, assessment tools and educational literature are more able to identify patients at risk for AE's related to ESA use.

### 3021

**THE NEW PATIENT TREATMENT ORIENTATION PROGRAM: IMPROVING PATIENT EDUCATION SATISFACTION BY EMPOWERING PATIENTS AND THEIR CAREGIVERS.** Mary Vecchio, RN, MSN, ANP-C, OCN®, Hunterdon Regional Cancer Center, Flemington, NJ, USA; Audrey Vitollins, MSW, LCSW, Hunterdon Regional Cancer Center, Flemington, NJ, USA; Barbara Tofani, RN, MSN, AOCN®, Hunterdon Regional Cancer Center, Flemington, NJ, USA; Jacqueline Allen, RN, MSN, CNS, AOCN®, Hunterdon Regional Cancer Center, Flemington, NJ, USA; and Jennifer Case, Hunterdon Regional Cancer Center, Flemington, NJ, USA.

Content: Results from the Press Ganey Patient Satisfaction Survey indicated that patients felt that they did not receive a satisfactory explanation of treatment side effects. The Hunterdon Regional Cancer Center was in the 7th percentile for patient education satisfaction on chemotherapy side effects and 33rd percentile for patient education satisfaction on radiation side effects.

The purpose of developing a treatment orientation program was to improve patient education satisfaction. Research conducted by Lazarus and Folkman provided the conceptual model that “familiarity with the physical setting and available resources will provide the support needed to decrease psychological stress and favorably influence satisfaction with health care.”

The decision to move forward was based upon data retrieved from the 2006 *Oncology Nursing Forum* article “A Patient Orientation Program at a Comprehensive Cancer Center” and presentations at the 2006 Oncology Social Workers Conference. Representatives from all facets of the HRCC healthcare team were involved in the development process. The decided format was a two-hour weekly group setting offered to both patients and caregivers, where individual departments presented a general overview of services and resources. The orientation concluded with a tour.

The building blocks used to decrease psychological stress were the Cancer Center's established reputation of personalized care and its nursing priority of patient education. Desired outcomes included participation of 75% of all new patients in the treatment orientation program and an



increase to the 50th percentile in patient education satisfaction for both areas by the 4th quarter report of the Press Ganey Survey.

Oncology nurses provide the key elements of patient education through a variety of interventions. This program alters the learning environment and format of information dissemination to maximize the effectiveness of those interventions. Refinements to the program included individualized invitations, streamlined data collection to correlate patients from both chemo and radiation, and a participant evaluation form.

Attendees of the program are given an interactive journal created by survivors that engages the patient and caregiver to actively participate in the decision-making processes throughout their cancer treatment journey. The implementation of this program has inspired the design format of our upcoming survivorship program.

### 3023

**THE COST OF CARING FOR THE UNINSURED: CAN PATIENT NAVIGATION BE THE ANSWER?** Karen Schwaderer, RN, BSN, OCN®, University of Pittsburgh Medical Center, McKeesport, PA, USA.

Patient Navigation (PN) is a new concept designed to assist underserved and poor Americans in receiving timely and quality cancer screening and treatment. While the concept has gained momentum across the nation, research is being formulated to prove that navigation can make a difference in clinical outcomes for patients. Little effort is being made to research the financial impact on institutions for caring for the uninsured and the financial impact of PN.

A National Cancer Institute funded PN program was instituted in March 2006 in an urban community hospital in Pittsburgh, PA. During the initial implementation, anecdotal information became evident that navigation could become a cost efficient method in dealing with uninsured populations. The purpose of this abstract is to present a case study demonstrating that Patient Navigation may be a viable cost effective method to offset the cost of caring for the uninsured.

An uninsured patient with Stage IV malignant melanoma was seen at the community institution in June 2006. The process for providing care through the hospital's charity care program was initiated. The patient was ordered high dose Interferon, with treatment spanning over a year period. The Navigator was consulted and subsequently began the process to apply to the drug company's indigent program.

Over a span of 3 months, from June to September, the patient received high dose Interferon, with the drug being provided free of charge via the pharmaceutical indigent program. The patient had multiple breaks in treatment during this span of time due to side effects. The patients cost to the institution was calculated by the hospital Pharmacy Department as \$7,499.82. Had the patient received the ordered one year of treatment, the total cost saving to the hospital would be approximately \$30,000.

While Patient Navigation is a concept which is receiving favorable reviews from physicians and patients who have used the program, more effort is needed to analyze the fiscal benefit to financially struggling community hospitals. Future cost benefit studies could possibly prove that Patient Navigation can play a major role in offsetting uncompensated cancer care.

### 3024

**HOW APNs ARE CHANGING THE FACE OF SURVIVORSHIP CARE.** Marcia Grant, RN, MN, AOCN®, City of Hope National Medical Center, Duarte, CA, USA; Denise Economou, RN, MN, AOCN®, City of Hope National Medical Center, Duarte, CA, USA; Betty Ferrell, PhD, FAAN, City of Hope National Medical Center, Duarte, CA, USA; and Smita Bhatia, MD, MPH, City of Hope National Medical Center, Duarte, CA, USA.

More patients are surviving cancer today than ever before. Providing the care and follow up of 11 million cancer survivors is a public health concern. The Institute of Medicine (IOM) report, From Cancer Patient to Cancer Survivor includes a recommendation for survivorship education of health care professionals.

This NCI-supported project provides a survivorship educational workshop with vigorous follow-up, support, and evaluation to health care professional teams to initiate changes in cancer centers' survivorship care. Content includes survivorship issues, examples of current models of care and the role of the APN.

Two person health professional teams from cancer centers are eligible to apply and competitively selected. Expert faculty provides survivorship

education. Each team develops 3 goals with goal progress reported at 6, 12, and 18 months. Goals are categorized into structure, process and outcomes. Participants complete Institutional Surveys at baseline and 12 months that document statistically significant changes in survivorship philosophy and care in the participating institutions.

Fifty-two, teams attended the first of four annual courses. Twenty-six teams included at least one APN. Teams represented a variety of cancer settings across the nation. The number of annual new patients seen in the teams' settings ranged from 10 to 14,634 and the number of patient visits ranged from 10 to 173,689, illustrating patients who could ultimately benefit from this training. Goal categories totals were: Structure- 3%, Process- 85%, and Outcome-12%. Thirty-six percent of the total goals were directed towards patient, professional or administration education, 25% of those were from APN teams. Ten percent of the total goals were directed at care plan development, 8% of those were APN teams. Ten percent of the goals included survivorship clinic or team development; of those 6% were teams that included APNs.

APNs are taking on a major role in the planning and provision of survivorship care and are providing the coordination of follow up care in a variety of settings. Goal directed education and continued follow up and support from this project is one approach that is making a difference in the survivorship care provided in participating institutions.

### 3025

**THE BMT TRANSITION NURSE: A NEW AND NECESSARY ONCOLOGY NURSING ROLE.** Sarah Thirlwell, RN, MSC, MSC(A), OCN®, Moffitt Cancer Center, Tampa, FL, USA; Pamela S. Smith, RN, OCN®, Moffitt Cancer Center, Tampa, FL, USA; Alice Yearsley, RN, Moffitt Cancer Center, Tampa, FL, USA; and Christine Siderakis, RN, MSN, ARNP, OCN®, Moffitt Cancer Center, Tampa, FL, USA.

Blood and marrow transplantation (BMT) is a complex treatment modality that provides an opportunity for extending life but has life-threatening and life-altering risks. BMT is complex given its multiple, lengthy phases of treatment, many locations of care, and involvement of a large interdisciplinary team. BMT impacts both patients and their family members.

A sharp increase in demand for transplants and a rise in outpatient care delivery occurred in our BMT program. These changes highlighted the need for better communication among team members, for assistance to patients and families in transitions between locations of care, and for standardized patient and caregiver education.

The BMT Leadership Team, in consultation with another BMT program, proposed the creation of the role of the BMT Transition Nurse (BMT-TN) to meet these needs. Two BMT-TNs were hired and began the tasks of role development.

To increase team communication and assistance to patients and families, the BMT-TNs participate in rounds and act as liaisons between all disciplines, across inpatient and outpatient care. The BMT-TNs standardized the content of evidence-based education for patients and families and provide formal classes, handouts, and bedside teaching. The BMT-TNs collaborate with Case Management, Nutrition Therapy, Social Work, Pastoral Care and the Patient-Education Resource Center to ensure holistic, appropriate, and evidence-based education is provided.

Feedback from the BMT Team indicates that the role of the BMT-TNs has improved communication of patient issues across locations of care and assisted to maintain continuity of care. With coordination by the BMT-TN, discharge planning is more timely, efficient and safe.

Feedback regarding education is positive from patients and family members. Patients and family members express appreciation for the multiple forms and repetition of information. Team members also express approval that education is evidence-based, standardized and consistent across locations of care.

BMT-TNs can assist the patient, family and the entire BMT Team throughout the BMT trajectory of care. The role of Transition Nurse requires preparation and time for development but is necessary for ensuring quality care. The integration of this pivotal role may be of benefit to the diverse oncology population.

### 3026

**IMPLEMENTATION OF THE CONTINUOUS AMBULATORY DRUG DELIVERY (CADD) PUMP IN THE INPATIENT ONCOLOGY SETTING FOR**

**THE SAFE DELIVERY OF HIGH DOSE OPIOID INFUSIONS IN CANCER PATIENTS.** Amy Moore, MSN, RN, OCN®, Hospital of the University of Pennsylvania, Philadelphia, PA, USA; Jose Espeleta, ASN, RN, Hospital of the University of Pennsylvania, Philadelphia, PA, USA; and Erin McMenamin, MSN, ANP-BC, Hospital of the University of Pennsylvania, Philadelphia, PA, USA.

Patients suffering from a diagnosis of cancer may warrant high dose opioid infusions for the management of cancer pain. The administration of high dose opioid infusions through standard Patient Controlled Analgesia (PCA) pumps can be labor intensive to nursing as well as disruptive to the patient as the small volume of pain medication contained in the pump may not be proportional to a patient's opioid need. In addition, frequent PCA syringe changes can result in an increased risk for medication errors. Finally the complexity of these patients requires the intervention of a specialized symptom management and palliative care team.

1. Create a CADD pump policy with criteria for patients eligible for opioid administration via the CADD pump
2. Decrease nursing time in changing opioid infusions as well as minimize patient interruptions by providing a 100 ml medication cassette volume rather than the standard 30 ml PCA syringe volume.
3. Decrease risk of nursing error by presetting standard concentrations into the electronic medication administration orders as well as the CADD pumps.
4. Ensure safe delivery and appropriate titration of high dose opioid infusions by requiring Symptom Management and Palliative Care Team Approval

One medical oncology nursing unit, two transplant oncology nursing units and one gynecological oncology nursing unit were educated about the policy as well as the use of the CADD pump. All nurses were required to attend a demonstration of the CADD pump, a verbal review of the policy and had to complete a self learning module with the pump itself.

Data will compare the frequency of syringe changes spent with the CADD pump vs Standard PCA pumps as well as the incidence of errors associated with each type of pump.

Methods aimed at standardizing electronic order sets as well as medication delivery devices should be taken to help ensure safe and accurate delivery of opioid infusions. Processes should be put into place to call for the consultation of a symptom management and palliative care team in the management of complex cancer pain.

### 3028

**THE ROLE OF THE ADVANCED PRACTICE NURSE IN THE DEVELOPMENT AND IMPLEMENTATION OF A CANCER SURVIVORSHIP PROGRAM.** Janet Gordils-Perez, RN, MA, OCN®, The Cancer Institute of New Jersey, New Brunswick, NJ, USA; Judith Much, RN, MA, The Cancer Institute of New Jersey, New Brunswick, NJ, USA; Marlene McGuire, RN, MA, The Cancer Institute of New Jersey, New Brunswick, NJ, USA; Leah Scaramuzzo, MSN, RN, C, AOCN®, The Cancer Institute of New Jersey, New Brunswick, NJ, USA; and Regina Cunningham, PhD, RN, AOCN®, UMDNJ–Robert Wood Johnson Medical School, The Cancer Institute of New Jersey, New Brunswick, NJ, USA.

Advances in cancer screening, detection, therapeutics, and supportive care have led to more cancer survivors. These individuals often report physical, psychological and social concerns long after their treatment. The Institute of Medicine (IOM) has indicated that optimal survivorship care involves four essential components of care (prevention, surveillance, intervention, and coordination) within a delivery system that provides access to comprehensive services. The growing number of survivors and their unique health needs create opportunities to develop new models of care delivery. The skill set of Advanced Practice Nurses (APNs) make an extremely good fit with the care needs of cancer survivors; as such, APNs should feature prominently in evolving models.

To describe the development of an APN-led model of survivor care. The Bridge Program: Transitions for Cancer Survivors was designed to meet the unique needs of survivors. Hallmarks of the model include delivery of care that is: in accordance with IOM recommendations; consistent with best evidence (to the extent that it is available); delivered by APNs; and coordinated between specialists and generalists across the continuum.

An interested group of APNs reviewed the literature on survivorship care, investigated survivorship programs, and established an alternate care delivery model. Disease-specific algorithms for eligibility were collaboratively developed. A system for identifying survivors was established. Core data elements and a means of collecting these data were developed. Specialists for referral (e.g. cardiologist, sexual dysfunction expert) were identified. Weekly meetings to present clinical cases were scheduled. Post-treatment follow up care is provided by APNs. During the initial visit, a comprehensive history and physical examination is performed. The survivorship care plan is developed with tailored information on follow-up care.

The Bridge Program has been well received. More formal program evaluations are planned. We anticipate that the clinical data repository established will provide a rich source of data for future studies.

APNs play an integral role in cancer survivorship programs. As the cancer survivor population continues to grow, programs such as the one created are essential to meet evolving needs and to ensure the delivery of quality service to cancer survivors.

### 3029

**OPTIMIZING AND PREVENTING SEXUAL SIDE EFFECTS FOLLOWING RADIOTHERAPY FOR ANAL CANCERS IN WOMEN.** Gloria Wood, RN, Moffitt Cancer Center, Tampa, FL, USA; and Janice Provenzano, BSN, RN, CGRN, Moffitt Cancer Center, Tampa, FL, USA.

The diagnosis of a malignancy can be devastating. Experiencing side effects of treatment is an added burden. Following pelvic radiotherapy, a proportion of women experience acute and latent side effects related to sexual function. These side effects depend on the radiation dosage and treatment location, specifically the anal region. Latent effects include vaginal stenosis, vaginal dryness, and dyspareunia which compromise sexual activity resulting in considerable distress. Radiation to the vaginal tissue, decreases blood supply resulting in loss of elasticity found in normal vaginal tissue and narrowing of the vagina. Most important and troublesome, vaginal stenosis affects not only the patient but her significant other, and reaches beyond the physical. Too often this vital issue is overlooked by healthcare providers. Vaginal stenosis is a common complication of pelvic radiotherapy, occurring in 38% of patients. Stenosis occurs most often in the first year after treatment. Patients over the age of 50 are most at risk.

The purpose is to convey the necessity of being proactive in the education and follow-up of patients undergoing radiotherapy to the anal region in an effort to prevent vaginal stenosis.

The nurse initiates and facilitates the management of vaginal stenosis. Education include using vaginal dilators with a copious amount of lubricant 6 weeks after radiotherapy, 5–10 minutes daily for 10 days then decreasing to every other day. The use of vaginal dilators at an appropriate time is paramount in relieving discomfort of sexual intercourse and vaginal exams, as this keeps the vagina open and more supple. Instruction on intercourse on a regular basis will also prevent vaginal stenosis.

The nurse is knowledgeable regarding physical and emotional side effects that are likely to impact the patient. The nurse informs the patient and significant other of the probability of vaginal stenosis prior to starting radiotherapy and outlines a preventive plan of care. This fosters patient cooperation and instills confidence of return to normalcy while educating on the importance for follow-up.

Through teaching, advocacy and support the oncology nurse plays an important role in helping women with vaginal stenosis retain their sexuality and the highest quality of life possible.

### 3030

**GROWING PEARLS: PROMOTING UNIT-BASED QUALITY IMPROVEMENT THROUGH COMMUNICATION, NEGOTIATION, AND CRITICAL THINKING.** Elizabeth Johnson, RN, MSN, AOCN®, AOCNS®, Massachusetts General Hospital, Boston, MA, USA; and Coleen Caster, RN, C, MN, FNP, Massachusetts General Hospital, Boston, MA, USA.

The different perspectives among generational cohorts of nursing staff can lead to conflict and strained peer relationships. These stressors, in turn, impact patient care, unit operations, and staff stress.

The leadership on an inpatient gynecologic oncology unit sought strategies to improve communication patterns among nursing staff and to enhance morale.

After a number of brainstorming sessions, the unit leadership planned a retreat to promote understanding of the dynamic interrelationship between

the professional self and peer group process in order to enhance clinical excellence through communication, negotiation, and critical thinking. Using the concept of customer service in high-end retailing, the leadership implemented a treasure hunt with the cooperation of retailers at a select shopping mall. Participants were divided into three competing teams, each of which had to answer a list of questions through interaction with cooperating retailers. Scores were based on points for correct answers divided by the number of pedometer-measured steps. After sharing lunch, the group convened at an off-campus site to process the results and draw parallels to patient care delivery. Discussion leaders used the analogy of the pearl to promote the concept of excellence and to illustrate the unique qualities each staff member brings to the unit's shared work.

Based on an active discussion and written feedback on the evaluation forms, staff responses were very positive. A number of staff described how their own experiences and years on the job might contribute to differences in approaches to patients or evaluating the work of peers. A number of staff have since talked about how working together on a simulated high-stress task (the treasure hunt) had a positive impact on subsequent working relationships.

Effective informal communication and negotiation are critical components of effective performance by a care team and support thoughtfulness and critical thinking. Creating a fun but meaningful laboratory experience to promote utilization of these skills should assist staff in rehearsing them for more effective implementation in the actual clinical setting. Effective peer communication frees staff to work on long term group goals and to make a shared vision of excellence a reality.

### 3031

**LEBED METHOD OF THERAPEUTIC EXERCISE AND MOVEMENT INTERVENTION FOR WOMEN TREATED FOR BREAST CANCER.** Barbara Owens, RN, PhD, OCN®, University of Texas Health Science Center at San Antonio, San Antonio, TX, USA; and Mary Jackson, RN, MSN, OCN®, University of Texas Health Science Center at San Antonio, San Antonio, TX, USA.

A five to fifteen pound weight gain is not unusual for women undergoing breast cancer treatment and 40% of the women maintain their weight gain for 3 years. Obesity is endemic in south Texas, especially among Hispanic women. Exercise can be helpful during treatment to allay depression, increase social contact, and decrease the rate of weight gain. There are few studies available to determine what type of exercise regimen is advantageous, feasible during breast cancer treatment, and address Hispanic women.

The purpose of this nursing intervention is to screen and educate women during and after treatment for breast cancer regarding the benefit of a therapeutic dance and movement program to reduce fatigue and weight gain in a predominately Hispanic population.

The Lebed therapeutic movement program uses gentle rhythmic movements to music to educate women how to regain mobility, flexibility, and relieve the symptoms of lymphedema while educating about weight control strategies. Funding for this project was provided by Komen for the Cure Foundation. This supported transportation, child care, supplies, educational materials and training in the Lebed Method for instructors. All activities are designed to increase participants' interactions. Music is a key element of the method; facilitating self expression and introducing an aspect of fun. The classes included upper lymphatic system warm-up and routines that focused on upper body range of motion. Each class concluded with a ritual incorporating quiet music, focused breathing, and positive affirmations. After the classes were finished an interview was done to ascertain participants' views regarding the program to make improvements in subsequent sessions.

Interviews were recorded and transcribed. Factors that were of prime importance to these women included improved energy, made them "feel better," "got them moving again," social support networking, suggestions from peers to deal with side effect symptoms, and it made them laugh.

The Lebed Method is not a typical exercise program, but rather a supportive recovery oriented model that creates a self help approach resulting in an improved quality of life for women treated for breast cancer.

### 3032

**THE IDENTIFICATION OF BARRIERS TO SEXUAL HEALTH ASSESSMENT IN THE ONCOLOGY NURSING PRACTICE.** Jerelyn Julien, BSN,

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Sexual health is affected by all aspects of cancer, including the biological processes of growth and metastasis, the effect of undergoing treatment and psychological issues that occur concurrently. As cancer patients attempt to improve their quality of life after treatment, recovery of sexual health becomes a priority. Performing a sexual health assessment (SHA) is the first step toward appropriate diagnosis and therapeutic intervention for most patients and is a fundamental part of holistic nursing care.

This study seeks to explore oncology nurses' attitude and knowledge of sexual health. This relates to the ONS Research Priority, quality of life, as sexual health is an integral component of this.

Sexuality is one of the 12 activities of life named in the Roper-Logan-Tierney model of nursing. According to this model, nurses must care for patients holistically, attending to each activity of the model, rather than focusing solely on care of the disease.

A convenience sample of registered nurses at an NCI-designated cancer center was approached during annual mandatory training day. Attitude and beliefs about patients' sexual health assessment in nursing practice were assessed using the Sexual Attitudes and Beliefs Survey (SABS) and ten demographic questions. The SABS consists of twelve self-report items using a six point Likert-scale. All responses were anonymous and voluntary. The instrument was scored following SABS guidelines, and descriptive statistics, Pearson correlation, t-testing, and one-way ANOVA (post-hoc: Bonferroni, Tukey) were used to analyze the data.

A total of 576 nurses responded. Mean score on the SABS (out of 12-72) was 34.6 (SD 7.13), with a median of 35.0. There is a statistically significant difference,  $p < .05$ , in scores based on age and nursing experience, whereby younger and less experienced nurses had higher scores, indicating greater discomfort in discussing sexual health with patients. No significant differences were found in scores based on oncology certification, practice setting (inpatient versus outpatient), or marital status. These results suggest that nurses across the institution are not entirely at ease discussing sexual health; therefore a multidisciplinary initiative in collaboration with nursing education will be developed to improve comfort levels.

### 3037

**IMPACTING NEW NURSE ORIENTATION THROUGH PRECEPTOR DEVELOPMENT.** Susanne Suchy, RN, MSN, AOCNS®, Barbara Ann Karmanos Cancer Center, Detroit, MI, USA; JoAnn Maklebust, MSN, RN, APRN, BC, AOCN®, FAAN, Karmanos Cancer Center, Detroit, MI, USA; Rita DiBiase, MSN, APRN, BC, AOCNS®, Karmanos Cancer Center, Detroit, MI, USA; Rebecca Allan, MSN, RN, AOCNS®, Karmanos Cancer Center, Detroit, MI, USA; and Clara Beaver, MSN, APRN, BC, OCN®, Karmanos Cancer Center, Detroit, MI, USA.

Orientation of nurses new to the oncology setting requires skilled preceptors to develop the desired knowledge, skills, and attitudes. A "Precepting the Preceptor" committee chaired by a clinical nurse specialist and lead by the institution's clinical nurse specialists existed with poor attendance.

The committee was developed to increase the preceptor's knowledge and skill, to provide assistance with clinical dilemmas faced in their role, and to develop a network fostering professional development and peer support. A needs assessment developed with administrative support was completed by most members of the committee.

Meeting times were changed with lunch provided. The yearly agenda is developed with preceptor involvement to increase topic relevance. Past orientation issues as well as preceptor role issues and experienced conflicts was included in the first agenda. Continuing education units encouraged monthly participation. To increase awareness of the full scope of patient care the last two months of the first year agenda was devoted to the "virtual patient" focusing on all entry points of the patient into the system and the related treatments. All inpatient and outpatient preceptors were involved. The second year agenda ended with a journal club with all members presenting on a topic of relevance to precepting. The institution's nursing web site posts committee purpose, membership, the year's agenda, monthly agendas and the monthly power point presentations.



Preceptor attendance and participation in the monthly meetings increased and continues including preceptors coming in on their days off. They verbalized the benefit of the presentations and discussions in their own development as well as an increased ability to work with orientees. The virtual patient presentations were deemed so informative by the committee that they were presented to all nursing staff in Ground Rounds. The journal club presentations have been included in the third year agenda including a republication survey.

Change based on membership input has demonstrated the importance of including the learner in program development. The third year agenda is completed and the preceptors have voiced their desire to stay involved. A train the trainer focus has emerged to educate other unit nurses involved in precepting.

### 3038

**CAMP PHOENIX: AN ADULT CANCER SURVIVORS' WELLNESS AND RESPIRE RETREAT.** Derryl Johnson, RN, Henrico Drs. Hospital, Richmond, VA, USA; Bettie McGarry, RN, EdD(c), Bon Secours Memorial School of Nursing, Richmond, VA, USA; Pam Miller, NP, AOCNP®, Virginia Cancer Institute, Hanover County, VA, USA; and Kathy Barksdale, NP, AOCN®, McGuire Veterans Administration Hospital, Richmond, VA, USA.

Camp Phoenix, sponsored by the Richmond Area Chapter of the Oncology Nursing Society (RAC/ONS), is a weekend retreat offered to adult cancer survivors annually. Research has shown that cancer survivors have a better quality of life and longevity when they have a support system. Camp Phoenix provides a special support system for 40 plus campers seeking a weekend focusing on holistic wellness for a minimum fee of \$35 each. Donations and fund raising subsidize the remainder of the camp cost. Camp Phoenix presents biopsychosocial and spiritual educational programs, plus a good dose of humor!

Background: In 1996, two RAC/ONS members presented the concept of a wellness camp to the remaining members. The concept was embraced, and planning for the first annual wellness camp began. The name, Camp Phoenix, was selected for the symbolic Phoenix "rising from the ashes" with renewed youth and beauty representing immortality and spiritual rebirth. This symbolism typifies the camp's focus.

Camp Phoenix brings together adult cancer survivors in a park-like setting. The purpose is to give them a respite from the world of disease, chemotherapy, and radiation by lifting their spirits, relaxing, increasing knowledge, and friendship.

The Camp engages campers with oncology nurses in a non-threatening, pleasant environment, giving strength and support to men and women who are dealing with difficult issues. Nurses, doctors, dietitians, lawyers, pharmacists, and published researchers host the educational programs. Music, dance, and outdoor activities round out the weekend.

Campers complete a pre and post survey. For the past 11 years, the surveys overwhelmingly support the continued need for the camp. Results from the surveys indicate that the wellness retreat decreases anxiety and helps participants relax.

Camp Phoenix has been pivotal in providing an outlet for stress and uncertainty in the lives of cancer survivors. Networking, new friends, activities, and support of oncology nurses have improved the lives of the participants. Personal conversations and survey results confirm that karaoke and line dancing are fun; lawyers from Legal Information Network for Cancer Patients (LINC) are helpful, and horseback riding is possible – even when you have cancer.

### 3039

**LYMPHEDEMA EDUCATION AND RISK REDUCTION IN BREAST CANCER SURVIVORS.** Mei Fu, RN, PhD, APRN-BC, New York University, New York, NY, USA; Judith Haber, PhD, APRN-BC, FAAN, New York University, New York, NY, USA; and Deborah Axelrod, MD, FACS, New York University Medical Center, New York, NY, USA.

Annually, more than 1.2 million people are diagnosed with breast cancer worldwide. Despite advances in treatment, many breast cancer survivors still face permanent disruption of their lymphatic system which predisposes them to the risk for lymphedema or limb swelling. Lymphedema has changed the triumph over breast cancer with distressing and life-changing impacts on survivors' quality of life. In addition to definite risk from cancer treatment, survivors are also exposed to other triggering factors, such as infection, injury or trauma, over use of the affected limb, heavy lifting,

or traveling by airplane. Existing limited studies have focused on awareness or sources of lymphedema information. Lack of research examining lymphedema education in relation to clinical outcomes has hindered our progress in identifying and developing effective strategies to reduce the risk of lymphedema from the triggering factors.

The purposes of this study were to explore the relationships between lymphedema education and lymphedema-related signs and symptoms and the relationship between lymphedema education and survivors' practice of the risk reduction behaviors.

The study was based on self-regulation theory which proposes that individuals cope with illness according to their understanding of the experience. The theory emphasizes the need for patients to have adequate information to gain understanding of health-related issues (such as lymphedema risk), make health-related decisions, and develop or implement strategies.

A cross-sectional and correlational design was used. Data were collected from 136 breast cancer survivors by using a Demographic and Medical Information interview tool, two questions regarding lymphedema education status, Lymphedema and Breast Cancer Questionnaire, and Lymphedema Risk Reduction Behavior Checklist. Data analysis included descriptive statistics, Pearson r correlation coefficients, Chi-square, Fisher's exact test, and t-tests.

Fifty-seven percent of the participants reported that they did receive lymphedema education. Significantly less lymphedema-related signs and symptoms and more practice of the risk reduction behaviors were reported in participants who received lymphedema education. In clinical practice, nurses and other healthcare professionals should take the initiative to provide survivors with adequate and accurate lymphedema education and engage survivors in supportive dialogues about lymphedema risk reduction.

**Funding source: Avon Foundation for Breast Cancer Research**

### 3040

**ONCOLOGY NURSING CERTIFICATION EXAMS: WHO WRITES THIS STUFF?** Tamara Griffey Barnes, RN, MSN, CNS, OCN®, M.D. Anderson Cancer Center, Houston, TX, USA; Cyndi Miller Murphy, RN, MSN, CAE, Oncology Nursing Certification Corporation, Pittsburgh, PA, USA; and Dennis Delong, RN, BSN, OCN®, Atlanta Oncology Associates, Atlanta, GA, USA.

ONCC is the only organization in the country that offers certification exams in oncology. Currently there are four exams. The oncology certified nurse exam (OCN®), which is the basic oncology nursing certification, the certified pediatric oncology nursing exam (CPON®), and the two advanced oncology nursing exams for nurse practitioners and clinical nurse specialists (AONP® and AOCNS®). There are three additional certification exams that will be offered in the future; breast care, stem cell transplant, and radiation oncology.

The purpose of the presentation is to educate oncology nurses as to the process and science of how a certification test is developed and maintained from how the content is chosen, to item writing to the statistical evaluation of the tests to determine validity, reliability and fairness. It is a very impressive, detailed and scientific process.

The presentation will include information regarding role delineation, test specifications, item writing, item review, test assembly, test review, statistical item analysis and setting passing score. Information will also be included as to how certified nurses can become a part of the process of test development.

At the end of the presentation, the participants should be able to identify the two main statistical measures by which an item is evaluated as to its validity and reliability. The participants will also be able to list opportunities for certified nurses to become involved in the processes of item writing, test development.

The ONCC exams are written by oncology certified nurses for oncology certified nurses. New tests are developed according to the needs and requests of the oncology nurse population. New tests are currently in development with the Certified Breast Care Nurse (CBCN) becoming available in 2009. Other tests under development include stem cell transplant and radiation oncology. The ONCC is a leader in certification examination process and after understanding the detailed and scientific process behind developing and monitoring tests, oncology certified nurses will be even more proud of their certifications and their oncology nursing organizations.

### 3043

**CONTROLLING ENVIRONMENTAL CONTAMINATION FROM PREPARING/MIXING CYTOTOXIC DRUGS (5-FLUOROURACIL AND CYCLOPHOSPHAMIDE) IN THE OUTPATIENT SETTING.** Lisa Hodges, RN, BSN, OCN®, Comprehensive Cancer Center, Wake Forest University Baptist Medical Center, Winston-Salem, NC, USA; Celeste Caskey, MS, CSP, Wake Forest University Health Sciences, Environmental Health and Safety, Winston-Salem, NC, USA; Donna Morris, RN, Comprehensive Cancer Center of Wake Forest University Baptist Medical Center, Winston-Salem, NC, USA; and Bernadette Menuet, RN, MEd, Wake Forest University Health Sciences, Environmental Health and Safety, Winston-Salem, NC, USA.

Oncology nurses are responsible for preparing/mixing and administering chemotherapy agents in many outpatient settings; therefore, putting the nursing staff at risk for exposure to chemotherapy agents. The Occupational Safety and Health Administration (OSHA) Technical Manual section entitled, Controlling Occupational Exposure to Hazardous Drugs, states that "preparation, administration and disposal of hazardous drugs may expose healthcare workers to potentially significant workplace levels of these chemicals." As a result, safe levels of exposure have not been established. Due to the potential health risk of these drugs, the safest level of exposure is no exposure.

The purpose of this study was to assess environmental contamination during the preparation and mixing of cytotoxic agents (5-fluorouracil and cyclophosphamide) and evaluate various methods to reduce exposure to the nursing staff.

Previous surface wipe sampling for 5-fluorouracil and cyclophosphamide showed environmental contamination existed in the mixing/preparation area. Observations of the nurses' work practices were made and recommendations for improvement were made to improve safe work practices. Post wipe sampling reviewed a significant decrease in contamination levels. As efforts continued to provide the safest work environment, PhaSeal, a closed system device, was evaluated for effectiveness through wipe sampling and ease of use with the nursing staff through product evaluation surveys.

The staff perceived to feel safer with the closed system device but many had difficulty maneuvering the safety latch component of the device which they felt could have lead to a potential exposure. Retraining and practice with newer techniques showed staff satisfaction improvement in the 8 month post survey. Post wipe sampling is scheduled for the end of January, 2008.

Contaminated work surfaces are not only a risk to the person preparing the hazardous agents but everyone that comes in contact with that area. The nurse in the community setting may not have the support of a pharmacist or an environmental safety team to assist with exposure control. Therefore, the burden falls back on the nurse to protect themselves as well as others within the workplace.

### 3044

**CREATING A PATHWAY TO BEST CLINICAL PRACTICE FOR CUTANEOUS T-CELL LYMPHOMA.** Susan Booher, MS, RN, National Cancer Institute, National Institutes of Health, Bethesda, MD, USA.

Mycosis Fungoides (MF) and its leukemic variant Sezary Syndrome (SS) are the two most common types of non-Hodgkin lymphoma that fall under the category of cutaneous T-cell lymphoma (CTCL). The incidence of these diseases has more than doubled from 1973 to 2002. These disease states have considerable variation in cutaneous presentation, histological appearance, degree of blood involvement, immunophenotypic profile, and prognosis which may lead to inaccurate diagnosis and treatment. Moreover, some patients progress to advanced disease states that can be life-threatening.

Oncology nurses need to understand the clinical features and how to suspect MF and SS in order for the patient to receive the optimal clinical care available for their stage of disease. The purpose of this abstract is to present and overview of MF and SS, treatment regimens and nursing interventions.

Accurate diagnosis of CTCL is dependent on the clinical presentation being consistent with the histological findings. The ability to correctly stage a patient is important for determining prognosis and also serves as an effective treatment guide. The World Health Organization (WHO) and the European Organization for Research and Treatment of Cancer (EORTC)

recently established classifications for T-cell lymphomas allowing for more consistent diagnosis and treatment regimens. Treatment regimens include topical therapy, phototherapy, radiation therapy, systemic therapies, bone marrow transplantation, and investigative therapies. Some therapies can be used as single agents or in combination with another therapy.

Patient outcomes are dependent on knowledgeable oncology nurses who can implement their understanding of MF and SS so as to improve skin integrity, assist with wound healing, palliate side effects from therapies, educate patients about MF and SS, and facilitate opportunities for additional support.

The oncology nurse plays an integral role to unite and organize the interdisciplinary team to provide a comprehensive and effective plan of care for MF and SS patients. Being knowledgeable of the standard of care, best clinical practices, as well as the investigative regimens are essential to the optimal management of this chronic, complicated disease.

### 3049

**REDUCING BSI IN THE INPATIENT POPULATION.** Susanne Suchy, RN, MSN, AOCNS®, Barbara Ann Karmanos Cancer Center, Detroit, MI, USA; Brenda Fowler, BSN, RN, Karmanos Cancer Center, Detroit, MI, USA; Mary Ellen Lesperance, MSN, RN, CIC, Karmanos Cancer Center, Detroit, MI, USA; and Lisa Engles, MT, Karmanos Cancer Center, MI, USA.

The morbidity and mortality resulting from blood stream infections (BSIs) in the hematology/oncology patient population is considerable as is the cost and future threat of nonreimbursement. The incidence of BSI varies considerably by the type of catheter, frequency of catheter manipulation, and patient-related factors. When an inpatient hematology/oncology unit experienced an increased rate in BSIs, it was imperative to identify the cause and prevent continued occurrence to improve patient outcomes and reduce health-care costs.

A team comprised of the infection control staff, unit clinical manager, unit clinical nurse specialist (CNS), and PI staff met to identify causes for this increased incidence and seek solutions. The group decided to review the patient records for catheter type and the use of Dermabond surgical glue as well as to examine them for other clues.

Review of the literature suggested several actions which would result in decreased infections. No recent procedural changes were identified which could increase BSIs. Discussion with staff identified a practice of disconnecting lines for patients to shower and ambulate. This practice was immediately stopped and patients were taught the risk of disconnecting lines. Around the clock inservices were conducted for nursing staff discussing the negative effect on patient outcomes, causes and prevention of BSIs, and review of CVC policies. The unit clinical manager and CNS conducted "line rounds" every Monday inspecting the CVC catheter, site, and documentation. As issues were identified corrective action was taken.

Staff found the emphasis on not disconnecting the lines helpful in dealing with patient requests. A patient educational brochure on CVC line care was developed. Incidence of BSI reduced to zero in the proceeding months to date.

When a new longer term patient population became part of the unit, practice resulted in line disconnecting which had not been a standard of care. Since negative patient outcomes affecting future reimbursement are on the horizon, this occurrence emphasizes the importance of vigilant monitoring of routine care. The clinical manager and CNS continue weekly rounds to monitor this and other patient outcomes. A patient educational brochure on CVC line care has been developed.

### 3050

**HEALTH-RELATED QUALITY OF LIFE AFTER TREATMENT FOR HODGKIN DISEASE.** Kristin Roper, RN, MS, OCN®, Dana Farber Cancer Institute, Boston, MA, USA; Mary Cooley, PhD, CRNP, CS, Dana Farber Cancer Institute, Boston, MA, USA; Mark Powell, MA, MEd, Dana Farber Cancer Institute, Boston, MA, USA; Kathleen McDermott, RN, BSN, OCN®, Dana Farber Cancer Institute, Boston, MA, USA; Christine Coakley, RN, MPH, OCN®, Dana Farber Cancer Institute, Boston, MA, USA; Kecia Boyd, RN, BSN, Dana Farber Cancer Institute, Boston, MA, USA; and Jacqueline Fawcett, PhD, FAAN, University of Massachusetts—Boston, Boston, MA, USA.

Catastrophic illness, such as Hodgkin Disease (HD), has the potential to interfere with normal developmental tasks and health-related-quality-

of-life (HR-QOL) in young adults. Although patients look forward to the end of treatment, feelings of ambivalence and concerns about recurrent disease often surround the end of active treatment. Changes in HR-QOL have not been studied sufficiently to guide interventions to promote high quality of life after completion of treatment.

The purposes of this study were to describe changes in HR-QOL (symptom distress, physical function, emotional distress, and intimate relationships) and to identify support services used at the end of treatment, 1, 3, and 6-months after-treatment for young adults with HD.

This study was guided by the Roy Adaptation Model, which depicts individuals as biopsychosocial beings who adapt physically and psychosocially to environmental stimuli.

Data were collected via interviews, standardized questionnaires, and medical record reviews. HR-QOL was measured by the Symptom Distress Scale (SDS), Hospital Anxiety and Depression Scale, Inventory of Cancer (IOC), and Short-Form-12. Of the 37 patients who provided complete data, 90% were White, 60% were female, and 63% lived with a partner. Mean age was 30.9 (sd.5.8).

Symptom distress improved by 1 month after treatment and remained low. Median SDS for baseline, 1, 3, and 6-months was 25, 19, 19, and 18 (all Wilcoxon Signed-Rank pairwise comparisons to baseline  $p < 0.0001$ ). Both physical ( $p < 0.0001$ ) and mental ( $p = 0.02$ ) function improved by one month after baseline as revealed by the Short-Form-12. Patients placed a high value on their relationships as reflected by the IOC (median relationships item score was 4 of 5 at all time-points). A variety of support services were used after treatment, including nutritional and fitness programs. Inquiries regarding health insurance and disability were made. The study results indicate improved HR-QOL in young adults with HD within 1 month following treatment completion. The results can be used to inform future studies and build a foundation for clinical interventions that enhance transition to survivorship.

**Funding sources:** ONS Foundation Small Grant Program (RE01) and Friends of Dana Farber Cancer Institute

### 3051

**WHAT STRATEGIES DID PATIENTS USE AND FIND HELPFUL IN HANDLING FATIGUE AND SLEEP DISTURBANCES?** Tracey Newhall, RN, BS, OCN®, Fox Chase Cancer Center, Cheltenham, PA, USA; and Susan Brown, RN, OCN®, CCRP, Fox Chase Cancer Center, Philadelphia, PA, USA.

Fatigue and insomnia have been identified as two of the most commonly occurring symptoms that patients report when they are going through cancer treatment. In this study nurses provided telephone counseling and education to patients undergoing chemotherapy to assist them in managing these interrelated symptoms. The overall goal of the study was to evaluate whether managing these two symptoms resulted in better quality of life.

This presentation describes the strategies nurses recommended regarding energy conservation and sleep disturbance and patient-reported use and effectiveness of those strategies.

The research nurses gave tailored recommendations to patients for handling fatigue and sleep problems depending on their individual needs. Energy conservation interventions included delegation, priority setting, pacing, peak energy activity, rest and planning. Measures to help with poor sleep included changing sleep habits, physical relaxation, mental relaxation, and sleep inducing activities. In a follow-up session the nurse and patient evaluated the effectiveness of the recommended strategies. The nurse recorded use and helpfulness of the intervention strategies.

Several energy conservation strategies were recommended to most participants (82–84%). Most participants implemented these strategies at least some of the time (83–90%). Several strategies were performed daily by about 2/3 of the participants. Delegating was rated as helpful by the most participants (82%). Planning was rated as helpful by the least number of participants (67%). With regard to strategies for improving sleep, the most and least frequently used strategies were improving sleep habits (96%) and mental relaxation (60%), respectively.

Overall participants demonstrated good compliance with the strategies recommended by the nurses. A tailored approach to prepare and assist patients with specific fatigue and sleep difficulties allows them to maintain and/or regain energy and well-being while they are undergoing treatment.

### 3052

**NEUROBEHAVIORAL ISSUES IN BRAIN TUMOR PATIENTS: EVIDENCE-BASED ASSESSMENT AND MANAGEMENT STRATEGIES FOR AN OVERLOOKED PHENOMENON.** Mary Lovely, PhD, RN, National Brain Tumor Foundation, San Francisco, CA, USA; and Jenette Spezeski, MPH, National Brain Tumor Foundation, San Francisco, CA, USA.

Brain tumors, primary or metastatic, are increasingly prevalent in the oncology population. Neurobehavioral symptoms, a unique consequence of brain tumors, are a significant source of distress to brain tumor patients and families. Symptoms include irritability, anger, agitation, aggression and disinhibition. These inappropriate and uncharacteristic behaviors may emerge or escalate due to the tumor and/or treatment. A nursing study found that 90 percent of caregivers of patients with malignant brain tumors reported at least one neurobehavioral symptom in their loved ones. Consequences of neurobehavioral symptoms for patients include social isolation and unpredictable behavior, and the presence of these behaviors is dramatically linked to caregiver burden.

Our purpose is to explain the causes and consequences of neurobehavioral symptoms in brain tumor patients and explore strategies for assessing and treating symptoms. Caregivers report lack of information from health professionals on managing neurobehavioral problems. Since there is little research on managing neurobehavioral symptoms in brain tumor patients, evidence-based research from traumatic brain injury, epilepsy and stroke populations will be described.

This presentation addresses tumor locations commonly associated with neurobehavioral symptoms and evidence-based strategies for assessing and managing neurobehavioral disorders. Treatment strategies to be discussed include pharmacology, individual and family therapy, residential and outpatient rehabilitation settings, and informational resources for patient and family support.

Applying evidence-based knowledge from similar brain injury situations prepares oncology nurses with specific nursing actions for managing neurobehavioral problems.

Nurses will use assessment tools to measure the extent of neurobehavioral symptoms, make recommendations for pharmacological intervention or referrals to therapists and brain injury rehabilitation centers, and educate caregivers about resources and strategies for decreasing caregiver burden and improving symptoms.

The presence of neurobehavioral symptoms in brain tumor patients is an overlooked phenomenon in oncology. While primary brain tumors represent only 2.5% of cancer, an estimated 20 to 40 percent of cancer patients will develop brain metastases. Identifying neurobehavioral symptoms in brain tumor patients validates caregiver concerns and allows nurses to provide anticipatory guidance to families and equip them with tools to manage distressing behaviors. Special attention to assessing and managing neurobehavioral symptoms will improve quality of life for patients and caregivers.

### 3054

**THE CLINICAL TRIALS NURSE'S ROLE IN THE CONSENTING PROCESS.** Louise Lynch, RN, New York University (NYU) Cancer Institute, Manhattan, NY, USA; Donna Catamero, RN, BSN, OCN®, CCRC, NYU Cancer Institute, New York, NY, USA; Susan Moore, APRN-BC, AOCNP®, NYU Cancer Institute, New York, NY, USA; Sara Parise, RN, BSN, NYU Cancer Institute, New York, NY, USA; Minerva Utate, RN, BSN, OCN®, NYU Cancer Institute, New York, NY, USA; Margaret Coursen, RN, OCN®, NYU Cancer Institute, New York, NY, USA; and Zenona Lesko, RN, BSN, NYU Cancer Institute, New York, NY, USA.

At a large NCI-designated comprehensive cancer institute with numerous complex, disease focused protocols, many challenges are presented to the Clinical Trials Nurse throughout the consenting process. There is a lack of consensus regarding the CTN's role institutionally as well as programmatically.

To define and standardize the CTN's role in the informed consent process while addressing patient and institutional barriers.

A review of the literature revealed that successful education and fully informed consent are greatly influenced by patient health status, educational needs, socioeconomic barriers, trial complexity and length of consent. A focus group was conducted to engage the CTN's in a guided interview. Responses were categorized into the following themes: lack



of patient understanding regarding financial obligation (patients assume all treatment during clinical trial will be covered), patient fear regarding being part of an experiment, time and place resources needed to explain consent need for more timely methods to translate consent), lack of patient comprehension (complex, multiple details, too much to absorb). A key element identified consistently among the CTN's was their role in patient education and advocacy. These needs were addressed by developing a standard of practice. The process standards to develop tools, resources and environmental surroundings conducive to the educational process are being addressed in the institutions nursing councils: Patient education, Practice and Operations Committee.

The structure standard process standards will be evaluated using the following outcomes: increased participation in Clinical trials among underrepresented populations, patient need for follow up regarding elements of initial consent, and nursing time and satisfaction in clinical trial process.

The CTN, as part of a multi-disciplinary care team, plays a pivotal role in the consenting process. Standardizing the process ensures the necessary resources are in place in order to address all elements of the consent.

### 3055

**USE OF TAILORED MESSAGING AND NAVIGATION IN COLORECTAL CANCER SCREENING.** Nora Katurakes, RN, MSN, OCN®, Helen F. Graham Cancer Center at Christiana Care Health System, Wilmington, DE, USA; Sandra Miller, RN, OCN®, Helen F. Graham Cancer Center at Christiana Care Health System, Wilmington, DE, USA; Jennifer Cormier, RN, BSN, OCN®, Helen F. Graham Cancer Center at Christiana Care Health System, Wilmington, DE, USA; and Heather Bittner Fagan, MD, Community Medicine at Christiana Care Health System, Wilmington, DE, USA.

Colon cancer is the nation's third leading cause of cancer-related deaths. However, the five-year survival of those diagnosed with localized disease is 90%. This illustrates the need for early detection, and the importance of intervention by an oncology nurse navigator.

The purpose of this pilot study was to test the impact of tailored intervention by an oncology nurse and the effect it had on participant screening use, screening decision stage, and general perceptions about colorectal cancer screening, as well as plan for a more comprehensive study.

Weinstein's Precaution Adoption Process Model was used for defining the decision making process in terms of stages. These stages were simplified to include: decided against, never heard of, undecided, and decided to do in regards to using either stool blood testing versus colonoscopy for colorectal cancer screening.

Internal Review Board approved criteria were followed to randomly select participants from 4 primary care practices and 2 federally qualified health centers. Introductory letters were mailed to potential participants. An oncology nurse navigator obtained verbal consent and determined eligibility for study participation via phone. A baseline phone survey was done by a research assistant to determine attitudes and decision stage about colorectal screening. Each participant received a message tailored to his preferred test choice. In addition, a free stool blood test kit and detailed instructions were provided when indicated. Next, the oncology nurse navigator contacted each participant by phone to verify decision stage, address barriers, and encourage completion of preferred test. Endpoint surveys and chart audits were conducted at six months to assess the impact of interventions on screening use.

Of the 1,764 potential study participants, 154 agreed to participate in the study. Using data obtained by both self report, as well as chart audit, the overall screening rate was 41%. Findings suggest that the application of tailored navigation by the oncology nurse can have a positive impact on screening use and practices. The current study is accruing patients and is comparing usual care, mailed education, and mailing plus phone intervention from an oncology nurse navigator.

### 3057

**METHYLNALTREXONE FOR THE RELIEF OF OPIOID-INDUCED CONSTIPATION (OIC).** Dhanvinder Kaur, RN, MS, OCN®, University of Texas M.D. Anderson Cancer Center, Houston, TX, USA; and Valerie

Poulter, BPE, BSN, RN, OCN®, University of Texas M.D. Anderson Cancer Center, Houston, TX, USA.

Constipation is a common and distressing side effect of opioid treatment, particularly in cancer patients. In clinical trials, subcutaneous methylnaltrexone, a peripherally acting mu-opioid receptor antagonist, reversed OIC in patients with advanced illness without affecting analgesia or causing central withdrawal.

The purpose is to report the results of methylnaltrexone in a patient with cancer and OIC.

The patient in this report was enrolled in a double blind randomized controlled protocol studying the effects of methylnaltrexone.

A 24-year-old male presented with abdominal pain. CT scan of the abdomen revealed a large mediastinal mass, hypodense lesion in the liver, and lymphadenopathy in the abdomen. Biopsy revealed a mixed germ cell tumor. He was transferred to the hospital with acute paralysis of bilateral lower extremities up to T10 level. MRI of the spine revealed T8-T9 involvement of epidural disease with large infiltration focus of metastasis involving the T9 to T10 and L1 with cord compression. After laminectomy and tumor resection, he underwent aggressive systemic chemotherapy. Bowel management consisted of stool softeners and laxatives. He developed intractable constipation related to multiple high doses of opioids and consented to participate in a clinical trial of subcutaneous methylnaltrexone in advanced illness patients with OIC.

The first blinded medication dose the patient received was placebo and produced no result. He had no result Day 2 in the open-label phase (0.15 mg/kg). Day 3, he had a bowel movement (BM) without medications. Day 5, 0.30 mg/kg was given, and he had a BM. Subsequently, he received additional 12 doses of methylnaltrexone (mostly 0.30 mg/kg), 8 of which resulted in BMs within 30 minutes. Side effects included transient abdominal cramping. His last dose was on study day 20. After that, he experienced BMs on a regular basis and no longer required study medication. One month post study, he continued having regular BMs.

Subcutaneous methylnaltrexone has been shown to rapidly induce laxation in patients suffering with OIC. This patient responded to methylnaltrexone despite high doses of opioids and spinal cord compression.

**Funding sources: Wyeth Pharmaceuticals Inc. and Progenics**

### 3061

**IMPROVING COLLABORATION BETWEEN NURSING RESEARCH AND AMBULATORY CARE NURSES TO INCREASE PATIENT RECRUITMENT INTO NURSING RESEARCH STUDIES.** Susan Brown, RN, OCN®, Fox Chase Cancer Center, Cheltenham, PA, USA; and Tracey Newhall, RN, BS, OCN®, Fox Chase Cancer Center, Philadelphia, PA, USA.

Identifying patients for enrollment into nursing research studies that focus on quality of life concerns is challenging. As research nurses we recognize that enrolling patients into these types of studies is often overlooked by outpatient staff due to the high volume of patients for clinical trials. Lack of communication can result in outpatient nurses being unaware of the importance of nursing research and the results that may be beneficial to improved patient care and outcomes.

For a leadership training program we decided to take on the challenge of boosting accrual in a pilot nursing research study that focused on symptom management.

The objective of this leadership project was to foster teamwork between research nurses and clinic nurses to increase patient participation in nursing research studies.

Nursing research staff worked with ambulatory care staff to identify specific nurses to collaborate with. Research staff identified barriers to accrual, such as lack of knowledge of studies and time prioritization. We strived to improve ambulatory staff nurses' awareness of studies with the following strategies.

1. Meeting held with clinic RN's to review study eligibility/criteria for appropriate patients
2. Created baseline questionnaire for clinic nurses to use to screen patients for study participation
3. Pocket cards made for nurses to use in clinic to increase ease of identifying subjects
4. Research nurses made frequent rounds in specified clinics to assist in identifying study participants
5. Poststudy questionnaires given to clinic nurses to evaluate ease of process for identifying patients.

Our goal was to recruit 20 patients over two months. We were able to enroll 17 subjects.

Survey questionnaires given to clinic nurses indicated that overall they found it to be a satisfactory experience. Ten questionnaires were given out and returned, indicating they found it easy to identify patients for recruitment, ask screening questions, and to ask the patient if they wanted a research nurse to call them.

Providing outpatient staff with guidance and support enabled us to broaden our recruitment and increase symptom management resources for patients receiving chemotherapy. We were able to achieve our goal and use our enhanced leadership skills with additional projects.

### 3065

**"PEANUTTY OVER NURSING RESEARCH" EDUCATING NURSES ON THE NURSING RESEARCH PROCESS.** Heather Lee, BSN, RN, OCN®, Robert Packer Hospital, Sayre, PA, USA; Sally Bennett, MS, RN, CPN, Robert Packer Hospital, Sayre, PA, USA; Justine Larson, BSN, RN, BC, Robert Packer Hospital, Sayre, PA, USA; and Suzanne Stewart, MS, RN, CWCN, Robert Packer Hospital, Sayre, PA, USA.

In the continually evolving nursing environment, the professional nurse is being challenged to provide evidence based care to the client. Currently, many nursing practices lack strong supporting evidence that it is indeed the "best" practice. This drive for evidence based practice has opened many new and exciting opportunities for nurses to conduct research and enhance client care.

The Nursing Research Council (NRC) at Robert Packer Hospital, like the hospital itself, is made up of nurses with all levels of experience and education from graduates of diploma programs to doctoral degrees. Because of the very broad background of our nurses, the NRC saw the need to provide education to nurses concerning the nursing research process.

The purpose of the peanut butter study was to educate staff that may not have been formally exposed to nursing research previously or recently, on what nursing research is, various methods of conducting research and the process of actually doing a study. Since the focus was on educating staff on the process of conducting research we used a mock study comparing two brands of peanut butter.

The NRC conducted the mock study following all the steps of an actual research study from literature reviews to implications for practice. Currently the NRC is revising an article about our study experience to submit for publication.

With an increased understanding of research the oncology nurse can make informed changes in practice and better understand the importance of compliance in open studies within their practice environment.

Understanding how research is conducted will allow more oncology nurses to participate in nursing research to provide better client care.

### 3066

**IMPLEMENTING A HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY PROGRAM: NURSING'S ROLE FOR ASSURING CONTINUITY OF CARE IN A COMMUNITY HOSPITAL.** Aran Levine, RN, OCN®, AOCNS®, Scripps Memorial Hospital, La Jolla, La Jolla, CA, USA; and Brenda Hann, RN, MSN, OCN®, Scripps Memorial Hospital, La Jolla, CA, USA.

Hyperthermic Intraperitoneal Chemotherapy (HIPEC) is a high risk, low frequency procedure for patients with peritoneal carcinomatosis. HIPEC is performed in the operating room immediately following cytoreductive surgery. The duration of surgery can range from 7 to 22 hours, and with published morbidity rates ranging from 30–50%, HIPEC patients require nurses with specialized knowledge of the nuances and potential complications that can occur throughout the continuum of care.

A multidisciplinary team was formed with nurses from departments (operative, intensive care, ward) that would come in contact with HIPEC patients with the goal of assuring continuity, evidence-based care and decreasing variance in practice to reduce morbidity. The team developed a written plan for continuity of care that delineates each department's role, responsibilities and communication prior to and during transfer of the HIPEC patient. The Oncology Clinical Nurse Specialist drafted a skeleton plan based on an in-depth literature review. The process was finalized during team meetings.

The written plan was completed prior to the first HIPEC procedure. The plan delineates the preadmission process, preoperative and intraoperative, transfer to the surgical intensive care unit, the ward. The plan contains criteria that needs to be met before transfer between departments and discharge. It also includes post-hospitalization follow-up and the inclusion of other disciplines to facilitate optimal patient outcomes.

Throughout this implementation constant re-evaluation of the plan took place with each HIPEC case. The process evolved and the nurse's role was engrained in patient care. Data collection on these patients includes nursing sensitive indicators such as skin break down and urinary tract infections. Follow-up phone calls to HIPEC patients reinforce subjective data of the nurse's role and the positive effect it has on patient recovery.

Through implementation of a detailed evidence-based plan for care of HIPEC patients, nurses at a community based hospital have assured continuity of care and decreased variance in practice for a high risk patient population. This plan may be used to help other hospitals develop a HIPEC program that can offer hope to patients with peritoneal carcinomatosis.

### 3068

**THE ADVANCED PRACTICE NURSE'S ROLE IN ASSESSING AND MANAGING BISPHOSPHONATE-RELATED OSTEONECROSIS OF THE JAW.** Jacquelyn Lauria, RN, MS, APN, C, AOCNP®, The Cancer Institute of New Jersey, New Brunswick, NJ, USA; and Marlene McGuire, RN, MA, APN, C, The Cancer Institute of New Jersey, New Brunswick, NJ, USA.

Bisphosphonates are used to treat a variety of conditions including osteoporosis/osteopenia, multiple myeloma, and skeletal metastases from solid tumors. The increased use of aromatase inhibitors in breast cancer has led to greater use of bisphosphonates to counteract the osteopenic effects of these drugs. While bisphosphonates may improve quality of life for patients with skeletal metastases, their long half-life and prolonged usage may contribute to a rare but significant condition of bisphosphonate-related osteonecrosis of the jaw (BRON).

To educate oncology APNs about the need to assess and identify patients who are at risk for BRON, a serious complication that results in painful exposure of jawbone, impacting quality of life.

APNs are instrumental in identifying high-risk patients and assessing patients for side effects of treatment. The documented increased incidence of BRON has led to the need for awareness of this rare but significant side effect. BRON is most often associated with IV therapy, and patients receiving IV therapy who undergo dentoalveolar surgery are 7 times more likely to develop BRON. Cases have been reported with oral bisphosphonate use including Alendronate or Fosamax®. The risk of BRON in patients receiving oral therapy increases with prolonged drug usage of three years or more.

BRON is painful, difficult to reverse and can impair patients' ability to eat, chew, and swallow. Data are immature, but cumulative incidence of BRON ranges from 0.8–12%. We sought to increase awareness among APNs and establish guidelines for preventing and managing BRON. We reviewed the supportive care, dental and maxillofacial surgery literature, noting guidelines for prophylaxis, identification of risk factors, and management.

APNs found the guidelines effective in managing a patient with potential BRON. Guidelines included patient education, pre-therapy dental examinations, review of systems, and thorough dental history and assessment of the oral cavity at each visit, and referral to oral surgeons as indicated.

APNs play an essential role in providing anticipatory care and can optimize quality of life by being aware of this potential side effect. Vigilance, including communication with dental professionals can help to minimize this serious complication.

### 3069

**DEMYSTIFYING LYMPHEDEMA: PUTTING EVIDENCE INTO PRACTICE.** Marybeth Singer, MS, APRN-BC AOCN®, Massachusetts General Hospital, Boston, MA, USA; Ellen Poage, RN, BSN, MPH, CLT, Lymphedema Practitioner/Consultant, Fort Myers, FL, USA; Jane Armer, RN, PhD, University of Missouri/Ellis Fischel Cancer Center, Columbia, MO,

USA; Sheila Ridner, PhD, RN, ACNP, Nashville, TN, USA; Jeanne Shel-labarger, RN, BSN, University of Missouri/Ellis Fischel Cancer Center, Columbia, MO; and Melanie Poundall, RN, Massachusetts General Hospital, Yawkey Infusion Center, Boston, MA, USA.

Secondary lymphedema due to cancer treatment is the leading cause of lymphedema in developed countries. Development and severity of lymphedema has significant impact on comfort, psychological distress and overall quality of life. Incidence statistics have ranged from 5–60% with onset of symptoms ranging from immediately post operatively to up to 30 years post treatment. Oncology nurses caring for patients throughout the cancer trajectory have a critical role to play in early assessment of risk, prompt identification of lymphedema, and implementation of evidenced-based individualized treatment plans in collaboration with specialty trained therapists.

As part of an ONS selected project team, we undertook the review of current literature to identify effective interventions for the treatment of secondary lymphedema. We evaluated current clinical practice guidelines, systematic reviews evaluating lymphedema interventions, and research studies undertaken in the past 10 years. We followed the guidelines established by ONS Evidence-Based Practice Resource Team and the Outcomes Resource Center.

The team reviewed and synthesized the literature over the course of several conference calls. The evidence was discussed in detail to identify interventions that merit clinical use and those where the evidence was not strong enough to recommend. A PEP Card and Evidence tables were developed and reviewed by experts in the field of lymphedema management. This process provided a unique opportunity to evaluate in depth details of interventions that have not been clearly understood by patients and nurses alike.

The Lymphedema PEP card and supporting materials will be released at ONS Congress in 2008. A user friendly, succinct summary of interventions will be presented for oncology nurses caring for patients with lymphedema. It will allow for informed discussion about current and promising interventions and frank discussion of where gaps in knowledge may exist.

The interventions evaluated through this process will be discussed including research reviewed and the gaps in the literature. Discussion of how the information can be implemented in practice will also be addressed, including resources available to nurses. The time commitment and benefits of being involved in PEP development process will also be addressed.

### 3072

**PROMOTING ASSESSMENT OF SEXUAL ACTIVITIES AND INTEREST IN PATIENTS WITH CANCER BY ELECTRONIC SELF-REPORT SCREENING.** Donna Berry, RN, PhD, AOCN®, FAAN, University of Washington, Seattle, WA, USA; Debbie Nagusky, MPH, University of Washington, Seattle, WA, USA; Barbara Halpenny, MA, University of Washington, Seattle, WA, USA; Jesse Fann, MD, MPH, University of Washington, Seattle, WA, USA; Nigel Bush, PhD, Fred Hutchinson Cancer Research Center, Seattle, WA, USA; William Lober, MD, University of Washington, Seattle, WA, USA; and Mary Austin-Seymour, MD, Samaritan Regional Cancer Center, Corvallis, OR, USA.

Patients' sexual concerns are often under-discussed by clinicians during therapy, though there is evidence that such concerns are common for adult patients. Confidential, electronic self-report methods for patients to report symptoms and concerns are now available, yet the ability of such methods improve assessment has not been established.

The purpose of this analysis was to explore whether an electronic self-report assessment (ESRA-C) improved the rate of cancer clinic visit conversations between patients and clinicians addressed concerns regarding sexual activities and interests. This study addresses the first ONS research agenda priority, research in cancer symptoms and side effects.

This study 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 ESRA-C containing validated symptom and quality of life questionnaires. One item was added about the "impact of the cancer or treatment on sexual activities and interest," and included a 5-point response ranging from 1-no impact

to 5-much impact. Immediately after completing ESRA-C, a graphical summary of the patient report was made available to the clinical team of intervention group patients, while clinicians with control group patients received no graphical summary. The visit was audio-recorded and recordings were coded to identify symptoms and concerns discussed.

Of 590 recorded visits, sexual concerns were assessed in only 37 clinic conversations, despite the fact that 242 (41.0%) patients reported high impact on sexual activities/interests. The majority (27/37) of these assessed patients were in the intervention group. Of these 27 patients, 13 had gynecological (GYN) or genitourinary (GU) diagnoses, 10 had other solid tumor diagnoses and 4 had hematologic malignancies. Of the 10 who were in the control group, all were diagnosed with either GYN or GU cancers, where a focus on sexual function is traditionally more common. These results indicate that in the few cases when a clinician assessed sexual concerns, the ESRA-C intervention successfully prompted such attention, notably in non-GU or GYN diagnoses. Yet, sexual concerns remain under-assessed by the great majority of clinicians.

### 3073

**CHILD'S PLAY: TWO INNOVATIVE SURVIVOR'S DAY PROGRAMS.** Gabriela Kaplan, RN, MSN, AOCN®, Mountainside Hospital, Montclair, NJ, USA.

Survivor's Day is often fraught with conflicting emotions for patients, families, caregivers. Program planning must take into account these varied emotions, and somehow infuse the day with an activity that will provide comfort, cognition, and coherence.

"Healing Hearts" was the program in 2006, and "Bead Your Story" the program in 2007. The purpose of both these programs was to allow the patient/family the creativity to express their own personal cancer journey. The finished product, hopefully, would provide the "aha" moment.

"Healing Hearts": Participants painted and decorated tiles to express where they were in their cancer journey. The tiles were mounted and framed and now hang on display in the cancer center.

"Bead Your Story": Each participant was encouraged to make a keychain utilizing a minimum of three beads. The red bead was the diagnosis story, the blue bead was a treatment story, and the purple bead was the hope story.

The heart tiles were unveiled during a Tea ceremony in February, 2007. The participants gave the program high marks.

The beaded key chains were a huge success, as both patients and families asked for extra kits to take home.

Oncology nurses always seek to maximize the therapeutic milieu, while minimizing the hardships of treatment. Both of these activities contributed to our patients' satisfaction, and allowed for increased communication, discussion and resolution of many ambiguities.

### 3074

**ASSESSMENT OF CURRENT NURSING PRACTICE ASSOCIATED WITH ORAL CHEMOTHERAPY ADHERENCE.** Karen Schulte, MSN, ANP-BC, OCN®, Dana Farber Cancer Institute, Boston, MA, USA; Teresa Mazeika, RN, BSN, OCN®, Dana Farber Cancer Institute, Boston, MA, USA; Elizabeth Tracey, PhD, RN, OCN®, Dana Farber Cancer Institute, Boston, MA, USA; Leslie Spencer, RN, BSN, Dana Farber Cancer Institute, Boston, MA, USA; Anne Gross, MS, RN, CNNA, Dana Farber Cancer Institute, Boston, MA, USA; and Marsha Fonteyn, PhD, RN, OCN®, Dana Farber Cancer Institute, Boston, MA, USA.

Although the number of patients who are prescribed oral chemotherapy has been steadily increasing at our NCI-designated Cancer Center, oncology nursing standards of practice have yet to be developed to guide the care of these patients. Our nursing practice council initiated steps to assess this concern by surveying direct care RNs about their current practice associated with the care of patients receiving oral chemotherapy.

The purpose of this study was to identify and describe the current nursing practice of caring for patients receiving oral chemotherapy at our cancer center. The Synergy Model® guides nursing practice at our facility. This study examines several nurse characteristics in this model: clinical judgment, caring practices and systems thinking.

The sample consisted of 36 participants with a 66% response rate. After IRB approval was obtained, all direct care nurses were sent an email inviting them to participate by completing an anonymous Web-based survey. The survey instrument was developed from information that was obtained from results of nursing focus group interviews of over



30 nurses representing the various direct care roles at our institution. Oncology nurses were asked open-ended questions regarding their current practice associated with caring for patients receiving oral chemotherapy. The data from the survey was collected and analyzed at a web-based site using descriptive statistics.

The preliminary data indicate that 85% of all surveyed staff care for patients on oral chemotherapy on a daily basis but are primarily involved in symptom management and insurance issues, not initial patient teaching. Written educational materials and calendars are utilized 60% of the time however a perceived area of weakness was the lack of education materials available for investigational agents in early drug development. Other areas identified for improvement were standardization of nursing documentation and interdisciplinary communication.

Our findings will contribute to the development of best practice standards to enhance and support patients' adherence to oral chemotherapy. This will add to the growing body of knowledge about oncology nursing practice associated with patients' adherence to oral chemotherapy.

### 3077

**CANCER RELATED FATIGUE AND EXERCISE: RELATIONSHIPS IN BREAST CANCER SURVIVORS.** Rita Musanti, PhD, APN-C, AOCNP®, Cancer Institute of New Jersey, New Brunswick, NJ, USA.

Cancer-related fatigue (CRF), a common persistent symptom after therapy necessitates assessment and reduction-focused interventions as part of the care of cancer survivors. There is accumulating evidence that exercise ameliorates CRF.

CRF was measured pre and post intervention to assess the effect of exercise modality on this symptom.

The mechanism by which exercise relieves CRF is unclear. Data supports the beneficial effect of exercise in relieving fatigue. Exploring the relationship between CRF and exercise modality could enhance our understanding of the nature of this relationship.

Presented is a secondary analysis of data on the relationship between CRF and exercise modality collected during a previously reported study of exercise and physical self-esteem in breast cancer survivors. Women were randomly assigned to a 12-week program of either: flexibility (F), aerobic (A), resistance (R), or aerobic plus resistance (A+R) exercise. Previous studies suggest the relief of CRF by engagement in aerobic exercise; the effect of flexibility, resistance, and aerobic plus resistance exercise on CRF has not been explored. Standard physical fitness measures, as well as psychological measures including the Piper Fatigue Scale (0–10 score), were captured pre and post intervention. Exercise prescriptions were individualized and home-based. Women recorded their exercise in a log.

42 women completed the study (F = 12, A = 10, R = 9, A+R = 11). Thirteen (13) women dropped out. Baseline CRF was significantly higher in the drop-out group ( $t = 2.38$ ,  $p = .002$ ). Of the women that completed the study, CRF significantly decreased in all exercise groups ( $F = 10.76$ ,  $p = .002$ ); however, the change was more significant in the  $> 3$  (moderate fatigue) level when compared to the  $< 3$  (mild fatigue) group ( $t = 5.377$ ,  $p = .000$ ).

High baseline levels of CRF may be a predictor of poor exercise capacity and compliance. CRF of moderate level was significantly decreased post exercise intervention regardless of exercise modality. Mild CRF did not significantly change indicating either an expression of a clinically-significant threshold of fatigue perception, measurement insensitivity of the Piper Fatigue Scale at the lower range, or less of an exercise effect on milder states of CRF.

**Funding source: The Greater New York Chapter of Susan G. Komen for the Cure**

### 3078

**EFFECTS OF COMBINED PELVIC FLOOR MUSCLE EXERCISES AND SUPPORT GROUP ON URINARY INCONTINENCE AND QUALITY OF LIFE OF PATIENTS WITH PROSTATECTOMY.** Amy Zhang, Case Western Reserve University, Cleveland, OH, USA; Gerald Strauss, Louis Stokes Cleveland Department of Veterans Affairs Medical Center, Cleveland, OH, USA; and Laura Siminoff, School of Medicine Virginia Commonwealth University, Richmond, VA, USA.

Urinary incontinence (UI) is a major adverse consequence of prostate cancer treatment. About 30% patients remain incontinent a year after surgery. To date, treatment solutions are still limited.

This study examined the effect of combined Pelvic Muscle Exercises and social support group on UI and quality of life (QOL) of patients with stage I–III prostate cancer.

The health belief models formulate a theoretical framework that guides this investigation.

29 incontinent patients with postprostatectomy learned the pelvic muscle exercises (PFME) through biofeedback and were randomized to the control group ( $n=15$ ) and support group ( $n=14$ ). The control group participants practiced PFME individually at home, while the support group participants attended six biweekly group meetings facilitated by a health psychologist to discuss UI and QOL issues. Assessment of UI and QOL was conducted at baseline and three months.

86% support group participants vs. 46% control group participants practiced PFME 4–7 days weekly. At 3 months, the support group reported less urinary incontinence on a 0–10-point VAS rating scale than the control group (mean = 3.2 vs. 4.7); fewer support group participants used pads (50%) than control group participants (84.6%). More support group participants than control group participants reported that they could stop the urge to urinate and prevent leakage at 3 months (71.4% vs. 38.5%,  $p = .05$ ). The average effect size of 0.41 indicates a moderate continence improvement in the support group as compared to the control group.

The support group scored significantly lower on the severity of problems in daily living caused by urinary incontinence than the control group ( $p = .037$ ) at 3 months, especially in relation with spouse ( $p = .038$ ) and going out to public places ( $p = .022$ ). Improved urinary continence was significantly associated with reduced depression and symptom distress ( $p = .05$ ).

The study demonstrates that an intervention combining psychosocial support and biofeedback-PFME is more effective than biofeedback-PFME alone in improving continence and QOL of prostate cancer patients. Further investigation of the efficacy and working mechanisms of this intervention in a large population is imperative.

**Funding source: American Cancer Society pilot research grant**

### 3079

**A COMPARISON OF THREE METHODS OF SYMPTOM CLUSTER IDENTIFICATION.** Heidi Donovan, PhD, RN, University of Pittsburgh, Pittsburgh, PA, USA; Paula Sherwood, PhD, RN, CNRN, University of Pittsburgh, Pittsburgh, PA, USA; Catherine Bender, PhD, RN, University of Pittsburgh, Pittsburgh, PA, USA; Susan Cohen, DSN, APRN, FAAN, University of Pittsburgh, Pittsburgh, PA, USA; Margaret Crigh-ton, PhD, RN, University of Pittsburgh, Pittsburgh, PA, USA; Xiaoli Lu, MS, University of Pittsburgh, Pittsburgh, PA, USA; and Susan Sereika, PhD, University of Pittsburgh, Pittsburgh, PA, USA.

The study of symptom clusters has been identified as a top priority by ONS and NCI. Investigator-selected clusters and clusters identified through factor or cluster analyses have been emphasized. Much less attention has been given to alternative conceptualizations of symptom clusters, such as patient-identified clusters.

Compare three methods of identifying symptom clusters and evaluate the utility of patient-identified clusters for predicting symptom interference with life activities.

This study was guided by the Common-Sense Model of Illness Representations, which emphasizes patient's representations of health problems. A patient-focused method of identifying symptoms clusters was compared with two other cluster identification methods.

Disease, treatment, symptoms (0–10 severity scores for 22 symptoms), and symptom interference (MDASI) data were extracted from a dataset of 713 women with a history of ovarian cancer. Disease and treatment phase was classified as: (I) no evidence of disease (NED) and never received chemotherapy ( $n = 64$ ); (II) NED  $< 5$  years after primary treatment ( $n = 180$ ); (III) NED  $> 5$  years after primary treatment ( $n = 94$ ); (IV) NED after recurrence ( $n = 96$ ); (V) on treatment for recurrence ( $n = 155$ ); and (VI) not receiving treatment for recurrence ( $n = 90$ ).

Three symptom cluster scores were created. The factor analytic cluster score represents the mean severity of symptoms with high, exclusive loadings on the factor explaining the greatest variance in the total set of symptoms. The symptom burden cluster score represents the mean severity of all 22 symptoms. The patient-identified cluster represents the mean severity of the 3 symptoms that each patient "noticed most." Regression analyses were conducted for each disease phase to determine

the amount of variance in symptom interference with life activities explained by the three different cluster scores.

Symptom burden clusters were the strongest predictors of interference with life activities. The patient identified cluster of only three symptoms still retained 58%–97% of the predictive power of the symptom burden cluster (22 symptoms).

These results support the value of patient identified clusters. Focusing on three “most noticed” patient identified symptoms represents a parsimonious, but individualized approach to symptom assessment and can guide development of rational interventions to improve quality of life for women with ovarian cancer.

### 3083

**MEANING OF THE EXPERIENCE OF SPIRITUALITY AT THE END OF LIFE.** Ann Dose, PhD, RN, APRN-BC, Mayo Clinic, Rochester, MN, USA; Barbara Leonard, PhD, RN, FAAN, University of Minnesota, Minneapolis, MN, USA; Mary Jo Kreitzer, PhD, RN, FAAN, University of Minnesota, Minneapolis, MN, USA; Cynthia Peden-McAlpine, PhD, RN, FAAN, University of Minnesota, Minneapolis, MN, USA; and Betty Ferrell, PhD, RN, FAAN, City of Hope Medical Center, Duarte, CA, USA.

One of life's most vulnerable phases is that experienced at the end of life, with potential for despair and hopelessness. Addressing one's spirituality may be one strategy to cope with this vulnerability and oncology nurses are often the providers assisting with patient coping at these times. Defining spirituality remains difficult, though, and the concept overlaps with religion but it may be one of the most important components of end of life care.

The study purpose was to describe the meaning of the experience of spirituality at the end of life as experienced by those receiving hospice care. This study relates to the ONS Research Agenda in the areas of symptom management at the end of life and psychosocial research in individuals, with particular application to older adults.

This phenomenological study followed van Manen's framework, considering both the parts and the whole, in an attempt to describe the essence of spirituality at the end of life.

Eleven Midwest hospice patients were asked to document their life-time spiritual journeys as a reflective aid for subsequent audiotaped unstructured interviews. Interview transcripts were coded, themes emerged from the data, and the essence of the lived experience of spirituality at the end of life was described. Rigor was maintained by adhering to the overall philosophy and methods described by van Manen.

The meaning of the lived experience of spirituality at the end of life was framed within the spirituality lived throughout one's life, with major themes of Connectedness, Spiritual Life Moments, Pick up the Pieces and Move On, and Religion “Matters.” Life review was found to be helpful in reflecting on the experience of spirituality at the end of life. Identified themes manifested the lived experience of spirituality at the end of life for this group of elderly hospice patients. Study findings related to Reed's Theory of Self-Transcendence. Clinicians need to remain vigilant to spiritual issues at the end of life and life review from a spiritual perspective may be a valuable tool in discussing spirituality.

### 3086

**THE DEVELOPMENT OF A STANDARDIZED ELECTRONIC NURSING HANDOFF SYSTEM.** Mary Dowling, RN, MSN, CNA, Memorial Sloan Kettering Cancer Center, New York, NY, USA; Kathleen Choo, Memorial Sloan Kettering Cancer Center, New York, NY, USA; Stacey Hammond, Memorial Sloan Kettering Cancer Center, New York, NY, USA; and Blanca Vasquez-Clarfield, Memorial Sloan Kettering Cancer Center, New York, NY, USA.

JCAHO recently mandated hospitals implement a standardized communication process between caregivers in National Patient Safety Goal 2E: “Implement a standardized approach to ‘handoff’ communications, including an opportunity to ask and respond to questions.” To address this from a nursing perspective, a Nursing Handoff Task Force was created at this NCI-designated comprehensive cancer center. Membership included clinical nurses from inpatient and perioperative units.

This presentation discusses the development of a standardized electronic handoff tool and the associated process, workflow, and implementation plan.

The task force utilized best available to formalize a nursing handoff procedure to be included on the electronic Clinical Information Systems (CIS). The developed tool consists of demographic information, active licensed independent practitioner (LIP) orders, lab results, oncologic history and history of present illness, clinical information, and an RN “To Do” list. The tool is used for all patient transfers, before/after procedures, as inpatients are taken to the operating room, and during inter-shift report from day to evening/night.

RNs are required to ensure all the orders in CIS are in the appropriate status (canceled, complete, held, active, or pending) and have been carried out as ordered, choose the appropriate report, enter clinical information in the handoff tab, print the report, give the report to the receiving nurse and review data via face-face interaction, Vocera® or telephone.

Nursing staff attended training in-services led by task force members in September 2007, and the system went “live” in October 2007.

The Task Force continues to meet to monitor and evaluate the tool and workflow. Members submit suggestions for improvement based on feedback from their units, and these enhancements are implemented quarterly. As of January 2008, the first round of changes had gone into effect. These include improving continuity of patient data between inpatient and outpatient settings and allowing user information to be viewed online instead of only when printed.

Most organizations have adopted paper-based handoff tools as a result of the JCAHO National Patient Safety Goal. We recommend that a standardized electronic handoff system be utilized to improve communication among care providers, which can ultimately enhance patient care and clinician workflow.

### 3087

**DIFFERENTIAL PATIENT-FAMILY OPINIONS OF TREATMENT AND CARE FOR ADVANCED LUNG CANCER PATIENTS.** Amy Zhang, Case Western Reserve University, Cleveland, OH, USA.

Family communication significantly affects quality of life of cancer patient and caregivers, especially at the end of life. Scientific study in this area is scarce.

This study examined the difference of opinions between advanced lung cancer patients and their caregivers with regard to the treatment and care decision making.

Family centered models have been proposed to help understand the needs and communication of cancer patients and their families.

235 patients with advanced stage non-small cell lung cancer and their caregivers (N = 314) were recruited as a convenience sample. A telephone interview was conducted to collect information using a semi-structured questionnaire. Chi-square test, Fisher's exact test, and Mann-Whitney nonparametric test, and linear regression were performed as appropriate to compare 235 patients and 196 primary caregivers on their opinions of treatment and care issues.

Patients and caregivers reported significantly different opinions on three main issues: trade-off between treatment side effects and benefits; reporting treatment side effects to physicians; hospice care. As more patients were willing to stop treatment when it was no longer effective or one would die ( $p=.01$ ), more caregivers were willing to stop treatment when the side effect got worse ( $p=.001$ ). Nearly half of the patients and caregivers agreed that patients did not report treatment side effects immediately, but significantly more caregivers reported that patients reported side effects only after the family urged them to do so ( $p=.01$ ). More caregivers than patients were willing to discuss hospice; they preferred hospice care at home than elsewhere ( $p=.05$ ). Moreover, more caregivers than patients reported difference of opinions in the family ( $p=.01$ ) and avoidance of family discussion of a certain issues ( $p=.05$ ). Perceived family disagreement is significantly associated with depression in both patients and caregivers ( $p=.01$ ).

Clearly, patients and caregivers have different perspectives of treatment and care plans due to their respective interests and concerns. Such a difference of opinion in the family can be a significant source of mental distress for both patients and caregivers. It is imperative to assess the stress associated with family disagreements, identify at-risk patients and caregivers, and provide timely psychosocial treatment and relief for vulnerable persons.

**Funding source: National Institutes of Health/National Cancer Institute (R01 CA089513)**

### 3088

**DELAY IN DIAGNOSTIC TESTING AFTER ABNORMAL MAMMOGRAPHY IN LOW INCOME WOMEN.** Debra Wujcik, RN, PhD, AOCN®, Vanderbilt Ingram Cancer Center, Nashville, TN, USA; Yu Shyr, PhD, Vanderbilt University, Nashville, TN, USA; Margaret Clayton, PhD, RN, University of Utah College of Nursing, Salt Lake City, UT, USA; Lee Ellington, PhD, University of Utah College of Nursing, Salt Lake City, UT, USA; Usha Menon, PhD, RN, University of Illinois–Chicago, Chicago, IL, USA; and Kathi Mooney, PhD, RN, University of Utah College of Nursing, Salt Lake City, UT, USA.

Breast cancer (BC) remains the most common cancer in women. Although screening mammography (SM) is an effective approach for early detection of BC, uninsured, underinsured, and minority women often do not have access to SM. The National Breast and Cervical Cancer Early Detection Program provides free access to SM. Of women who get screened, however, 10–15% need further testing, and half of those women delay or do not return to complete the tests. Delay may contribute to later stage BC at diagnosis and increased rates of recurrence and death.

The purpose of this study was to identify factors associated with diagnostic delay after an incomplete or abnormal mammogram among women participating in a state SM program.

An Ecological Framework incorporating intrapersonal and organizational factors was used.

The sampling period was 2002–2006 and the sample included 11,610 women. The outcome measure was delay in completion of all diagnostic tests and defined as women who did not complete testing within two months. Bivariate and multivariate logistic regression analyses were used to explore the associations between age, race, ethnicity, marital status, breast cancer history and history of breast symptom history and delay.

Thirty-seven percent of women required diagnostic follow up and of a subset of women used in this analysis, 30% experienced delay greater than two months. Controlling for marital status, age, and breast cancer history, there was more delay if women were African American versus Caucasian (OR 1.45, 95% CI 1.13, 1.85), Hispanic (OR 0.72, 95% CI 0.55, 0.93) or did not have breast symptoms (OR 1.50, 95% CI 1.27, 1.77). Timely testing and receipt of results were considered as proxy indicators of health care system contribution to delay. A delay in receipt of test results greater than 1 week contributed to overall delay. In a state sample of women with abnormal or incomplete mammograms, a substantial number of women experienced delay potentially reducing the effectiveness of SM. Additional research on patient and system contributors to delay after incomplete screening results is warranted to impact health policy and resource allocation.

### 3089

**PREDICTING SURVIVAL IN TERMINALLY-ILL PATIENTS WITH CANCER THROUGH THE USE OF THE PALLIATIVE PERFORMANCE SCALE AND THE PALLIATIVE PROGNOSTIC INDICATOR.** Julie Richardson, RN, OCN®, CHPN, Thomas Johns Cancer Hospital at CJW Medical Center, Richmond, VA, USA.

Many oncology patients receive outpatient therapy until advanced stages of cancer are present. Patients may then be at a particularly pivotal period in their life, when they need honest answers to avoid false hopes. For that reason, determining survival time at end-of-life is important so that decisions can be made regarding further care.

The purpose of this project was to determine if the Palliative Performance Scale (PPS) used in conjunction with the Palliative Prognostic Indicator (PPI) correctly predicted survival for end-stage patients with cancer. These are tools which oncology nurses can use to assess their patient's survival and thus assist with treatment decisions and discharge planning.

A retrospective review of 100 charts was conducted with half of these charts reviewed for the patient's last 3 admissions. The PPS was utilized to assess the patient's ambulation, activity and evidence of disease, self care, intake, and consciousness level. The PPI uses the PPS score and additionally assesses oral intake, edema (peripheral bilateral resulting from low albumin level), dyspnea at rest and delirium. The patient's score was tallied and this value determined the level of risk related to the patients length of survival.

My evaluation confirmed that length of survival can be adequately predicted when using the PPS in combination with the PPI. Of the 100

charts reviewed, 85% represented category C (<19 days to death) with the remaining 15% in category B (<91 days to death). Category B and category C had a 96% and 100% accuracy rate respectively. Unfortunately, the majority of oncology patients admitted have advanced disease, therefore, none of the patients reviewed met category A criteria (<121 days to death).

This review determined that the PPS and PPI survival assessment tools may be used as a guideline for oncology nurses to predict length of survival in cancer patients. While patients and families are unaware of their use, they may help health care practitioners to provide better patient advocacy and care planning. Through utilization of these tools, our medical oncology nurses have increased communication with physicians, patients, and families and assisted patients and families to plan for end-of -life.

### 3093

**DEVELOPMENT AND VALIDATION OF THE INTRAPERITONEAL CHEMOTHERAPY SYMPTOM EXPERIENCE (IPCSET).** Eileen Fusco, MSN, AOCNP®, APRN-BC, New York University Medical Center, New York, NY, USA; Andrea Downey, RN, MA, AOCN®, New York University Medical Center, New York, NY, USA; Robin Green, RN, MSN, OCN®, New York University Medical Center, New York, NY, USA; Kathleen McCaffrey, RN, MSN, OCN®, New York University Medical Center, New York, NY, USA; and Frances Cartwright, PhD, RN, AOCN®, New York University Medical Center, New York, NY, USA.

Women with cancer who undergo intraperitoneal chemotherapy experience symptoms related to primary therapy and symptoms that persist in ongoing recovery. There is a need to identify the distress associated with these symptoms so that interventions can be targeted to individual concerns. It is difficult to measure these women's symptoms experience because there isn't a tool to collect this information.

To describe the development of the Intraperitoneal Chemotherapy Symptom Experience Tool (IPCSET), an instrument that captures the symptom experience of women with cancer who have undergone intraperitoneal chemotherapy as a component of their therapy.

Dodd et al. symptom experience model provides the framework to examine the relations among dimensions of symptom experience including specific symptoms and amount of associated severity and distress for the purpose of identifying resources to counteract distress.

Content validity for the IPCSET was supported through a literature review. Twenty-nine symptoms were identified and verified by 5 content experts. The tool was then reviewed by 10 experts in practices settings in the New York/New Jersey Metropolitan area. Reviewers were asked to rate symptoms on a scale of 0- not relevant to 4 very relevant.

The content validity index (CVI) for the tool instrument was calculated using the percentage of total items rated by experts as either 3 or 4. A CVI score of .80 or better was considered an acceptable score. Pending IRB approval, the tool will be completed by a sample of 100 women who meet eligibility and sign consent to begin to demonstrate validity and reliability support for the instrument. The IPCSET can then be further tested at meaningful points in treatment, recovery, and ongoing survivorship to explore the emerging concept of symptom experience in samples that reflect socio-economically, ethnically diverse populations.

### 3097

**NEW YORK UNIVERSITY (NYU) MEDICAL CENTER ONCOLOGY NURSE RESOURCE PAIRING PROGRAM.** Daniel Verina, RN, NYU Medical Center, New York, NY, USA.

Bridging the gap from nursing school to clinical practice is a challenging process.

The average novice registered nurse requires up to 12 months of clinical practice to become confident in the new role. Thirty-five to sixty percent of new nurse graduates leave their position within a year. Mentoring programs have been identified as effective strategies to aid the nurse to move through the novice to expert ladder. These programs provide clinical support, encourage professional growth and development, improve confidence, and increase retention of competent nursing staff.

Use Benner's Stages of Clinical competence to provide a mentor-mentee structure: to maximize utilization of nursing expertise, to guide nurses through stages of clinical competence, and promote professional development among senior nursing staff on an acute oncology hematology unit.



Each mentee (new nurse, agency nurse, nurse returning after extended absence) is paired with a mentor (achieved promotion on clinical ladder, completed preceptorship program). The goal of the mentor is to support the mentee as follows: Assist mentee in setting goals and identifying strategies for his/her achievement consistent with the structure standards of the institution. Serve as a role model for competent and sensitive delivery of patient care. Support the maturation of early leadership skills. Encourage sentiments of empowerment, confidence, and professional achievement.

The following outcomes will be measured.

1. Job satisfaction as measured by verbal feedback and standardized tools
2. Retention
3. Participation in professional development activities and interdisciplinary councils
4. Movement through clinical ladder

Mentorship programs offered to nurses positively influence retention and satisfaction among nursing staff employed in stressful clinical areas. Implications for oncology nursing practice include strengthening the relationships between novice and expert nurses as well as increasing the number of oncology nurses with advanced skills sets and clinical knowledge.

### 3098

**A WINNING STRATEGY TO MINIMIZE BLOOD WASTE VOLUME FROM ARTERIAL LINES.** Wanda Rodriguez, RN, MA, CCRN, CPAN, Memorial Sloan-Kettering Cancer Center, New York, NY, USA; Doreen McCarty, BSN, RN, CPAN, Memorial Sloan-Kettering Cancer Center, New York, NY, USA; Stephanie Nolan, MS, RN, CPAN, Memorial Sloan-Kettering Cancer Center, New York, NY, USA; Joyce Kane, MSN, RN, CCRN, Memorial Sloan-Kettering Cancer Center, New York, NY, USA; Mary O'Sullivan, BSN, RN, CPAN, Memorial Sloan-Kettering Cancer Center, New York, NY, USA; and Denise Stone, BSN, RN, CPAN, Memorial Sloan-Kettering Cancer Center, New York, NY, USA.

Last year, the Critical Care Evidence Based-Practice Committee facilitated the implementation of a 50% percent decrease in the size of specimen tubes used for blood tests and now looks to decrease the amount of blood wasted prior to specimen collection from arterial lines.

Laboratory testing continues to be an unnecessary source of blood loss in the critically ill, fragile, oncology patient. In addition to minimizing blood specimen volume, we reviewed other factors contributing to nosocomial blood loss. These included patients' need for frequent testing; lack of standards, which leads to inconsistent blood discard practices; and frequent use of arterial catheters.

We sought preventive strategies to minimize waste volume from arterial lines and standardize nursing practice.

A review of the literature was conducted to examine what is the minimum volume of blood wastage from arterial lines. Fifty articles from CINAHL, PubMed, Medline, Google, Cochrane Review, Evidence Matters, Scopus, MD Consult, and Web of Science were reviewed. There were a limited number of meta-analysis, randomized experimental design, quasi-experimental and non-experimental studies related to blood-conserving mechanisms. Some studies recommend a closed arterial sampling setup whereby blood waste is not removed from the system and then returned to the patient. Given the compromised immunity of patients in an oncology center, we agreed that this practice was not optimal for our institution. Expert opinions, outside institutional practices, and observation of current practice at our institution were evaluated. Committee members from the PACU and ICU ranked the evidence, based on the Stetler Model.

Evidence supports that the discard volume from arterial lines is equal to double the dead space of the catheter which is 3 ml in our institution. These findings were presented to our multidisciplinary physician partners in the ICU, PACU, and Clinical Laboratories, and consensus was achieved.

We are working with our vendor to obtain a dedicated 3ml waste tube which, for safe practice, is a different color than existing equipment.

Implementation of this practice change will provide standardization, decreasing our current discard volume from 9ml to 3ml. This will provide the most accurate test results while minimizing blood loss to the patient.

### 3099

**CLINICAL SUPPORT: INCREASING ACCURACY AND DECREASING ERRORS.** Diane Muench, RN, OCN®, PEPID, LLC, Evanston, IL, USA.

The proof is in the studies—access to medical information to support decisions increases accuracy and productivity and decreases medical errors. From drug interactions, to narcotic equianalgesic dosing, to oncologic emergency protocols, the use of one integrated point-of-care resource can significantly impact the quality of patient care. Explore the benefits of integrating point-of-care medical information resources into daily practice.

The goal was to give oncology nurses access to the information and tools they need every day at the point of care, in order to reduce errors and increase productivity.

Through a partnership with the Oncology Nursing Society, an oncology nursing tool was developed that encompassed everything from dosing calculators, to a drug interactions generator, PEP cards, IV compatibility tool and clinical content. This content was fully integrated to save time and ensure ease of use, the integration also helps to remind nurses of all required steps.

Clinical scenarios show that integration of medical content and tools provide the most reliable and responsible clinical support, having a high impact on daily practice.

Using a point-of-care reference tool to support decisions may help other oncology nurses optimize results and provide higher quality-of-care. Support for optimal care and involvement of the nurses who use the reference ensure the success in its implementation.

### 3102

**A PILOT STUDY TO EVALUATE A NUTRITIONAL ASSESSMENT INTERVENTION TO IMPROVE CANCER-RELATED FATIGUE AMONG POST-ALLOGENEIC BLOOD AND MARROW TRANSPLANTATION RECIPIENTS.** Srisuda Lecagoonporn, RN, OCN®, University of Texas M.D. Anderson Cancer Center, Houston, TX, USA; Uday Popat, MD, University of Texas M.D. Anderson Cancer Center, Houston, TX, USA; and Anne E. Young, RN, EdD, Texas Womens University, Houston, TX, USA.

Fatigue and nutritional deficiency are two common and interlinked complications following blood and marrow transplants (BMT). The intensity of the BMT process and its complications has deleterious effects on the patient's ability to maintain an optimal nutritional state. When malnutrition occurs, delaying recognition and treatment means that BMT patients often experience more difficulties in successful recovery process. Early intervention through education and nutritional assessment had the potential to circumvent or diminish these occurrences during the immediate post-transplant period and the potential for promoting clinical outcomes for post-BMT patients.

1. To use the results from this pilot study to estimate the effect size of the nutritional intervention on fatigue and caloric intake.
2. To apply nutritional assessment tools for early detection of patients at risk for malnutrition.
3. To examine the feasibility of conducting this intervention study.
4. To describe cancer-related fatigue patterns among BMT patients at multiple time points during the ambulatory visits.
5. To evaluate the effects of a nutritional intervention for post-allogeneic BMT recipients on adequacy of caloric intake in order to improve cancer-related fatigue scores.

The theoretical framework chosen for this study is based on Win-ningham Psychobiological-Entropy Model demonstrates the relationship among fatigue, other symptoms, and decreased functional status.

This is a prospective longitudinal, randomly assigned two-group design, pilot study to evaluate a nutritional assessment intervention to improve cancer-related fatigue among post-BMT allogeneic blood and marrow transplantation recipients during 42-days of ambulatory visits. Approximately 12 patients will participate in this study.

There are total of 7 subjects in this study at this point.

### 3106

**THE IMPACT OF AN EDUCATIONAL PROGRAM ON SMOKING PROVIDED TO ELEMENTARY CHILDREN.** Kyra Whitmer, PhD, RN, University of Cincinnati, Cincinnati, OH, USA; and Robbin Blau, BSN, RN, Barrett Center, University Hospital, Cincinnati, OH, USA.

Twenty percent of students smoke by the ninth grade. One strategy to prevent smoking is to intervene before the habit is started.

The question posed was whether introducing information on the dangers of smoking at the fifth grade would deter smoking at the eighth grade.

An educational program was presented to fifth graders. The topics covered included health risks and financial loss. This program included interactive activities (i.e., exercising for a few minutes then breathing through a straw to demonstrate physical limitations when one smokes); word search puzzles for the chemicals contained in tobacco; use of the Web site: [www.whyquit.com](http://www.whyquit.com) to show the devastating effects of tobacco use and inspection of tar in pig lungs following smoking. Financial loss was demonstrated by calculating the money spent on two packs of cigarettes a day over a life time.

When the same children were in eighth grade, they were asked to participate in a survey regarding their smoking behaviors.

Of the 225 surveys obtained, 146 (65%) students remembered the educational program and comprised the intervention group (I). Those children who had not attended the grade school where the educational program was given were designated the control group (C). In the group I, 5.2 % considered that they smoked regularly whereas 17.9 % did in group C. The decision to smoke was based on the perception that it helped them forget their problems 10.4 % (I) vs 21.4 % (C). The decision not to smoke was primarily based on health risks 72.2% (I) vs 53.6% (C).

Clearly, many intervening variables occur in the three years between exposure to an educational program on smoking and completion of the survey. Early education interventions are effective in preventing the habit of smoking.

Innovations include introducing the dangers of smoking at the fifth grade and the unique use of interactive activities.

### 3107

**CODE GRAY: DEVELOPMENT OF A MULTIDISCIPLINARY PROGRAM DESIGNED TO PROVIDE IMMEDIATE SUPPORT FOR NURSES FOLLOWING A PATIENT'S DEATH.** Deborah Sendlak, RN, Roswell Park Cancer Institute, Buffalo, NY, USA; Kathleen Shanahan, PhD, Roswell Park Cancer Institute, Buffalo, NY, USA; and Deborah Coplin, RN, MS, Roswell Park Cancer Institute, Buffalo, NY, USA.

Among the most stressful situations encountered by oncology nursing staff are the death of a patient and witnessing a family's suffering. These situations typically are managed on an ad hoc basis, with group support for nurses following periods of high mortality. Aware of the limitations of this model, we developed an alternative intervention designed to provide peer-based support immediately following a patient's death.

Given the high stress associated with patient death and the challenges of delivering an intervention in the fluid nursing environment, an empirically based program was developed tailored to these demands. The intervention is based on empirical literature evaluating response to loss, and is intended to deliver support in the immediate work environment.

"Code Gray," involves intervention during the acute phase of grief designed to reduce staff demands, normalize expression of grief, and provide immediate support. At the time of death, the charge nurse immediately responds and conducts a brief structured assessment of the involved nurse's emotional needs. The charge nurse then arranges for a 20 minute break for the floor nurse, during which the nurse can talk with a member of the multidisciplinary Code Gray support team, and/or spend time off the floor. At the end of the current and following shift, a brief reassessment is conducted to evaluate the need for follow-up support.

Code Grey has been implemented on a trial basis. A formative evaluation yielded positive feedback in terms of immediacy, quality of support, and overall effectiveness. Summative evaluation will be conducted on medical and surgical units and will be reported.

The Code Grey procedure is empirically based and provides an effective and immediate response to the patient loss and heightened family involvement characteristic of oncology nursing care. The intervention was designed to provide immediate support within the work environment rather than the more static support group format. A significant component of the Code Grey procedure is the demonstration of organizational support for the direct care staff, an important factor in quality of work-life. A detailed description of the program and summative evaluation data will be presented.

### 3109

**THE FEASIBILITY OF UTILIZING "SMART" INFUSION PUMPS TO ADMINISTER CHEMO/BIOOTHERAPY IN AN OUTPATIENT TREAT-**

**MENT UNIT.** Rori Salvaggio, RN, MS, Memorial Sloan Kettering Cancer Center, New York, NY, USA; Emo Karonis, BSN, RN, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY, USA; Chirly Denton, BSN, RN, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY, USA; Scott Freeswick, MS, RPh, Memorial Sloan Kettering Cancer Center, New York, NY, USA; Justin McManus, Memorial Sloan Kettering Cancer Center, New York, NY, USA; and Raymond Tsang, MBA, RPh, Memorial Sloan Kettering Cancer Center, New York, NY, USA.

This urban comprehensive cancer center has an offsite outpatient facility that treats breast cancer patients. The Treatment Unit sees approximately 300 patients and administers 500 intravenous (IV) chemo/biotherapy infusions weekly. Studies estimate infusion pumps account for 35% of medication errors, most resulting from manual programming mistakes. Smart pumps, a new generation of infusion devices, improve the safety of IV medication administration. The technology transforms a conventional pump into a computer with a customized drug library. When a medication is programmed outside of pre-determined parameters the device alerts the nurse to potential mistakes before they happen. The system logs all alerts to allow tracking of programming errors and identify safety issues and quality improvement efforts.

Our organization selected the Alaris® System with Guardrails® Suite MX to pilot at this facility. Metrics to evaluate the project's success included feasibility, usability, nurse satisfaction, and scalability across the organization.

A nursing led multidisciplinary team created the drug library, developed work flows, organized staff education and established communication between the pump and server in a wireless environment. Organizational chemo/biotherapy guidelines were utilized to reflect established standards. We configured the drug library to maximize the system's safety features.

The Alaris® System has been operational for six months. The pilot successfully demonstrated feasibility of using this system and a survey revealed positive nursing satisfaction. A recent audit revealed high compliance with safety feature use. We continue to analyze data to identify averted errors and opportunities for practice improvements. Software limitations restricting drug library configuration were identified and future enhancements recommended allowing for full implementation across our organization.

The administration of IV medication at the point of care carries the highest risk of potential harm to patients. Smart pump technology is a valuable clinical tool that has potential to support a safer nurse work environment while enhancing patient safety. In this presentation we will share our approach to configuring the drug library, tools for implementation, survey results and education plan.

### 3112

**SURVIVORS TEACHING STUDENTS.** Margaret Fitch, RN, PhD, Odette Cancer Centre, Toronto, CA; Alison McAndrew, Sunnybrook Health Sciences Centre, Toronto, CA; Elisabeth Ross, Ovarian Cancer Canada, Toronto, CA; and Fran Turner, Ovarian Cancer Canada, Toronto, CA.

Survivors Teaching Students is a national program for nursing students designed to sensitize them to the symptoms of, and risks for, ovarian cancer; increase awareness of hereditary aspects of ovarian cancer; present positive ways of breaking bad news; and use statistics in meaningful ways when discussing prognosis. Ovarian cancer survivors share personal experiences with the students in a classroom setting. These survivors are especially educated to give these presentations.

The purpose of this study is to evaluate the impact and effectiveness of the Survivors Training Students Program.

The program is based on both the Supportive Care Framework and wellness oriented survivorship concepts.

The two-stage evaluation process includes the survivors' evaluation of their training and the students' evaluation of the survivor presentations. The survivors complete post-training evaluations. Follow-up survivor interviews are conducted following a student presentation. During the second stage of the evaluation, students are asked to complete pre- and post- presentation surveys. They have the option to complete a third online survey in six months.

Survivor study results are based on four training sessions that took place across Canada. Twenty-nine survivors completed the post-training

evaluation. Data for the student presentations were collected from ten sessions that took place across Canada. Four hundred and sixty have completed the pre-presentation survey and four hundred and ninety-three have completed the post-presentation survey.

The survivors view the training as a positive experience and this program as an excellent opportunity to influence future healthcare professionals. The students reported the presentation increased their awareness of ovarian cancer, and its symptoms. The survivor stories put a human face to a devastating illness such as ovarian cancer.

### 3113

**CURRENT ISSUES AND TRENDS OF INFORMED CONSENT AND SHARED DECISION MAKING WITH THE ONCOLOGY SETTING.** Dore Shepard, RN, MS, OCN®, Indiana University Simon Cancer Center, Indianapolis, IN, USA; and Linda Battiatto, RN, MSA, OCN®, Indiana University Simon Cancer Center, Indianapolis, IN, USA.

Improving patient's choice for cancer treatment, through shared decision making is not only an important topic within health care ethics and law, but is a standard within the Oncology Nursing Practice Scope and Standards. It states, "The oncology nurse uses ethical principles as a basis for decision making and patient advocacy". Shared decision making, which is framed within an ethical boundary, is a collaborative effort in which the patient and their health care provider share information and insights to formulate a decision. Informed consent is a legal process, whereby a person gives consent based upon an understanding of the facts and implications or risks of an action.

The purpose of this abstract is to explore current issues and future trends of informed consent and shared decision making within the oncology setting. Survivorship issues, reproductive issues, secondary cancers resulting from previous radiation and chemotherapy occurring months or years after initial treatment, and the discussion of palliative care as a treatment option will be explored.

The American Society of Clinical Oncology's Quality Oncology Practice Initiative (QOPI™) project recommends measuring compliance of consent for chemotherapy being assessed. The common law doctrine of informed consent for medical treatment requires disclosure of the patient's diagnosis, the nature of the proposed intervention, intended benefits, associated risks and side effects and medically reasonable alternatives and their corresponding risks and side effects. State laws differ in specific matters of informed consent.

Recent published accounts have explored the practice of giving and obtaining consent for chemotherapy. Ever since 1993, truth in prognosis has been debated within the oncology community. During that year, the California Court of Appeals determined that a physician has a duty to disclose information about life expectancy to a patient who has indicated his desire to make a fully informed decision. The patient in that case had pancreatic cancer.

This presentation will demonstrate how risk and uncertainty influences shared decision making process. Oncology nurses need to know associated risks with recommended treatment options whereby assisting the patient with advocacy and supporting their decision making process.

### 3118

**THERAPEUTIC EXERCISE CAN IMPROVE FUNCTIONAL STATUS AND QUALITY OF LIFE DURING CANCER TREATMENT.** Carolyn Dennehy, PhD, Navitas Cancer Rehabilitation Centers, Westminster, CO, USA; and Kathleen O'Connor, MS, Navitas Cancer Rehabilitation Centers, Westminster, CO, USA.

Most cancer treatments promote unfavorable side effects that result in de-conditioning with potential late and long term effects. Exercise has been clearly shown to improve physical fitness, quality of life and some aspects of psychosocial functioning. Only limited research has been done to explore the use of exercise therapy concomitant with cancer treatment to mitigate de-conditioning and improve functionality. Improvements in functional status may reduce late and long term side effects of cancer treatment and could improve treatment adherence.

The purpose of the study is to determine if patients receiving chemotherapy treatment for various cancers can reduce de-conditioning and improve functional status by participating in didactic exercise therapy.

Cancer patients (n=193) from two cancer treatment centers either receiving treatment (IT) (n= 125) or finished with treatment (PT) (n=68) participated in this investigation. Baseline and 8 week post intervention assessments to determine cardiovascular endurance, fatigue, stress, functional status and quality of life (QOL) were performed. Subjects participated in 8 weeks (2X/week) of exercise therapy consisting of aerobic training, resistance, balance and flexibility activities for one hour each session. All data were statistically analyzed using paired t-tests. Level of significance was set at  $p < .05$ .

The IT group had significant differences pre to post for cardiovascular endurance ( $p=.000$ ), fatigue ( $p=.000$ ), stress ( $p=.000$ ), functional status ( $p=.027$ ) and QOL ( $p=.000$ ). The PT group had significant differences pre to post for cardiovascular endurance ( $p=.000$ ), fatigue ( $p=.000$ ), functional status ( $p=.003$ ), and QOL ( $p=.000$ ). No difference was found in the PT group for stress. Appropriately designed and delivered exercise therapy can be tolerated during treatment for many cancer patients. Benefits are equal to or better than that seen in post treatment patients. Given these findings, appropriately administered exercise therapy should be considered as a part of the cancer treatment plan to reduce de-conditioning.

### 3120

**PHASE II CLINICAL TRIAL OVERVIEW OF THE NOVEL NEUROKININ-1 (NK-1) ANTAGONIST, CASOPITANT, FOR THE PREVENTION OF CHEMOTHERAPY-INDUCED NAUSEA AND VOMITING (CINV) IN PATIENTS RECEIVING MODERATELY AND HIGHLY EMETOGENIC CHEMOTHERAPY.** Miriam Rogers, EdD, RN, AOCN®, CNS, WakeMed Health and Hospitals, Raleigh, NC, USA; Christine Pence, Glaxo-SmithKline, Research, Triangle Park, NC, USA; and Mark Russo, GlaxoSmithKline, Research, Triangle Park, NC, USA.

CINV remains a clinical challenge. The ONS CINV Putting Evidence in Practice (PEP) guidelines recommend a 5-HT<sub>3</sub> antagonist, dexamethasone (DEX), and aprepitant (a NK-1 receptor antagonist) in patients receiving moderately or highly emetogenic chemotherapy (MEC or HEC). Two phase II trials evaluated the effects of casopitant, a novel NK-1 receptor antagonist, in development for the prevention of CINV (overall, acute and delayed phases).

Both trials evaluated the primary endpoint of the rate of complete response (CR; no vomiting/retching, rescue medications or premature withdrawal) in the first 120 hours of MEC or HEC. The MEC trial included an additional primary endpoint of no significant nausea (SN; VAS  $\bar{x}$   $\pm$  25 mm).

Multicenter, randomized, double-blind, active-controlled, dose-ranging, trials enrolled patients receiving MEC and HEC. In the MEC trial, all patients received ondansetron (OND) 8 mg BID on Day (D) 1-3 + DEX 8 mg IV QD on D1 along with placebo, casopitant 50 mg, 100 mg, or 150 mg QD D1-3. In the HEC trial, patients received DEX 20 mg PO (reduced to 12 mg PO for casopitant arms on D1 to approximate equivalent exposure to DEX) + OND 32 mg IV on D1 and DEX 8 mg BID D2-4 with placebo, casopitant 50 mg, 100 mg or 150 mg D1-3. Additionally, exploratory arms evaluating single day casopitant dosing were included in both studies and an active-control (aprepitant) arm was included in the HEC study.

Statistically significant improvement in CR rates compared with the active-control arm were observed in the MEC ( $P = 0.0127$ ) and HEC ( $P = 0.0036$ ) studies. No significant dose response was observed for SN (120 hours) in the MEC trial. In both trials, casopitant was generally well tolerated, and the AE frequency was similar across all arms.

All doses of casopitant were clinically effective in patients receiving chemotherapy; significantly improving CR (120 hours) while providing clinical benefit in the delayed phase (24-120 hours). Interestingly, exploratory analyses of single day casopitant dosing suggest clinical benefit in CR. In these phase II trials, the addition of casopitant to OND/DEX prophylaxis demonstrated statistically significant improved control of CINV events in patients receiving MEC and HEC.

### 3121

**RETROPERITONEAL BLEEDING: AN UNCOMMON COMPLICATION OCCURRING MORE FREQUENTLY IN PATIENTS WITH BLEEDING RISK.** Brenda Shelton, RN, MS, CCRN, AOCN®, The Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, MD, USA;



and Laura Redd, BSN, RN, The Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, MD, USA.

A patient's risk for bleeding is based upon the presence of clinical disorders and exposure to medications or pathogens. Oncology nurses commonly encounter patients at risk for bleeding and are familiar with assessment and management of common sources of bleeding such as the nose or gastrointestinal tract. Compartmental or soft tissue bleeding is relatively rare in the absence of trauma, and presents with subtle symptoms. Anticoagulant therapy and organ or bone marrow biopsy have specifically been associated with spontaneous soft tissue bleeding in the retroperitoneum.

Oncology nurses must recognize the early symptoms of retroperitoneal bleeding in order to prevent shock and multiorgan failure. This presentation outlines the risk factors and clinical presentation for retroperitoneal bleeding using a case study to accentuate the key clinical practice implications.

This woman with a history of breast cancer and newly diagnosed lung cancer was admitted with airway obstruction. She developed thromboses, and pulmonary embolism treated with heparin. Five days after initiation of heparin, the patient displayed hypotension, suppressed sensorium, and decreased spontaneous movements. Simultaneous to neurologic changes, she experienced new onset of tachycardia and tachypnea with a significant decrease in hemoglobin from baseline. Therapeutic drug levels were unchanged and no overt symptoms of bleeding were present in this patient. Abdominal CT confirmed the presence of a retroperitoneal bleed.

People with cancer are at high risk for thromboembolism due to hypercoagulation of malignancy and immobility. At the same time, many individuals like this clinical example have additional risks for bleeding such as uremia and thrombocytopenia. Retroperitoneal bleeding presents with vague clinical findings such as back ache, flank bruising without known injury, urinary retention, hydronephrosis, autonomic bradycardia-tachycardia or hypotension-hypertension, and leg numbness, tingling, or weakness. If left untreated, life-threatening hemorrhage can occur.

Although an uncommon type of bleeding, oncology nurses should be aware of the risk factors and clinical presentation for retroperitoneal hemorrhage and actively evaluate patients for this complication. When occult bleeding is suspected, the nurse is instrumental in performing focused physical assessments to determine the potential bleeding source, and to support the need for abdominal tomography when patients appear to exhibit symptoms of blood-loss.

### 3122

**CHEMOTHERAPY-INDUCED NEUTROPENIA AND RELATIVE DOSE INTENSITY IN COLON CANCER PATIENTS.** Sandra Vannice, RN, MS, AOCN®, Denver Health Medical Center, Denver, CO, USA; and Jeremy Garcia, BS, RN, Denver Health Medical Center, Denver, CO, USA.

Studies focusing on Relative Dose Intensity (RDI) in non-Hodgkin lymphoma and breast cancer patients demonstrate a relationship between dose intensity and dose delays with patient outcomes and survival. The National Comprehensive Cancer Network recently published guidelines for the use of myeloid growth factors in cancer treatment, including risk factors for chemotherapy induced neutropenia to guide practitioners in early identification of patients who may benefit from prophylactic growth factor to maintain an optimal treatment schedule. A trend in the occurrence of treatment delays in our colon cancer patients has been recognized in our practice. There is a paucity of evidence in the literature addressing CIN and RDI in this subset of cancer patients.

Determine the number and characteristics of colon cancer patients whose chemotherapy is dose delayed or dose reduced in our population.

Identify the risk factors for CIN and the RDI in this patient population.

Determine treatment patterns related to the use of growth factors in our colon cancer patients.

This is an ongoing project. Retrospective data collection is near completion on all patients who received chemotherapy treatment for colon cancer between December 2003 and December 2007.

Treatment delays and dose reductions are being evaluated to determine commonalities. Relative dose intensity will be calculated and individual risk factors for neutropenia will be identified using a Chemotherapy Risk Factor tool based on the NCCN guidelines for Myeloid Growth Factors in Cancer Treatment (Version 1.2005)

This project will inform us as to the number of colon cancer patients in our practice experiencing dose delays or dose reductions, the RDI achieved,

and the congruence of risk factors that impact our patient population with those currently published in the oncology literature. This project focuses on an underserved population at an Urban Safety Net hospital. In addition we have focused on colon cancer, thus contributing to our understanding of risk factors in a diverse population. Future directions include initiatives to implement a risk assessment tool and RDI calculation for colon cancer patients receiving chemotherapy in our practice setting.

### 3123

**RADICAL CYSTECTOMY FOR BLADDER CANCER: A QUALITATIVE EXPLORATION OF PATIENT EXPERIENCES.** Margaret Fitch, RN, PhD, Odette Cancer Centre, Toronto, CA; and Alison McAndrew, Sunnybrook Health Science Centre, Toronto, CA.

It is estimated that 6,400 new cases of bladder cancer will be diagnosed in 2007, with 1,700 deaths reported. Advanced disease requires a radical cystectomy resulting in an ileal conduit, neobladder or continent reservoir, which can impact on quality of life.

A qualitative study was undertaken at two tertiary cancer care centres to uncover the lived experiences of men and women undergoing bladder cancer surgery.

A qualitative phenomenological framework was used.

Participant interviews were conducted using a preset interview guide. Common content codes and themes were identified by a detailed standardized review of interview transcripts, followed by 2 focus groups to obtain participant input and reaction to the analysis.

Common content described by participants included aspects of the preoperative experience such as initial symptoms, accessing health care, and reaction to the diagnosis of cancer; perioperative issues related to the surgical and homecare experience; and long term experiences including the impact of the surgery on patients' physical, emotional, and financial well-being. Obtaining information, communication with the healthcare team as well as body image and sexuality were also key concerns.

This patient population requires additional attention to improve their quality of life and their cancer experience.

### 3124

**DEVELOPING AN EDUCATIONAL WORKSHOP FOCUSING ON UNIQUE PATIENT POPULATION.** Barbara Wampler, RN, BSN, OCN®, Moffitt Cancer Center, Tampa, FL, USA; Ellen Kokott, RN, OCN®, Moffitt Cancer Center, Tampa, FL, USA; and Tina Mason, ARNP, MSN, AOCNS®, Moffitt Cancer Center, Tampa, FL, USA.

Head and neck (H&N) cancers account for approximately 7% of all cancer types. Addressing the physical, psychological and emotional needs of the H&N patient can be a challenge for even the most seasoned oncology nurse. Co-morbidities as well psychological/addictive behaviors increase the complexity in working with this patient group. Yet, the impact of the required treatment and rehabilitation is complex for this unique patient group.

The purpose of this abstract is to describe the collaborative effort of inpatient/outpatient nurses and a CNS in addressing the educational needs of oncology nurses caring for the multidimensional H&N cancer patient and their families.

The H&N program leader and CNS identified a need to organize a workshop to educate new staff and refresh knowledge of existing employees. The CNS and expert inpatient/outpatient nurses identified specific content, reflecting the spectrum of care of H&N patients. This included: anatomy & physiology, treatment modalities (surgery, chemotherapy, radiation therapy) nursing interventions, speech therapy, nutrition, clinical trials, and psychosocial issues. Experienced staff nurses, physicians and other members of the Interdisciplinary healthcare team were invited to present. Mentoring provided to presenters as needed. The participants earned contact hours for their attendance. Five workshops have been held reaching a total of 77 nurses.

Participants in the workshop were from a variety of areas: inpatient surgical unit, intensive care, OR, outpatient clinics, education, nursing administration and speech therapy. Attendees completed post-workshop evaluations. Average response to the workshop are favorable with participants rating the overall program 4.7 and relevance to their job 4.7 on a Likert scale, (1= poor to 5= excellent). Based on the positive feedback, the workshop will continue annually.

Expert staff nurses and other healthcare team members play a vital role in comprehensive educational offerings by serving as credible resources for their colleagues. Sufficient mentoring promotes confidence and skill resulting in delivery of polished presentations. Workshops, such as the one described, can be a vehicle for promoting nursing excellence in oncology nursing.

### 3125

**MOBILE PHONE TECHNOLOGY FOR MANAGING CHEMOTHERAPY-ASSOCIATED SIDE-EFFECTS.** Annie Young, RN, BSC, PGDSR, NHS, Cheltenham, GB; Lionel Tarassenko, PhD, University of Oxford, Oxford, GB; Andrew Weaver, MRCP, Oxford Radcliffe NHS Trust, Oxford, GB; Rachel Waters, MSc, University of Oxford, Oxford, GB; Justine Smith, MSc, University of Oxford, Oxford, GB; Joanna Rowantree, SRN, Oxford Radcliffe NHS Trust, Oxford, GB; and David Kerr, DSc, FRCP, University of Oxford, Oxford, GB.

Major outcomes of concern for patients with cancer and their families include symptom control from cancer and its treatment and functional status. Novel mobile phone technology linked to a server that communicates patients' symptoms to healthcare professionals has been adapted to register the side-effects of chemotherapy and provide advice on management of toxicity. We report a feasibility study to examine the utility of home monitoring of patients' symptoms via a mobile phone

Randomised controlled Trial - experimental design

Six colon cancer patients receiving adjuvant chemotherapy, entered symptom data onto user friendly screens on a mobile phone twice daily. This "real time" self assessment of nausea, vomiting, mucositis, diarrhoea and hand-foot syndrome and measurement of temperature was sent via a secured connection to a remote computer. In the event of moderate or severe symptoms (generating amber and red alerts respectively), the nurse was immediately alerted by the computer, via a pager. The nurse then contacted the patient to reinforce the automatic advice sent to the patients on their phone and to assess the patient using clinical algorithms.

The patients used the mobile phones during the first two cycles of chemotherapy. The data were successfully analysed by the server software and alerts were generated alerting the study nurses to patients' symptoms at the appropriate time. There were 91 alerts—4 red and 37 amber; 54% (29/54) of the red alerts were data delay and transmission problems which were swiftly rectified. The remaining red alerts were managed appropriately by the study nurses. Both patients and staff felt confident in this approach to symptom management. This study demonstrates that the technology for monitoring patients' symptoms worked well. The patients felt secure in the knowledge that their symptoms were being closely monitored and that they were participating effectively in their own care management. A dose optimisation study of chemotherapy using the same technology is currently being undertaken.

### 3126

**IMPROVING PATIENT KNOWLEDGE THROUGH PATIENT EDUCATION.** Ann Pierpoint, RN, OCN®, MSN, Georgetown University Hospital, Washington, DC, USA; Rachel Katsouros, RN, OCN®, Georgetown University Hospital, Washington, DC, USA; Erica Hall, RN, OCN®, Georgetown University Hospital, Washington, DC, USA; and Monica Morocko, RN, BSN, OCN®, Georgetown University Hospital, Washington, DC, USA.

Problem: There is an increasing number of oncology patients being treated in the Outpatient Infusion Center at Georgetown University

Hospital's Lombardi Cancer Center. As cancer treatments become more complex, patients require an increased focus on education. Providing quality education is difficult to do during the first chemotherapy treatment because this is a stressful time when patient anxiety level is high. Our education process involved giving new patients general information including potential side effects and hospital and clinic routines. Teaching would be done in an area where the noise level is high and the nurse would be interrupted several times while trying to educate a patient. This led to problems with the patient's ability to retain information, as well as receiving inconsistent information from more than one source. The fast pace of the clinic also impacted the quality of education that the patient received.

The Oncology Infusion Nurses wanted to provide a service to their patients and implemented a goal to provide a formal pre-chemotherapy education class to their patients and caregivers in an environment that is conducive to learning.

Strategies:

- Develop a prechemotherapy education manual to be distributed in class.
  - Select an appropriate environment to conduct the class.
  - Initiate weekly prechemotherapy education class.
- Class content: Representatives from other disciplines discuss their roles.

- Pharmacy
- Social worker
- Pastoral care
- Arts and humanities
- Dietary

Nurses Discuss:

- Operational issues (obtaining blood work and scheduling appointments)
- Understanding lab values
- Alopecia
- Mucositis
- Nausea/vomiting
- Diarrhea/constipation
- Fatigue
- Sexual health

Tours:

- 5 North
- Radiology
- Parking office
- Valet desk
- Lab

Question and answer session

Class evaluation

Evaluation: After each class, patients were given a class evaluation. Evaluations of classes were positive. Data from evaluation tool showed that over 95% agreed or strongly agreed that the objectives were met.

Attendance was low. Out of 64 patients identified as eligible to attend classes, only 20% attended (graphs on poster).

Recommendations: Increase class to two times a week to accommodate busy lifestyles. Advertise class by mail and distribute flyers in the Lombardi Cancer Clinic. Encourage physicians and case managers to advocate for the class. Schedulers to provide nurse manager with name and contact information of all first-time patients. Nurse manager will follow up with a telephone invitation to class.

# Oncology Nursing Society 33rd Annual Congress

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pd—podium; ps—poster

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