

# Podium Abstracts

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## ADVANCED PRACTICE

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### 01 BREAST MEDICAL ONCOLOGY COMPETENCY BASED ORIENTATION (CBO) AND WEEKLY CHECKLIST FOR THE ONCOLOGY ADVANCED PRACTICE PROVIDER (APP)

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CBO plans are a vital component in the onboarding and mentorship of new APP hires. A CBO is an orientation program that focuses on a new APP's ability to perform the expectations of his/her role in a disease team. Under the broad categories of competencies, an orientation tool was created to detail weekly activities to ensure all the competencies were met while keeping the goals for the week clear to the orientation team. In 2013, a generic APP CBO plan was developed by the Advanced Practice Nurse (APN) Council at a large academic center. In 2018, our NCCN designated cancer center developed disease specific CBO which focused on the five pillars of competency which included professionalism, systems-based practice, patient care/procedures, medical knowledge, and practice based learning. The purpose was to create an in-depth tool that outlines tasks for the week, while meeting the broad categories of the CBO plan. The tool will enhance the orientation experience by providing structure and organization. We created a 12 week orientation plan. Each week includes activities from the five pillars of competency. The clinical skills advance in complexity each week and demonstrate proficiency in breast cancer management using a multimodality approach. This checklist includes shadowing experiences in social work, pharmacy, cardio-oncology and other multi-disciplinary teams. At completion, the APP should exhibit proficiency in disease and symptom management and the ability to assess patients for acute, chronic and long-term sequelae of therapy. The Breast Oncology CBO checklist is utilized to help the orientation team proceed with an in-depth weekly task list that allows to build proficiency for the new APP in a supportive and structured framework. The checklist provided the new hire and APP mentors an organizational tool that is specific, measurable and actionable while identifying tasks for the week. This allowed the orientation to proceed smoothly and with clear objectives and goals. The tool complimented the CBO

process to ensure mastery of the essential competencies needed to be successful in their role. The breast oncology CBO has enhanced the disease specific orientation for the APP mentors and new hires at our institution. It provides clear expectations to support professional growth to the new APP in a supportive and structured framework.

### 02 ADDRESSING THE NEEDS OF AYA POPULATION IN CANCER CARE

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Over 90,000 Adolescent and Young Adults (AYAs) between the ages of 15 and 39 years old are diagnosed with cancer every year in the United States. This is a critical life stage in which social, developmental, educational, professional and financial growth can be greatly impacted by a cancer diagnosis and treatment. A diagnosis during this life stage can delay or forgo the attainment of milestones including autonomy, moving away, attending college, securing financial independence, and starting or growing a family. The unique needs of these patients are often under-assessed and under-addressed in both the adult and pediatric settings. Furthermore, AYAs can carry the burden and impairment associated with cancer diagnosis and care throughout their life. AYA focused providers and clinics are needed to address the unique medical and psychosocial needs of AYA patients during and after cancer treatment. Critical elements of AYA clinics include addressing topics such as genetic cancer predisposition, oncofertility, sexual health, psychosocial health and late effects. In 2018, our institution initiated a comprehensive multi-disciplinary program to better inform clinicians about AYA needs through the development of an "AYA Champions" program and an outpatient clinic that specifically addresses the needs of AYA cancer patients. The AYA Champions program has forty-five advanced practice providers involved in various specialties throughout the institution. The clinic, which includes three APRNs, incorporates routine fertility counseling, sexual health counseling, genetic surveillance and counseling, vocational counseling, school assistance, mental health care, and late effects monitoring. Since 2018, referrals to the multidisciplinary clinic have increased by 597% from 164 in FY2018 to 1,144 in FY2022. Patient feedback following visits to the clinic have been overwhelmingly positive

with 98% rating their experience excellent or good and 98% of patients stating they would recommend the clinic to other AYAs. Informal evaluation occurs quarterly with “APP Champions” meetings. The number of AYA cancer patients has increased 29.6% since 1973. As the number of AYA cancer patients and survivors continues to increase, this will become a more pressing issue to ensure the needs of AYA patients are addressed before, during, and after cancer treatment. In our institution, Advanced Practice Providers have been instrumental within the AYA clinic, educating colleagues regarding the unique needs of the AYA cancer patient, and referring patients to the clinic.

### 03 IMPLEMENTATION OF A CROSS-COVERAGE MODEL FOR ADVANCED PRACTICE PROVIDERS IN THE AMBULATORY ONCOLOGY SETTING

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The provision of highly specialized oncology care in an outpatient office practice setting is essential to ensure delivery of safe, high-quality cancer care. Oncology advanced practice providers (APPs) are trained within an oncology sub-specialty in order to provide a high level of care to patients of specific disease states. Cross-coverage between sub-specialties poses staffing challenges due to a lack of expertise and comfort of APPs in providing medical care to patients outside of their sub-specialty. Post pandemic staffing shortages has impacted provider coverage among oncology clinics. We developed a cross-coverage staffing model that provides education and specialized training to APPs to mitigate the effects of staff shortage. To foster a culture of cross-coverage across oncology practices by providing education for standardization of practice across sub-specialties and improving utilization of APPs with common clinical privileges to maintain patient safety and quality of care. A review of the available resources including the approved full-time employees (FTE) for each practice as well as the vacancies and leaves of absence (LOA) was performed. The patient volumes for each service, the acuity of the patient population, and the similarity of diseases were considered.

APPs within the myeloproliferative disorders (MPD) and multiple myeloma (MM) services were trained to cross-cover the bone marrow transplant (BMT) service to provide continuity of care for the patients during periods of short staffing. The training included a five week educational series with didactics, review of standard operating procedures (SOP), and in-clinic orientation with a senior provider. The pool of BMT- trained APPs increased from five providers to ten with the implementation of this cross coverage model. A longitudinal survey is planned at 6 months and 12 months of implementation of this model for evaluation of APP satisfaction, turnover rates, and patient access to care. The development and successful implementation of an APP cross-coverage model allows for continuity of care and ensures safe patient care delivery. This cross-coverage model is especially important, given the ongoing national APP shortage, and such model can be implemented in specialized cancer centers to improve staff comfort level and knowledge when providing cross coverage, ultimately leading to better patient care. The cross-coverage model creates an environment for innovative roles such as the development of an APP educator to provide education and training for oncology providers.

### 04 A 1-YEAR FOLLOW-UP OF A NATIONAL MOBILE APP FOR ONCOLOGY PATIENT- REPORTED OUTCOMES

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Telephone triage nursing is a speciality where a nurse evaluates the patient's medical needs over the phone. Oncology patients are mostly managed in the outpatient setting rather than being hospitalized. Based on studies, we construct a mobile application (mobile app) with 14 symptoms graduated from 0 to 10 (in exception of fever, range from 35°C to 42°C). In addition, we have 2 more possibilities of report: “I’m fine with no symptoms” and “other”, if patient would like to report a symptom which are not listed. There are four interventions from our algorithm, depending on the symptom and the intensity reported: 1 – Go to emergence department immediatly; 2 – Seek for medical appointment within 2-4h; 3 – Seek for medical appointment within 24h; 4 – Homecare instructions. Purpose and interventions: The purpose of this

research is to show the results of a telephone triage nursing based on the patient's medical needs reported through a mobile app nationwide from August 2021 to July 2022. It is a retrospective study from a national group of private ambulatory oncology care which are present in 9 states of Brazil. Evaluation: In 1 year, the five more predominant symptoms reported were fatigue, pain, nausea, diarrhea and anorexia. From the "other" category, pain (detailing the site and characteristics), dizziness, edema, cough and pruritus were most reported. 95.52% of symptoms were resolved with homecare instructions and only 2.44% were advised to go to the emergency department immediately. Innovation: Telephone triage nursing is a feasible strategy to ensure the complexity care of oncology patients. With a program based on an algorithm, we manage the conducts based on the symptoms and severity reported by the patients and after a call of an oncology nurse. Mostly symptoms are resolved only with homecare instructions, without hospitalizations and visits to the emergency department. To our knowledge, this is the first mobile app from a private group with national range in Brazil.

## **05 ONCOLOGY ADVANCED PRACTICE PROVIDER (APP) PRODUCTIVITY: MEASURING AND JUSTIFYING OUR WORTH**

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The Oncology APP workforce has significantly increased over the past decade and an integral part of the oncology care team. In our large academic/comprehensive cancer center, we have over 120 APPs in the inpatient and ambulatory settings. Much emphasis is placed on productivity for financial justification as well as obtaining approval for incremental APP positions with oncology program growth. Standard APP metrics are already established and include monthly and fiscal year RVUs (relative value units), number of visits, and fill rates. RVUs determine volume of work based upon CPT codes. Non-RVU generating services are more difficult to tract. Non-RVU generating activities may account for up to 25% of the APP's time based upon institutional survey. The purpose was to develop new and additional productivity metrics for billable and non-billable APP services. APP manager scheduled a meeting with Information Technology (IT) specialists to discuss development of metrics for number of notes written and number of orders placed by APP. In addition, EPIC smart phrases were developed for APP documentation and analysis of

telephone triaging and insurance authorization procedures. APP Dashboard developed to track monthly activity of the above. Evaluation involved continual monthly analysis of APP metrics with RVUs and non-billable activities. The oncology APP role is not solely evaluating and managing patients but coordination of care and partnering with other team members to ensure quality oncology care is being delivered. The development of productivity metrics is crucial in the growth and maturation of the APP role in oncology. As Oncology APPs, we can also be more innovative in our care delivery and revenue generating through APP driven clinics such as long term follow-up, palliative care, urgent care, and survivorship care.

## **06 IMPROVING HEMATOPOIETIC STEM CELL TRANSPLANT PATIENT OUTCOMES UTILIZING INTERDISCIPLINARY COLLABORATION BETWEEN PHARMACY AND ADVANCED PRACTICE NURSING**

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The management of the hematopoietic stem cell transplantation (HSCT) population is extraordinarily complex and requires attention to detail throughout the inpatient trajectory. Interdisciplinary collaboration between pharmacy and advanced practice nursing can improve clinical practice as the Nurse Practitioner (NP), Doctor of Pharmacy (PharmD), and Clinical Nurse Specialist (CNS) have complementing areas of expertise. The NP has a comprehensive view of medical needs. The pharmacist oversees medication management and uniform prescribing guidelines. The CNS provides insight on nursing practice in accordance with institutional guidelines and regulatory requirements. Strengthen collaboration between pharmacy and advanced practice nurses on the HSCT unit with the goal to improve workflow efficiency and patient care delivery through evidence-based medicine and nursing practice. The NP, PharmD, and CNS participated in daily patient rounds and met regularly as a group to discuss relevant workflow and practice issues on the unit. As a result, they assessed the needs of the patient population in real time utilizing everyone's unique perspective. The group identified the following areas as opportunities for inpatient practice improvement and implementation of the following:

- Electrolyte replacement protocol (ERP)
- Oral care regimen and cryotherapy with Melphalan
- Reduction of fluids with all HSCT conditioning regimens
- Hyperhydration and diuresis with high-dose Cyclophosphamide
- Antiemetic guidelines
- Infusion reaction medication guidelines

The group regularly updated HSCT admission order sets to incorporate the above best practice recommendations and ensure consistent patient care delivery. Each initiative served a specific purpose in improving patient outcomes. The ERP reduced the average time of repletion of magnesium and potassium from 6 hours to 1.5 hours and early findings suggest fewer adverse cardiac events. Incorporating an oral care regimen composed of Biotene, toothbrushing, Mucogard and cryotherapy resulted in reduced oral mucositis severity, patient-controlled analgesia utilization, and mucosal barrier injury associated bloodstream infections. Additionally, decreasing fluids with the HSCT conditioning regimens reduced instances of fluid overload through preliminary analysis of weight gain and diuresis frequency. Lastly, hemorrhagic cystitis incidence is being evaluated after initiation of the hyperhydration protocol. Increased collaboration allows multidisciplinary team members to develop stronger understanding of each other's role and responsibilities. And, by engaging each role to its full potential, knowledge can be integrated into innovative yet evidence-based care that improves patient outcomes.

## 07

### TRANSFORMATIONAL EVIDENCE BASED LEADERSHIP: HOW THE DNP CAN PROMOTE AND SUSTAIN CLINICAL PRACTICE AND NURSING EXCELLENCE IN A INPATIENT ONCOLOGY UNIT

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Doctor of Nursing Practice (DNP) prepared nurses are in a unique position to advance and apply the science of implementation in oncology practice (Fuld, 2021). Beginning in 2020, two DNP-prepared clinical nurse specialists assumed the roles of traditional nursing leadership on an inpatient stem cell transplant (SCT) unit. At the time, the unit lacked consistent oversight, surveillance, and historic nursing practices limited the integration of evidence and

current literature. A needs assessment revealed the opportunity to improve the incidence of falls, fall w/ injury, clostridium difficile, central line associated bloodstream infections and discharge through-put using evidence-based practice. Additionally, ongoing variations in clinical practice continued to manifest among five generations of bedside nurses. These practice variations were perpetuated during onboarding of new staff, and because of staffing shortages related to the COVID-19 pandemic. Due to the clinical expertise of the DNP leaders who possess skills and knowledge needed to complete the evidence-based practice process, these areas of opportunity were listed as strategic priorities for improvement. Daily active rounds with DNP leaders, staff RNs, and staff/patients was implemented to identify practice and process improvement opportunities, increase leadership visibility, and facilitate at-the-elbow staff education on institutional policies and procedures. For example, high fall-risk interventions and environmental surveillance for infection control were discussed in real-time. The DNP leaders performed literature reviews to update oncology nursing guidelines and lead practice change initiatives to improve clinical performance. Multimodal teaching strategies and role modeling through individualized mentoring were used to advance professional development. Lastly, the DNP leaders led a multidisciplinary team to improve efficiencies of discharges and reduce barriers. Within 2 years, the SCT unit has outperformed the NDNQI national benchmark in falls, falls with injury, c. diff, and CLABSI. Additionally, six guidelines have been updated based on current literature and disseminated to staff through educational modules and four staff RNs were selected for national poster presentations at the 2022 ONS Congress. The DNP leaders have also published in oncology nursing journals and presented at two national conferences. The utilization of the discharge lounge increased by greater than 25% over one fiscal year, leading to more efficient throughput for discharges and new admissions. DNPs are in a unique position to affect clinical nursing outcomes through consistent oversight and translation of evidence into practice.

## 08

### SEXUAL WELLNESS PROGRAM FOR BIOLOGICALLY FEMALE PATIENTS AFFECTED BY CANCER

Maja Luke, APRN, CNM, Creticos Cancer Center—Illinois Masonic Medical Center, Chicago, IL, Sexual Wellness Program for Biologically Female Patients



**Affected by Cancer; Maja B. Luke, APRN, CNM, Creticos Cancer Center, Chicago, IL**

The goal of this program is to identify, evaluate, and treat biologically female patients affected by cancer who because of cancer treatments suffer sexual side effects. There has been a steady increase in the number of cancer survivors. Lifesaving therapies often have negative effects on sexual health. Prevalence of sexual dysfunction in this population is as high as 90-100%, however this issue is often underreported and undertreated. Our program was born out of patients' need. An advanced Practice Nurse (APN) performed literature search and attended training programs. Training sessions were then offered to our clinical and non-clinical staff. We developed and implemented two screening tools that are administered at each visit. If the patient identifies distress related to sexual health, a referral is placed for an evaluation by an APN. During the initial visit a comprehensive sexual history is collected, and a targeted pelvic exam is performed. Subsequently the APN develops an individualized treatment plan. It might include medication use, vaginal dilator therapy, pelvic floor physical therapy, uro-gynecology evaluation, or a referral to individual, couple's and/or sex therapy. Clinical follow up with the APN is determined based on individual patient's needs. Since the inception of our program in 2017 we have noted a significant increase in volume of new patient referrals. In 2017 we evaluated 9 new patients while in 2021 this number grew to 85! Our patients express their deep satisfaction with the program on patient satisfaction surveys. Our staff feels more comfortable discussing sexual health concerns with patients. We are working on developing an evaluation tool to assess the effectiveness of our program. Our APN also provides education to nurse navigators, healthcare providers, and community members. Addressing sexual health of cancer patients can significantly improve quality of life and patient satisfaction with care. We strongly believe that sexual health is an integral part of human health and wellbeing. We hope to be able to further grow and expand our program. We hope to continue to empower our current patients, cancer survivors and health care providers.

## **09 DEVELOPMENT OF AN ADVANCED PRACTICE PROVIDER (APP) LED HIGH-RISK CANCER PREVENTION PROGRAM IN A COMMUNITY SETTING**

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Many individuals are at an increased risk for developing cancer due to their genetics, environmental factors, prior diagnoses, lifestyle or demographics. Disparities in healthcare access and available services further increase cancer risk in certain communities. The COVID pandemic exacerbated these disparities with decreases in cancer screening rates. Those at increased cancer risk may be eligible for earlier, more frequent, or enhanced screenings, genetic testing, preventive medications, or surgeries. The purpose was to highlight the development of a High-Risk Cancer Prevention Program led by advanced practice providers (APPs) within a community healthcare system that aims to reduce disparities in cancer care by targeting underserved areas and populations within the community. The program provides patient-centered care focused on improving outcomes by performing comprehensive genetic, medical, and lifestyle risk assessments across the continuum from preventative care through survivorship. APPs provide smoking cessation services and work in partnership with registered dietitians to provide nutrition counseling and with genetic counselors, bariatrics, primary care, and oncology to provide access to comprehensive services needed to address the patient's individualized risk factors. Partnerships with local community organizations provide collaborative services in areas with disparate outcomes to promote cancer screening awareness, education about cancer risk factors, and facilitate entrance into the healthcare system. As part of a community healthcare system APPs are positioned to serve both urban and rural populations where there is greatest need. Impact of these activities are measured utilizing a database tracking the demographics of patients served, services provided, adherence to surveillance recommendations, testing performed, and outcomes including cancers detected. APPs are uniquely trained to operate this clinic due to their ability to perform the comprehensive risk assessments, prescribe the necessary testing and interventions, educate and collaborate with the patient on lifestyle risk modification. The longitudinal care management provided in partnership with other healthcare providers ensures that risk assessment

remains dynamic and care is provided in accordance with the latest guidelines. An APP driven program successfully focuses on the individual patient, in addition to the disparate needs of the community enabling the program to have a positive impact on cancer outcomes by delivering truly personalized care. While many high-risk programs focus on one specific cancer type, our program will be one of the first in Wisconsin to offer a comprehensive high-risk program for multiple cancer types.

## **010 DEVELOPING A MODEL FOR SUCCESS: A COMPREHENSIVE APPROACH FOR ORIENTING NEW ADVANCED PRACTICE PROVIDERS IN SURGICAL ONCOLOGY**

**Brenda Nettles, DNP, ACNP-BC, CNE, The Johns Hopkins School of Nursing, Baltimore, MD**

In the specialty of Surgical Oncology, an interdisciplinary team of health care professionals work together to deliver high quality care to patients and their caregivers coping with the life-altering diagnosis of cancer. A clinical team of surgeons, nurse practitioners, physician assistants, and registered nurses in an academic medical center collaborate daily to address the complex health care needs of patients diagnosed with gastrointestinal cancers and soft tissue sarcomas. The introduction of new targeted therapies, developments in precision cancer care, and utilizing regional perfusion therapies to treat peritoneal metastases have allowed more patients to live longer with advanced disease. However, in order to meet the growing demand for advanced cancer care, several new advanced practice providers (APPs) were recruited for the inpatient and ambulatory care teams. The new providers that joined our team came with varying degrees of clinical experience. A comprehensive plan for AP orientation was required to address the diverse learning needs of both new graduates and experienced providers with no previous experience in the specialty of oncology. A team of clinical educators in the Department of Surgery and the experienced APPs in Surgical Oncology collaborated together to identify the key knowledge, skills, and behaviors that the new APPs would need to successfully transition into their new clinical roles. A new model for APP orientation was then developed to introduce the required competencies for clinical practice, and to serve as a guide for future professional development. During a planned orientation period of 8-12 weeks, the new team members work with their assigned team of preceptors to learn how APPs contribute

to an interdisciplinary plan of care throughout the various stages of the cancer care continuum. Every week they meet with their preceptors to review their current progress in achieving the competencies, and to receive timely feedback for their current level of clinical performance. Ultimately, new team members are expected to consistently demonstrate an established level of proficiency for each of the competencies in order to successfully complete the orientation process. This new comprehensive approach for onboarding new members of our clinical team offers the new APPs the opportunity to gradually expand their knowledge of caring for patients with a complex cancer diagnosis. They also gain valuable clinical experience that is necessary to succeed as a new provider in our clinical specialty of Surgical Oncology.

## **011 BRAF (GENE FOUND ON CHROMOSOME SEVEN THAT ENCODES A PROTEIN CALLED BRAF) POSITIVE NON-SMALL CELL LUNG CANCER (NSCLC) PATIENTS: RECEIVING BRAF/MEK (MITOGEN ACTIVATED EXTRA- CELLULAR SIGNAL REGULATED KINASE) INHIBITORS IN THE ERA OF TARGETED THERAPY**

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BRAF positive NSCLC patients make up approximately four percent of NSCLC cases. They are most commonly seen in adenocarcinoma subtype. Within various BRAF mutations, V600E mutation is a specific variation in the BRAF protein which makes up approximately one to two percent. This mutation is known to turn on the MEK protein, therefore, combination therapy targeting both proteins was studied as a dual therapy. There have been tremendous advances in the development of BRAF inhibitors in combination of MEK inhibitor for this group, and there are currently FDA approved BRAF inhibitor in combination of MEK inhibitor. BRAF protein is an integral component of a larger mechanism known as RAS-RAF-MEK-ERK pathway. This complex system is responsible for cell growth, cell regulation, cell survival and cell replication and studied in melanoma prior to transitioning to lung cancer trials. BRAF/MEK combination inhibitors achieved better results in prolonging the progression free survival and improving overall response rate in comparison to BRAF alone group. It is imperative for oncology nurses to have multiple resources and channels to educate and advocate for our patients in the

management of BRAF positive NSCLC patients. The learner will be able to list and verbalize the FDA approved BRAF/MEK inhibitors and discuss at least one common adverse event a patient is experiencing while on the treatment. I performed current literature search using online engine such as PubMed and MEDLINE on the topic of BRAF inhibitor, MEK inhibitor as a treatment for BRAF V600E positive NSCLC and the key words of oncology nurses. After the data analysis, it was clear that there was a limited educational information published for outpatient oncology nurses to educate themselves on the topic. The outpatient oncology nurses will seek additional literature in educating patients on BRAF/MEK inhibitors and common adverse events as well as adverse events management. Oncology nurses need to be cognizant of currently approved BRAF/MEK inhibitors to continue to educate the BRAF positive NSCLC patients. As an increased number of patients are receiving advanced therapy, oncology nurses need to engage in collaborative groups to improve management of adverse events.

## 012

### THE APRN ROLE FOR BONE HEALTH MANAGEMENT IN THE PROSTATE CANCER POPULATION

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Prostate cancer (PCA) is the most common, non-cutaneous cancer in men. A lifetime risk for diagnosis of 1 in 6 men; it is also a disease of aging (ACS, 2022). Androgen deprivation therapy (ADT) is standard, first-line therapy for many aspects of PCA treatment. In addition to ADT initiation for metastatic disease, it is appropriate therapy for locally advanced, adjunct treatment with surgery or radiotherapy in intermediate or high-risk disease, and adjuvant treatment with biochemical relapse after surgery (Chahin et al., 2016, Jang et al., 2018). ADT use intentionally suppresses testosterone to castrate levels with increased osteoclastic activity in bones of men with PCA. Although ADT is an effective treatment strategy to inhibit PCA androgen fueled cell growth, suppression has significant side effects; one being developing or exacerbating underlying osteoporosis. Limited, current available data reflects baseline studies of patients at the time of diagnosis for PCA already having a notable prevalence of osteoporosis (4-38%) (Mittan et al., 2002). The initiation of ADT has been document-

ed to increasing osteoporosis in men to 53% within the first 6-12 months of therapy (Millen et al, 2002), reflecting the associated increase but not existing baseline of osteoporotic disease (Kirk et al., 2018). Patients are frequently unaware of the adverse effects on bone health and muscle strength commonly associated with even short-term therapy (Owen, et al., 2017). Consistent screening of all PCA patients before ADT initiation should become standard APRN practice to facilitate optimal baseline and subsequent osteoporosis management in the PCA population. APRNs conduct fracture and fall risk assessments, monitor bone density scans, teach lifestyle modifications, and initiate vitamin D and calcium supplementation for cancer patients. With 10 year survival at 98%; and 84% of prostate cancers found when the disease is local or regionally spread (www.cancer.net/cancer-types/prostate-cancer/statistics), the imperative for APRNs routine identification to address bone health, educate and intervene exists. APRNs evaluate oncology patients initially and in routine care and are point of contact for patients experiencing medical issues requiring follow-up. Although screening of PCA patients before ADT initiation is essential, scant data on the percentage of patients receiving education and screening for osteoporosis exists. Cancer care is complex; the role of the APRN must include prevention, screening, detection, and management of osteoporosis in the PCA population receiving ADT.

## 013

### PRE-CLINICAL LYMPHEDEMA PROGRAM

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Early diagnosis and improved treatment methods have increased survivorship, but this longevity can often be accompanied by long-term treatment effects. Breast cancer-related lymphedema (BCRL) is one of the most common iatrogenic conditions. In 2021, the Oncology Survivorship Program (OSP) conducted a SWOT analysis of our system's BCRL resources. The OSP and an external certified lymphedema therapist (CLT) with board-certification as an Oncology Clinical Specialist (OnCS) utilized the American Physical Therapy Association (APTA) BCRL clinical practice guidelines and related support literature to identify the specific programmatic elements necessary to establish a pre-clinical lymphedema program (PCLP). The PCLP was created to provide structure for early risk assessment, timely recognition of BCRL, and



clinical support. The program's educational materials empower patients to participate in early identification and self-advocacy of risk reduction behaviors. The OSP, OnCS and breast surgeons conducted a literature review to identify independent prognostic indicators and created an internally standardized BCRL risk assessment tool (BCRL-RAT). The breast surgeon practice explains and completes the BCRL-RAT at the post-surgical office appointment. They initiate the PCLP referral, explain the rationale for participation, and provide the patient with a copy of referral document. The PCLP contacts the patient to introduce the health literate educational materials, clinical resources, and scheduled touchpoints at 30/60/90 days. The three components of the self-paced patient educational materials (created in written and video format) include:

- The Lymphatic System – explains how the lymphatic system works.
- Lymphedema Risk and You – provides BCRL risk profile facts, dispels fears associated with universally applied non-evidence based BCRL restrictions, promotes self-advocacy and provides examples of lifestyle modifications for risk reductions.
- Post-op Exercises – demonstrates a safe, gradual progression of exercises after breast cancer surgery to lower the risk of BCRL.

The PCLP touchpoints utilize teach-back to assess comprehension and application of content, identify common barriers and gaps in content and capture patient feedback regarding program participation. This information is used to inform modifications to the program. While there are treatments to help manage BCRL, there is currently no cure. It is important to detect and manage BCRL in the pre-clinical stages. The nurse led PCLP assists with appropriate treatment referrals for limited CLT availability. Future growth of the PCLP will include bioimpedance measurements and additional lymphatic flow treatment/management resources.

## 014

### EVALUATION OF A NEW TECHNICAL SUPPORT PROCESS FOR PATIENTS AND PROVIDERS IN THE VIRTUAL SETTING

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The COVID-19 pandemic impacted the healthcare system with unprecedented challenges, resulting in

the rapid adoption of virtual care services. The accelerated efforts adapting to virtual care services were not without technical, usability, and organizational challenges for patients and providers. Our institution captured 3,510 patient calls for technical support to access the virtual platform, and for several months, calls averaged 2,000 monthly. Subsequently, our institution contracted a new vendor-support company to provide technical support to patients before follow-up virtual visit appointments. The objectives will assess (1) significant virtual visit issues with stakeholders' questions to include changes in patient call volume to the vendor support team for help, access to care, wait time, patient provider satisfaction, and (2) to integrate the scope of data to answer the questions using the Center for Disease Control (CDC) evaluation guidelines. The APP used the CDC Framework Evaluation Model to assess the technical program effectiveness. This consisted of six steps and four category standards to tackle the evaluation process. Each step was an iterative process. The standards influence the evaluation design and answer the questions to justify conclusions. The twelve-week pre-and-post data examined call volume, ease of use, wait time, canceled visits, no attempts, and successful connection. The APP evaluator utilized the varied scope of intervention data to answer questions with percentage values and descriptive summary to reach a judgment. The outcome report demonstrated a 55.3% decrease in call volume from 2404 to 1334. The virtual visit call volume decreased from 393 to 172, a 43.8% reduction. Ease of use and successful connection improved from 88% to 90%. Average wait-time decreased from 18 minutes to 11.75 minutes, raising the value of quality, patient experience, access to care, reduced wait-time, and technical support services at the system level. The APP leadership role is critical to advancing and delivering goal-concordant care in the virtual setting, expanding virtual presence capabilities, and enhancing value-based cancer care. This program evaluation project focused on one ambulatory clinic. APPs can utilize program evaluation activities in other ambulatory clinics to assess usefulness, generalization, and infrastructure that supports virtual care. The program evaluation adds value to practice with outcome evaluation and effectiveness.

## 015

### CLINICAL CHARACTERISTICS OF COVID-19 IN ONCOLOGY PATIENTS: CASE CONTROL DESIGN: PILOT STUDY

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The impact of COVID-19 on patients with cancer has not been fully described. The purpose of the study is to identify the clinical characteristics, risk factors, and outcomes of oncology patients diagnosed with COVID-19. The study was conducted at the University of Texas MD Anderson Cancer Center using the data of cancer patients hospitalized during the six-month period from March 1st, 2020 to August 31st, 2020. In this individually matched case-control study, a representative sample of 42 patients from the proposed main study was used. Each patient tested positive for COVID-19 (case) was matched in the ratio of 1:1 for age, sex, and current cancer diagnosis with a control patient tested negative for COVID-19. Bivariate analysis was conducted to explore the potential significant characteristics that are associated with the diagnosis of COVID-19. Independent t-test for numerical variables and Fisher's exact test for categorical variables were used to assess the statistical significance. A P value of less than .05 is considered to indicate statistical significance. Higher weight, increased body mass index as well as obesity were significantly ( $p < .05$ ) associated with the diagnosis of COVID-19. Comparatively lower heart rates, cough ( $p < .001$ ), and fatigue ( $p = .009$ ) at the time of admission and development of acute lung injury during the hospitalization were found to be the clinical characteristics associated with COVID-19 diagnosis. There was no significant difference between the cases and controls in the mean length of hospital stay (10.0 days for cases; 7.14 days for controls;  $p = .254$ ), death during hospitalization (4.8% for cases; 9.5% for controls;  $p = .999$ ), death within 30 days of discharge (9.5% for cases; 19.0% for controls;  $p = .663$ ), death within 90 days of discharge (9.5% for cases; 28.6% for controls;  $p = .238$ ), or readmission within 30 days of discharge (71.4% for cases; 90.5% for controls;  $p = .238$ ). This pilot study validates the feasibility of the study in terms of subject eligibility, matching procedure, data collection, and analysis. The study also suggests that the clinical characteristics, risk factors, and outcomes of oncology patients hospitalized with COVID-19 do not follow the typical pattern seen in general population. Hence, dedicated studies on the oncology population are necessary to understand the clinical course of COVID-19 among cancer patients.

## **016**

### **IMPACT OF AN EDUCATION MODULE ON KNOWLEDGE AND SELF-EFFICACY OF HEMATOLOGY NURSE PRACTITIONERS**

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Nurse practitioners (NP) entering the hematology specialty often lack the hematology-specific knowledge needed for practice. Deficiencies in hematology education are attributed to the minimal amount of hematology content included in NP programs and during job orientation. Knowledge deficits among NPs are associated with unpreparedness to practice and feelings of anxiety, insecurity, inadequacy and guilt. Purpose: To examine the impact of a hematology education module on hematology NP knowledge and self-efficacy (SE) to practice in the hematology specialty. Interventions: A convenience sample of 11 hematology NPs was obtained from a tertiary care cancer hospital in Southern California. Participants were asked to complete an online learning module containing education about common hematological malignancies. A pretest/posttest design using knowledge and SE surveys was utilized for data collection. Knowledge and SE scores obtained before and after the learning module were then compared to assess for improvement. Evaluation: Mean NP knowledge scores increased by 2.5 points (20.8%) after receiving the intervention. Statistical significance was established for NP knowledge ( $p > 0.05$ ). Nurse practitioner SE after the intervention was essentially the same, with a mean pretest score of 32.6 points (out of 40) and a mean post-test score of 32.3 points. Participant feedback affirmed that the learning module was helpful, imparted new knowledge on the participants and that it would be helpful to incoming NPs during onboarding. Discussion: A learning module containing information on common hematological malignancies was proven effective in increasing NP knowledge of hematology. This QI effort establishes the feasibility of using the module as a learning tool for incoming NPs to help improve hematology knowledge. Nurse practitioner SE did not change after receiving the learning module. This outcome may have been influenced by the number of months of NP experience in hematology and their area of practice within the department. It may be helpful to investigate these factors in greater depth so that the education module and its implementation can be optimized for future use. Innovation: Currently there

are few hematology educational resources available specifically for NPs. This module seeks to provide novice hematology NPs with an overview of hematological malignancies so they feel more prepared for practice. This module can be used as a template for the development of more hematology content that can enhance NP training and knowledge.

## **017 LEVERAGING THE SKILLS OF THE ONCOLOGY APRN TO DEVELOP A CANCER GENETICS PROGRAM**

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Genetic counseling and testing have become critically important in providing high-quality oncologic care. Results drive treatment decisions and prognosis for existing cancer patients and have wide-reaching implications for their families. Advanced practice nurses are uniquely positioned to assist patients with these services and have skills to develop genetics programs that increase access and improve continuity of care. Oncology APRNs play a large role in aiding patients throughout their cancer journey. In leveraging their skills, they can further meet community needs while providing cost-effective and timely care. The purpose of this presentation is to describe steps necessary for oncology APRNs to successfully develop genetics programs in their areas of practice. It will highlight their role as it relates to providing specialized cancer genetics care and program development. This framework can be adapted and adopted to meet the individual needs of organizations and their patients. Content will include an exemplar of one oncology APRN's experience successfully developing a genetic counseling and risk assessment program. Subject matter will include an assessment of payer requirements, billing practices, acquiring buy-in from key-stakeholders, educational patient resources, and potential downstream impacts (revenue!) of having a genetics program. Oncology APRN competencies ensure that they provide quality care and advocate for patients. In exploring one model of program development, the overarching goal is to increase access to and uptake of genetic counseling and testing among this patient population. Learners will be able to identify common barriers and the benefits of having a cancer genetics program. They will explore one illustration of how these needs can be met and examine whether they might benefit from utilizing a similar model. Oncology APRNs work in multiple settings and have a distinctive role walking

alongside these patients. They are positioned to act as change agents and health system leaders to impact policy and program development. This allows them to address the increasing needs of oncologic genetic care and explore this paradigm in order to streamline their own process. The Oncology APRN is well recognized as having knowledge and skills facilitating their leadership in providing excellent cancer care to this exceptional patient population. It's only natural to look to them to further expand their practice to meet the needs of those requiring genetic testing and counseling.

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## **CLINICAL PRACTICE**

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## **018 DEVELOPMENT OF A TOOL TO ASSESS FOR IFOSFAMIDE INDUCED NEUROTOXICITY**

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Patients with multi-day high dose Ifosfamide regimens may present with symptoms of neurotoxicity that lead to life threatening encephalopathy. Patients may be treated by more than one nurse during the multi-day regimen, leading to inconsistent assessments and subsequent patient risk for harm if subtle neurological changes are missed. There is not an existing validated assessment tool for IFF induced encephalopathy or defined treatment. Early intervention is key to positive patient outcomes. The purpose of this project was to develop an assessment tool to promote early identification of Ifosfamide-related neurotoxicity to provide early intervention and mitigate patients' risk of severe encephalopathy. A nurse-led interdisciplinary team caring for sarcoma patients developed a neurotoxicity assessment tool specific to identify early warning signs of Ifosfamide-related neurotoxicity. Surveys with staff feedback captured feasibility and usability by the interdisciplinary team and provider and nurse concordance of use at baseline. Early identification of IFF-related neurotoxicity was measured by calculating a.) the total number and timing of identification of neurotoxicity symptoms;

b.) signs and symptoms of neurotoxicity recorded through use of the assessment tool; and c.) the number of times an intervention was used; and d.) the number of patient treatment holds, delays, and completions. The final sample consisted of 24 patient chart reviews. Baseline completion of the tool was 64.5 % by providers 77% by infusion nurses; and daily use by both disciplines was 88.5 %. The tool captured 6 incidences of the onset of neurotoxicity out of 48 patients being treated (12.5%). There was success in minimizing symptoms while maintaining the treatment course by increasing the infusion time of Ifosfamide in the 4/6 (66.6%). Of the 6 patients with symptoms, 4 completed the cycle with that intervention, 1 resolved without intervention, and one had IFF held until their next cycle. Two minor revisions to the tool promoted usability and improved the precision of assessment. A neurotoxicity assessment tool provided a systematic assessment for improving continuity of care that resulted in successful early identification of IFF-related neurotoxicity in sarcoma patients. The tool assisted in early identification and intervention for patients developing neurotoxicity. This is a first in use tool designed to capture early onset of Ifosfamide induced encephalopathy. The use of this tool provides positive patient outcomes by providing early intervention that can mitigate patient risk from treatment.

## 019

### TRANSITIONING FROM LPN TO RN: DEVELOPING A RESIDENCY PROGRAM IN THE COMMUNITY AMBULATORY ONCOLOGY SETTING

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Community ambulatory oncology clinics historically have utilized both Licensed Practical Nurses (LPNs) and Registered Nurses (RNs). With the increasing shift in responsibilities of clinical care, a transition to an RN workforce is occurring. At the community clinics of an NCI-designated comprehensive cancer center in the Northwest, a residency program to transition existing LPN employees to the RN role was developed to leverage their existing clinical skills and experience. The purpose was to describe the establishment of an LPN to RN residency program in the

community ambulatory oncology setting with a focus on retention and professional development. With the graduation and transition to RN of two community LPNs in Fall 2021, a workgroup was established to expand the existing ambulatory oncology nurse residency program for new graduate RNs. Nurse leaders and educators from two community clinics and the Staff Education department collaborated on a program was tailored uniquely for the community setting and incorporated LPN skills and experience. A review of the pre-existing RN residency framework and expectations was completed to identify the needs for the new program. The collaboration included nursing leaders and Staff Education Advanced Practice Nurses (APNs) shadowing clinic workflow across community sites and interviewing RNs who had previously transitioned from the LPN role absent a residency to evaluate and recognize gaps in orientation. A synthesis of information was gathered, and a syllabus developed which outlined two resident paths: Clinical Nurse Coordinator and Infusion RN. Weekly objectives were documented for each path, shadowing experiences coordinated in different departments or locations, and an oncology-focused independent study guide was utilized. Reflection surveys were completed weekly throughout the program and used to assess resident clinical skill acquisition and for ongoing program improvement. In the first cohort, two residents finished in early 2022. A second cohort finished in Fall of 2022. Recognition of FTE status and orientation needs for RN residency transition mandated a minimum of 0.75 FTE with the second cohort. Residents were hired into open RN positions, assuring RN employment upon completion of residency. This innovative residency program within a community ambulatory oncology setting optimizes an oncology-focused curriculum that acknowledges the resident RN's LPN nursing background and incorporates experiences to enhance assessment abilities, critical-thinking skills, and expertise in chemotherapy and immunotherapy administration.

## 020

### DIFFICULT INTRAVENOUS ACCESS: IMPLEMENTING A VENOUS EVALUATION TEAM TO PREVENT PATIENT HARM

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Nurses play a critical role in the safe administration of intravenous (IV) anti-cancer therapy but are not always part of the interprofessional team in choosing the appropriate IV access. Venous evaluation and appropriate vascular access device selection prior to initiation of anti-cancer therapy are recommended as a method to reduce IV failure and extravasation. Nursing leaders recognized a trend in IV failures and patient harm related to these events that warranted further investigation. The goal of this project was to reduce extravasation, IV failures, and patient harm through implementing a collaborative approach to venous evaluation, including a determination of risk factors for IV failure and to secure the appropriate IV access prior to beginning anti-cancer therapy. This Clinical Nurse Specialist (CNS) led intervention identified three pilot cancer disease groups for participation. These pilot groups requested in-clinic referrals for IV evaluation in patients when central venous access was not planned. The venous evaluation team (VET) was comprised of expert infusion nurses who performed these assessments using a validated venous evaluation tool. Evaluation measures monitored included the total number of VET referrals, total number of venous access attempts, and extravasation rates. Throughout the 10-week pilot period, 26 VET referrals were made, total number of venous access attempts decreased by 10%, and extravasation events were significantly reduced by 60%. One highly engaged pilot group saw a 56% reduction in the number IV access attempts, which was statistically significant. The other pilot groups saw increases in venous access attempts, which were not statistically significant. With this project, there was a reduction in patient harm through fewer IV access attempts, extravasation events, and increased interprofessional collaboration. Chemotherapy extravasation has the potential for significant patient harm and should be monitored as an oncology-specific safety metric. Nurses are in the critical position for managing venous access and extravasation, and should lead the team when determining a patient's venous access plan. Utilization of venous evaluation prior to the initiation of anti-cancer therapy demonstrated a reduction in patient harm through decreased venous access attempts and extravasation events. While there is an abundance of literature on extravasation management, few articles focus specifically on extravasation prevention methods. Solving this issue requires interprofessional collaboration. Implementation of pre-treatment venous evaluation was a successful strategy to reduce this patient harm.

## 021

### EXPLORING THE EFFECTIVENESS OF THE NEW INTERDISCIPLINARY SKIN INTEGRITY COURSE TO ENHANCE HEALTH CARE PROFESSIONALS' KNOWLEDGE OF SKIN INJURY PREVENTION AND MANAGEMENT

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Wound Ostomy Care nurses (WOCN) were constantly requested to provide unit-based education to address skin integrity issues. Currently, there is no institutional interdisciplinary skin integrity course except the skin champion class designed only for champions. The WOCN nurse educator presented the idea for proactive quarterly skin integrity interdisciplinary care course to enhance health care professionals' knowledge on the assessment, prevention, and early identification and management of skin injuries. The purpose of this course is to enhance the health care interprofessional knowledge of current practices in skin injury assessment, prevention, early identification, and management in the oncology setting. A comprehensive interdisciplinary skin integrity course was developed using evidence-based content from various disciplines. The multidisciplinary content developers and speakers include Physical Therapy (PT), Occupational Therapy (OT), Safe Patient Handling and Mobility Program (SPHM), Respiratory, Nutrition, WOCN, and the nursing quality team. Course development was done for several months, and meetings were scheduled biweekly until the completion of course development. An 8-hour in-person course was developed with two sessions. The morning session was for a didactic, interactive class that ended with a well-designed case scenario. The afternoon session was hands-on skills with interdisciplinary stations, including vendors. Analysis of post-course evaluation for the first two courses showed that 87% and 90% of participants stated that their learning objectives for the course were met, respectively. Additionally, 93% and 90% of participants verbalized improved competence in skin integrity



identification and new strategies to improve patient care and outcome. This course provided education for the interdisciplinary team with speakers comprising WOCN, PT, OT, SPHM, nutritionists, and respiratory therapists from the respective teams with hands-on demonstration and question and answer sessions. Additionally, 99% of the participants state that they are committed to changing practice in areas ranging from patient education, quality improvement, safety, teamwork, diagnosis and screening, communication, and treatment. Staff attendance and participation were concerns at the beginning of the course due to Covid restrictions and staffing issues. The attendance for the first class was 19 participants, and the attendance improved to 34 participants in the second class. Overall, the participants enjoyed the class and stated, "I received great information about new supplies, equipment, and products to take care of my patients."

## **022**

### **THE CREATION OF A PALLIATIVE CARE NURSE NAVIGATOR TO IMPROVE PATIENT ACCESS IN AN AMBULATORY ONCOLOGY PRACTICE**

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Palliative care is a specialty intended to promote the quality of life in patients living with a serious illness. Oncology nurse navigators are intended to intersect with patients upon diagnosis to supportively and expertly navigate patients through their cancer care experience. The Knight Cancer Institute (KCI) at Oregon Health and Science University (OHSU) innovatively brought these two specialties together to create the palliative care nurse navigator (PC NN) position in the fall of 2021. Prior to the creation and addition of the new PC NN, there was a new patient no show and cancellation rate of 24% over the period January – August 2021, in the palliative care clinic at KCI. Patients did not show up to their appointments as they did not know what palliative care was and some may have even associated meeting with palliative care as meeting with hospice. The purpose of the PC NN is to connect with oncology patients newly referred to the palliative care team prior to their first appointment with the goal that early communication will improve new patient no show and cancellation rates in the clinic, thus improving patient access. The PC NN reaches out to every new patient referred to palliative care at KCI to educate patients on the scope of palliative care services. The PC NN also completes an initial symptom assessment and provides recom-

mendations within the nursing scope of practice to optimize the patient's current status. Finally, the PC NN completes an initial needs assessment to identify resources ahead of the first visit intended to improve the patients' overall experience and overcome barriers to care. Since the introduction of the PC NN, the new patient no show and cancellation rate has decreased to 17%, over the period September 2021 – August 2022. This is a 7% improvement, which exceeds the palliative care team quality metric goal of a 5% reduction in no show and cancellation rate. The addition of a PC NN not only improves patient access and experience, but also allows for autonomous practice at the top of the nursing license; and creates a space for nursing perspective and voice on the multi-disciplinary palliative care team in an ambulatory practice.

## **023**

### **CREATION OF A SUSTAINABLE ONCOLOGY-BASED CLINIC NURSE STAFFING MODEL**

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Staffing in an ambulatory hematologic malignancies department was challenged by high turnover and increased utilization of travel nurses. Nursing dissatisfaction was multifactorial including nonstandard staffing ratios relative to the complexity and acuity of care delivered to this acute patient population. Additionally, pandemic stressors exacerbated concerns about a five-day work week and the inability of these nurses to work from home when other clinical nurse coordinator roles allowed for remote work. The purpose was to develop a comprehensive new sustainable model of care to address staffing concerns, reduce turnover, limit the use of travel nurses, and level-load assignments based on acuity. Nurse leaders, human resources, unit staff, and nursing education, convened a team to evaluate the needs and methods to make changes in the model of care and improve staff satisfaction. A literature review for staffing model benchmarking was completed and focused staff listening sessions were undertaken to best understand the most desirable schedule. A clinic nurse acuity model was proposed to executive leadership for limiting nurse panels. New avenues to recruit were piloted with a new to specialty (NTS) nursing role. After implementation of scheduling changes, work-

from-home capability, and enhanced recruitment the department currently has no open positions. Travel nurse utilization has decreased from eight to zero, sustained over the past 6 months. The acuity model proposal has led to additional RN FTE allocation to allow for a balanced workload and a four-day workweek in each disease group. The appropriate nurse-to-patient ratio was determined using qualitative and quantitative measures of acuity including EPIC in-basket usage, telephone calls, scheduled nurse visits, provider clinical support, coordination of treatment for urgent add-ons, admissions, ED utilization, and total nurse-patient panel size. The proposed nurse panel limit was 200 patients. Ten-hour shifts with four days per week and structured coverage in each disease group were instituted and allowed one remote workday per week with conditions detailing guidelines for performance. A multifactorial analysis and interdepartmental effort successfully created a data-driven ambulatory patient-to-nurse staffing ratio integrating the NTS nursing, acuity monitoring, patient panel limitation, and incorporating work-from-home options has increased nursing satisfaction.

## 024 OPTIMIZATION OF HEMATOPOIETIC STEM CELL TRANSPLANT (HSCT) AND CAR-T CELL THERAPY CARE PLANS TO INCREASE DOCUMENTATION COMPLIANCE AND PATIENT SPECIFICITY

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Nursing care plans provide a base model and a framework to build upon for the development of care in the patient population. The nursing care plan also serves as a documented record of patient progress. Treatment-specific care plans allow for improvement of interdisciplinary communication and coordination of services, as well as improvement of care for the specific patient population (Clausen et al., 2012). Individualized nursing care plans allow nurses to improve the quality of care and facilitate the Quintuple Aim (Ballantyne, 2016; Nundy, Cooper, & Mate, 2022). On

two inpatient units at Hackensack University Medical Center, there was a single oncology and HSCT care plan and education template that included several elements related to different treatment modalities, which made it lengthy and challenging to document. There was an opportunity to further categorize the templates to provide details specific to the type of treatment. The purpose of this evidence-based practice project was to modify the current oncology and HSCT nursing care plan and accompanying education to be divided into autologous, allogeneic, CAR-T Cell, and general oncology templates to increase documentation compliance and tailoring to individual patient care needs. The care plans and corresponding patient education templates were modified by six staff nurses, who synthesized the current evidence surrounding the respective treatment modalities and collaborated with the nursing informatics team to implement the changes in the electronic medical record. Nursing staff on the inpatient HSCT and immune effector cell therapy units were in-serviced on the updated care plan templates and accompanying patient education, procedural changes with the modification of the existing care plan, and integration of new individualized care plans. Post-implementation, a 20.4% increase in appropriate care plans were present on day of admission, a 100 % increase in individualization of care plans for the CAR T-cell population, and nursing compliance for documentation of all treatment modalities were between 80-93%. Selection of the appropriate corresponding care plan for each individual patient aids in monitoring patient goals throughout the hospital admission. Continuing this easy, organized way of documenting a patient care plan can ultimately benefit the patient and staff nurses by improving efficiency, accuracy, and quality. This also allows for nursing staff to adjust their clinical practice to novel changes in oncology nursing care.

## 025 EXTRAVASATION PREVENTION AND MANAGEMENT IN THE ONCOLOGY PATIENT

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Institution-wide safety data identified an increase in extravasation-related events. One such event led to a Root Cause Analysis (RCA) regarding extravasation management. The RCA committee developed an interdisciplinary team of nursing, pharmacy, medical providers, and other key stakeholders to determine the knowledge gap and establish standardization of extravasation prevention and management. Nursing Education then developed a comprehensive interdisciplinary education plan founded on evidence-based guidelines. The interdisciplinary education plan addresses gaps in knowledge and skills to improve practice and decrease extravasations across the institution. Proper extravasation prevention and management leads to improved Oncology patient outcomes, treatment adherence, and a decrease in detrimental events. A comprehensive interdisciplinary extravasation prevention and management education was developed utilizing safety data and evidence-based content from various disciplines. The committee met biweekly for the first six months and monthly for the remaining six months to create the following education:

- Computer-based educational modules for all nursing and medical staff to complete
- Interdisciplinary extravasation prevention and management algorithm
- Extravasation documentation flowsheet in the electronic health record
- Vesicant administration skills checklist for nursing
- Vesicant administration case scenario demonstration and discussion for medical residents and fellows
- Patient education documents
- Vesicant administration monitoring and guidelines
- Post extravasation discharge instructions
- Future development of an extravasation kit for nursing use

The extravasation safety data was reviewed 12 months post implementation of the education plan, and modifications were made to the computer-based educational modules based on data. Safety data identified improved extravasation management practices; however, improvements in prevention and monitoring strategies are ongoing. Extravasation prevention and management education is critical to improving interdisciplinary teams' knowledge gap. The interdisciplinary extravasation committee's goal is to maintain an ongoing implementation, review, and modification of extravasation education in oncological patients. The education plan enhances the interdisciplinary teams' knowledge of extravasation

prevention and management strategies. Sharing interventions and education plan results serve as a collaborative opportunity to further improve patient outcomes.

## 026 INTERDISCIPLINARY SIMULATIONS FOR NURSING COMPETENCY

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Effective collaboration among healthcare professionals is an essential factor affecting quality of patient care. Many adverse events experienced by patients can be attributed to misunderstanding, poor communication, or lack of experience among members of the inter-professional team. Interdisciplinary simulation is a learning modality used to improve collaboration and facilitate communication among healthcare professionals through exercises that replicate clinical situations in a safe, controlled environment, often followed by debriefing. Novice registered nurses (RN) are more likely to experience patient safety events but lack clinical confidence when providing care during acute clinical situations. By performing simulations on oncology unit floors, with members from the various interdisciplinary teams present, assessments can be made on nursing competency during acute clinical situations. The purpose was to demonstrate that interdisciplinary simulations help improve nursing efficacy and improve patient outcomes. Conducting pre-determined clinical simulations on unit floors with the entire clinical healthcare team present. These members include, but are not limited to, Oncologists (MD or DO), Advanced Practice Providers (NP or PA), Nurses (RN), Respiratory therapists (RT), Anesthesia Providers (MD, DO, or CRNA), and Patient Care Technicians. Clinical situations to be simulated include acute respiratory distress leading to intubation, cardiac arrest, and stroke. Each simulation to be accompanied by pre-, immediately post-, and 1-month post-simulation surveys to assess knowledge acquisition. A mandatory simulation debrief with all participants would occur immediately post simulation to assess patient outcome and perception of teamwork, and nursing efficacy. Simulations to be offered every six months help the reinforcement of the best practices during

simulation as well as peer-to-peer feedback and education, especially for novice nurses. Nursing competency is increased post simulation for 100% of RN participants. Survival of cardiac arrest increased by 8%. CPR quality improved among cardiac arrest events. Increased communication between inter-professional colleagues by 26%. There was a decreased response time to critical events (rapid responses, medical codes, and stroke codes). As interdisciplinary simulations continue to be performed, collaborative efforts can become more familiar among all members in real-time clinical situations. Nurses, especially novice nurses, feel more empowered to act confidently, quickly, and calmly during what are usually stressful situations. Conducting debriefing meetings immediately post-simulations fosters camaraderie among interdisciplinary teams and improves patient outcomes.

## 027 DEVELOPMENT OF AN AUTOMATED PROCESS TO IMPROVE PREGNANCY SCREENING PRIOR TO INITIATION OF ANTI- NEOPLASTIC THERAPY

Jennifer Matoush, MS, APRN, ACNS-BC, Mayo Clinic, Rochester, MN; Margaret Wagnerowski, MSN, APNP, CNS-BC, AOCN®, AOCNS®, Mayo Clinic, La Crosse, WI; Roxanna Holper, MS, RN, Mayo Clinic, Rochester, MN American Society of Clinical Oncology's (ASCO's) Quality Oncology Practice Initiative (QOPI) requires pregnancy screening prior to initiation of antineoplastic therapy. Additionally, pregnancy screening prior to initiation of antineoplastic therapy is recommended by the National Comprehensive Cancer Network (NCCN). A recent QOPI recertification in a community hospital, part of a large healthcare system, identified a deficiency of missing pregnancy screening prior to antineoplastic therapy administration. Discussion with other sites in the healthcare system highlighted a concern over a lack of a systematic process for completion of pregnancy screening prior to initiation of antineoplastic therapy. The purpose of this project was to implement a consistent process to screen and test patients eligible to become pregnant, prior to initiation of antineoplastic therapy. A small work group was formed with representation from all sites within the healthcare system. Through discussions, it was discovered that it is possible to include quantitative pregnancy testing in every treatment plan, which is only activated if the patient has potential to become pregnant (based on age, presence of a uterus, and menopausal status). In addition,

this was cheaper than obtaining a urine qualitative test. This process allows a systematic approach and minimizes additional work arounds to obtain pregnancy screening by provider and nursing teams. A proposal was presented to the Cancer Treatment Oversight committee to implement this process in the adult population. Approval was obtained to pilot within the Breast Disease Group. Prior to initiation of the pilot, two months of data was analyzed. Of 394 patients with breast treatment plans ordered, 0% had a quantitative HCG test ordered. In the two months following implementation, the quantitative HCG test was activated on 13% of patients (64 out of 478 treatment plans ordered). No delays in treatment were reported due to this process. One hundred percent of patients eligible to become pregnant were screened prior to initiation of antineoplastic therapy. Screening for pregnancy prior to initiation of antineoplastic therapy has been a recommended practice for many years, previously relying on manual, inconsistent processes by nursing and provider teams. Automating the pregnancy screening process contributed to a more consistent workflow, while minimizing additional workload on busy practices. Due to the success of this project in the Breast Disease Group, this process will be expanded to all disease groups.

## 028 HEALING OUR HEALTHCARE HEROES: A STAFF REIKI PROGRAM

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Reiki is a technique for stress reduction, relaxation, and healing. Reiki is based on the idea that an unseen energy flows throughout all things including the body. When this energy is low one may be prone to sickness or stress. When this energy is high one is more capable of living a happy and healthy life. Reiki is administered by the light touch of a practitioner through a series of hand positions that directly affect this unseen energy or "ki." The nursing profession, especially during a pandemic, can experience a high level of burnout. Due to the nature of their work, oncology nurses can suffer an emotional toll and currently there is little in place to help staff cope. Reiki can support nursing staff with feelings of stress, burnout, and physical or emotional fatigue. The literature demonstrated that Reiki effectively decreases stress and anxiety with only a few sessions. A staff Reiki program was developed and implemented in a National Cancer Institute-designated Comprehensive Cancer Center to help staff relieve stress, increase morale,

and decrease burnout. This innovative nursing initiative to improve the wellbeing of nurses and ancillary staff who were at risk of experiencing burnout was the first of its kind throughout the organization's 70+ outpatient cancer center sites. Time was designated for this Reiki certified practitioner to offer Reiki to nursing and ancillary staff. An informative email was sent providing directions for those interested. One hour time slots were offered bimonthly, and a quiet space was designated for the 20-minute sessions. Data was collected pre- and post- session. Pre-data showed that 85% of those who received Reiki did not understand the technique as compared to 100% of staff post session. 100% of staff reported experiencing stress at work and reported that a Reiki program could improve morale. Since the program began in September 2020, there has been an extremely positive response. Staff report pain relief and decreased stress levels following a session. As of now, 100% of the 127 participants have reported positive outcomes. Staff engagement continues to be extremely active with the Reiki program. Out of the 127 participants, 45 sought out sessions for pain and stress at times outside of the program. Overall moral improved. Future goals include training additional Reiki practitioners and expanding the program to other network sites.

## 029

### BRIDGING THE ONCOLOGY NURSES' KNOWLEDGE GAP ON PSYCHOSOCIAL NEEDS OF PATIENTS WITH CANCER

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Oncology patients face various psychosocial issues, from initial cancer diagnosis, during treatment, survivorship, and end of life. Education is needed to address the psychosocial issues experienced by oncology patients. The results of an educational needs assessment indicated 99% of nurses showed interest in gaining enhanced knowledge of psychosocial needs in oncology patients. To bridge the knowledge gap, solid tumor nursing educators developed a psychosocial course, empowering nurses to address patients' psychosocial needs through their cancer continuum. The purpose was to develop an educational offering

that would enhance nurses' knowledge of psychosocial issues, interventions, and available resources to support the needs of oncology patients. The solid tumor team conducted monthly meetings to determine the agenda and content experts. The course content was developed in collaboration with an interprofessional team (social work, nutrition, ethics, supportive care, etc.) using evidence-based materials. The subject experts developed content and reviewed for approval by nursing educators. The Nursing Continuing Professional Development (NCPD) application was submitted and approved for 7.5 NCPD hours. The first class was piloted in the solid tumor cohort and then rolled out to all the cohorts in the institution. A total of 214 participants attended the three virtual courses. The analysis of post-course evaluation for the three courses showed that 96% - 99% of participants said that learning goals for the course were met. Additionally, 96% - 99% of participants said they gained new knowledge and competence in the psychosocial assessment, implementation, and provision of holistic care for oncology patients. The participants' evaluation feedback shows the course goals were met supporting the course significance to oncology nurses. Staff interest, attendance, and participation were concerns in the beginning of the course due to Covid and staffing issues. However, with the use of virtual technology, the first class accommodated 100 participants. Additionally, the availability of speakers from different interdisciplinary team members was a concern, but the speakers were interested in providing virtual presentations to meet the needs of our nurses. This course decreases the gap in knowledge related to care of the Psychosocial needs of oncological patients. Furthermore, it encourages and prepares nurses to enhance their skills for effective assessment, implementation, and provision of holistic care for oncology patient.

## 030

### DEVELOPING AND IMPLEMENTING AN ACUITY-BASED TOOL AT AN AMBULATORY INFUSION CENTER

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At this NCI designated Comprehensive Cancer Center, infusion nursing staff observed an unbalanced distribution of patient workload between RN assignments. While each nurse had the same number of patients, certain patients required more acute care than others. As ambulatory oncology care continues to increase, the workload will also increase. Patient acuity and the workload related to the complicated care of the oncology population are significant stressors for oncology nurses. Length of infusion, number of medications to be given, monitoring requirements, and new patients or those with a change in their treatment plan can significantly impact nurse workload. Based on these factors, one infusion unit determined the need for an acuity scale specific to ambulatory oncology patients. Nurse burnout and compassion fatigue are well documented concerns within nursing and can affect patient and nurse satisfaction. Determination of workload should shift to a patient specific, acuity-based approach rather than assuring numbers are the same for each nurse. Increasing nurse and patient satisfaction, while additionally allowing for a safer, more efficient delivery of care is the ultimate goal. A literature review focused on acuity-based staffing with an emphasis on oncology ambulatory care was conducted. Based upon the literature, a tool was developed and individualized according to the treatment regimen. An algorithm was also developed to define scores for future regimens, as oncology practice is continually evolving. A survey was distributed to infusion nurses to evaluate their current outlook on assignments as well as their understanding of acuity based staffing. Unit champions were identified, based on the survey and their knowledge of treatments, to assist in the acuity scoring. The charge nurse would then be responsible to create assignments based off of acuity scores and therefore evenly distributing the workload. The charge nurses are responsible for tracking unit staffing, sick calls, pre/post shift census and total acuity scores for each day. Tracking of these items, particularly pre/post shift census and acuity, can help determine future staffing needs. Through discussion with stakeholders from our other infusion sites within the health system, it was determined that expanding this tool would help standardize nursing practice. Expansion of the tool has been initiated and collaboration efforts are ongoing. To date, five infusion centers with-

in the health system have implemented utilization of the acuity tool into daily nursing practice.

### 031 BRINGING PRECISION ONCOLOGY TO THE POINT-OF-CARE: THE ONS BIOMARKER DATABASE

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Precision oncology has revolutionized multiple facets of care across the cancer trajectory, from prevention through treatment. Technological advancements in identifying genomic biomarkers have led to a paradigm shift towards personalized treatment with proven success in improving outcomes and quality of life. As new actionable biomarkers are quickly emerging and reshaping treatment guidelines, oncology nurses are constantly challenged to understand and remain current in applying biomarkers to clinical practice. Precision medicine is rapidly expanding and finding concise, accurate information can be challenging. Our goal is to provide oncology nurses with a user-friendly, up-to-date, evidence-based clinical decision support (CDS) tool that can be used in everyday practice: the Oncology Nursing Society (ONS) Biomarker Database. The ONS Biomarker Database is a CDS tool that was created with the intent to promote clinical education on therapeutic options for certain cancers and associated biomarkers, facilitate patient education, and support clinical decision-making. Content is curated by oncology nurses using current evidence and thoroughly peer reviewed. Careful consideration, based on focus group feedback, was given to meet the specific needs of the end-users, oncology nurses who support and care for patients. Data can be accessed by searching the specific disease, biomarker, or targeted therapy. The information provided includes biologic significance, patient education, testing considerations, distinctive clinically relevant details, and clinical trial availability. The Biomarker Database is a unique educational and CDS tool designed as a point-of-care resource. It currently includes 5 cancer types with over 100 biomarkers, with plans for expansion to 25 disease sites with 250 associated biomarkers. The Biomarker Database was launched in June 2022

and has recorded 4,000 users between June-September with over 33,000 page views. With each use, end-users are surveyed to measure usability, satisfaction, and relevance to practice. Ongoing commitment to quarterly updates will ensure that data is timely and evidence-based. Use of the database by nurses in different roles will be highlighted through clinical exemplars to gain greater understanding of impact on daily clinical practice. The Biomarker Database is a first of its kind CDS tool that allows nurses to access a vast amount of information via one platform. The textbooks on the shelf are now at our fingertips and available at the point of care.

### 032

#### **A NURSE LED INITIATIVE FOR USE OF PATIENT ADMINISTERED ANALGESIA IN A CUTANEOUS ONCOLOGY CLINIC**

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Outpatient cutaneous oncology patients undergoing procedures sometimes express dissatisfaction and pain after procedures. Options for pain control are limited due to inability to administer medications with a lasting effect on patient's level of alertness. Anesthesia may not be administered in the cutaneous oncology clinic. The clinic nurses identified the need to offer a pain control option that does not inhibit access to care. The nurses completed an extensive literature review documenting the effectiveness of patient administered analgesia using nitrous oxide during dermatologic procedures. Patients who have experienced discomfort, either emotional or physical, during a dermatologic procedure express reluctance to return for subsequent skin screenings. This is significant because patients who have had a skin cancer diagnosis are at increased risk of developing subsequent skin cancers. Administration of medications that affect alertness requires patient be accompanied by a responsible adult with ability to drive adding an additional barrier to care. The purpose of this project was to implement a nurse driven patient-controlled analgesia program to increase patient comfort and satisfaction. Providing this service would result in increased compliance with screening and treatment while not increasing barriers to care. Cutaneous oncology registered nurses developed the patient care initiative using an interdisciplinary team approach. The clinic is part of a large oncology

academic medical center. Following presentation of evidence-based recommendations completed by the nursing team the initiative moved forward. The presentation included results of extensive literature review, proposed standard operating procedure, patient and staff education materials and method to monitor patient satisfaction outcomes. Patients are queried by nurses about effectiveness of treatment on anxiety and pain control. Following the initiative, there was a decrease in anxiety and pain and an increase in patient satisfaction. This decreased patient's reluctance to return for future screening. Nurses often identify ways to improve outcomes in their care areas. In this case, this led to the clinical inquiry that this initiative was based on. The success of this initiative has led to its adoption in two additional disease line oncology clinics, Genitourinary and Head and Neck Oncology. Prior to this initiative pain management in clinics was limited. This initiative represents the first-time nitrous oxide was used for analgesia in any of the clinics in our large oncology academic center.

### 033

#### **IMPROVING TIME TO ANTIBIOTIC ADMINISTRATION**

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Neutropenia in cancer patients can be a result of the disease process, side effects of therapy, or immunosuppression. As the neutrophil count decreases, an individual's susceptibility to infection increases. Neutropenia can lead to life-threatening consequences including increased mortality. Timely initiation of antibiotics contributes to the successful outcomes of this at-risk group. Initial review of data indicated opportunities to increase compliance with initiation of antibiotics within 60 minutes. A quality project was introduced in a cancer hospital to initiate antibiotics within 60 minutes from time of fever in a minimum of 70% of febrile neutropenic patients. The 24 bed blood and marrow (BMT/ICU) unit set a goal to deliver antibiotics within 30 minutes. A multidisciplinary team was formed consisting of transplant physicians, oncologists, internal medicine, pharmacy, nursing, and laboratory to evaluate identified issues and determine next steps. Data was reviewed monthly evaluating time of fever to blood cultures, blood cultures to antibiotics, and fever to antibiotics.

Identified barriers included availability of antibiotics in the unit Omnicell, sequencing of antibiotics, consistent education of new staff, laboratory personnel availability, and escalation of issues to non-oncology providers. An audit form was developed to assist with case review. SBAR communication tool was implemented to facilitate nursing provider communication. A decision tree was developed to outline the escalation process by provider team (separate charts for transplant versus internal medicine). To facilitate ease of obtaining blood cultures from a central line, kits (that included supplies and required paperwork) were created. Baseline data was collected between July through December 2020; post-implementation data collection began in May 2021 and continues. Pharmacy collated data on patients. The multidisciplinary team meets every other month to discuss individual cases and actions to improve existing processes. The BMT/ICU unit was at 85% compliance for administration of initial antibiotic within 60 minutes during baseline data collection increasing to 89% post-implementation. Antibiotic initiation within 30 minutes improved 34% from baseline (41%) to post-implementation (62%). The unit continues to implement improvement opportunities as identified. Innovation: In an effort to improve patient outcomes, the team implemented an aggressive goal to administer antibiotics within 30 minutes of initial fever or recurrent fever in individuals who were not receiving antibiotics.

### 034 CLINICAL TEAM STABILIZATION THROUGH SELF-CARE SERIES CURRICULUM

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Literature documents that stress is inevitable in oncology practice and in the healthcare profession. A clinical operations leadership team in a large NCI designated cancer center's Hematology team managing patients (n=4243 annually) identified a need to support self-care for the team. Self-care practices historically have been singular, extraordinary gestures that occur outside of the workplace. The purpose was to develop and implement a workplace curriculum highlighting immediate application, self-care practices for frontline staff. Collaborating with institutional leaders, a month-long curriculum was developed with five health-focused sessions. Invitations were sent to all members of the Hematology department (n=167), which includes scheduling staff,

nurses, advanced practice providers, physicians, social workers, and research coordinators. Physical therapy, nutrition services, human resources, and educational leaders facilitated twenty-minute remote sessions. Staff were facilitated through immediate interventions such as five-minute meditations and desk stretches. Informational content included meal-planning instruction and organizational health & wellness offerings. The fifth self-care session was an in-person Tea for the Soul gathering facilitated by a Spiritual Health Clinician, which allowed staff a venue to express their feelings. Of 167 invitees, each virtual session was attended by 80-125 staff members. Many of whom attended were nurses. After the self-care series completion, clinical nurses were observed to engage in walking microbreaks and lead stretching sessions with their peers. Printouts of local walking routes and stretching exercises are accessible within the department. The Tea for the Soul program has been regularly implemented within the department monthly. Moving away from landmark and episodic engagement with self-care, this curriculum is accessible to every day. Team building resulted both in engaging with organizational expert leaders in learning and peers while actualizing these healthful practices. Self-care is essential for healthcare professionals to preserve their personal health and optimize the ability to safely care for patients. This program had not been implemented within the organization. After its inception, this curriculum was adopted and adapted by four other teams within the institution.

### 035 IMPROVING NURSING ASSESSMENT AND EARLY IDENTIFICATION OF IFOSFAMIDE- RELATED TOXICITY IN CANCER PATIENTS

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Ifosfamide is a chemotherapy agent that can cause dose-limiting renal and central nervous system (CNS) toxicities, which at its extreme, can lead to renal failure and fatal encephalopathy. Although labs are routinely ordered to monitor for renal changes, early CNS symptoms often begin with subtle changes in memory, personality or concentration, which are not routinely assessed for by nursing staff, but can

quickly progress to overt encephalopathy. Incidences of ifosfamide toxicity varies, but anecdotal reports by nurses and providers at our NCI designated Comprehensive Cancer Center had noticed an increase in severe CNS symptoms. Conversations with bedside staff determined that current nursing assessment and documentation standards were ill equipped to identify the subtle changes associated with early ifosfamide toxicity and nurses were not always familiar with a patient's baseline to note subtle shift to shift variations. The purpose of this clinical practice project was to implement an evidenced-based nursing assessment tool to provide early identification of symptoms related to ifosfamide toxicity. An interdisciplinary group of experts met to determine if a nursing assessment tool for ifosfamide toxicity was available that could be implemented. A review of literature identified no clinical assessment tools and a homegrown tool was created. The tool utilized the Common Terminology Criteria for Adverse Events (CTCAE) to grade toxicity symptoms identified in the literature review. The tool also included the Mini-Cog screening to objectively assess changes in memory or concentration over time. Utilizing the tool, nurses performed a baseline assessment prior to ifosfamide infusions and repeated assessments were then performed together at every handoff and individually every eight hours. Between February 2021 and September 2022 nursing staff assessed 15 patients for toxicity using the ifosfamide toxicity tool. Fifty-three percent of the patients showed some signs of toxicity ranging from mild deviation from baseline (3 patients) to significant neurological changes (5 patients) that resulted in adjustments to the plan of care. For the five patients with significant neurological changes, subtle changes were initially detected and reported to the providers. The ifosfamide toxicity tool has led to objective assessment of a variety of known and potentially subtle patient changes that can occur during and after ifosfamide infusions. Use of the tool can empowered bedside oncology nurses to capture and report subtle patient changes, leading to early toxicity identification, which improves patient safety and outcomes.

### **036 STANDARDIZED TRANSPLANT AND CELLULAR THERAPY PATIENT EDUCATION UPON ADMISSION**

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Having standardized transplant and cellular therapy (TCT) patient education upon admission is crucial to support new nurses. During the Nurse Residency Program, new graduate nurses noticed a need for additional education on the complex admission process and patient education required when caring for patients receiving transplants and cellular therapy. Pre-survey data was collected from nurses that showed that nurses wanted a standardized admission process, they forget things while admitting a TCT patient, and some nurses felt unprepared when admitting a TCT patient. Nurses play a key role in providing health promotion and education to pre-transplant patients, and the current process has significant room for improvement. The purpose was to develop a transplant and cellular therapy admission checklist for nurses to use to provide more standardized care, increase new graduate nurse comfort, and increase patient education. A document was created that standardizes the process for new transplant and cellular therapy patient admissions to improve patient outcomes with standardized education. Nurses trialed the document on one nursing unit for two months and made adaptations to the tool based on nurse feedback. The TCT admission checklist was well received by 35 respondents. 90% of nurses agreed or strongly agreed that the checklist was helpful. 100% of nurses agreed or strongly agreed that the checklist increased their confidence and wanted it to become standardized practice to utilize while educating pre-transplant patients. 91% of nurses strongly agreed that education was improved from utilizing the checklist, and 80% of nurses reported that they consistently use the checklist. It is integral for nurses to provide patient-centered, standardized care and education, especially upon admission for pre-transplant patients, in order to practice safely and confidently. The use of oncology unit-specific admission checklists that include patient education has been adopted on this unit and is being reviewed for use in other oncology units.

### **037 CATHETER-ASSOCIATED URINARY TRACT INFECTIONS RATE REDUCED FOR ONCOLOGY PATIENTS AFTER APRN-LED IMPLEMENTATION OF A NEW INTERMITTENT BLADDER IRRIGATION GUIDELINE**

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Retrospective chart review of the 2020 catheter-associated urinary tract infections (CAUTI) revealed 15% of the cases at our National Cancer Institute designated Comprehensive Cancer Center were associated with bladder irrigation. National recommendations suggest limited routine irrigation, use of a closed drainage system, and at a minimum, aseptic maintenance of indwelling catheters. However, nursing adherence to these recommendations becomes challenging with patients requiring irrigation post-operatively for urological cancers due to the necessary breaks in the system for manual intermittent bladder irrigation (IBI). Literature review revealed a lack of nursing and provider national standards. Also, no approved closed system for irrigation exists in the United States and manufacturers of indwelling Foley catheters do not recommend using the sample port for IBI. Our hospital CAUTI rates have been above the target, so prevention of CAUTI continues to be an organizational-wide concern due to lack of a practice guideline for manual IBI. The primary purpose of this quality improvement project was to reduce CAUTI rates to zero by creating and implementing a guideline for an aseptic procedure for manual IBI for oncology patients. Advance Practice Registered Nurses (APRNs) led the project. First, an extensive literature search found that the national urology organizations did not have published standards. The APRNs cross-walked findings from the limited literature to identify a mix of sterile and aseptic techniques for the procedure. Clinicians simulated performing the procedure under both sterile and aseptic conditions. Their final recommendation was aseptic technique, as a sterile irrigation required two practitioners. IBI guidelines were drafted and approvals sought at both the medical center and system level committees with final approval from senior nursing and provider leadership. All inpatient oncology nurses completed mandatory education in November 2021 with didactic review of practice during annual competencies. Six months post-implementation of the IBI guidelines and education showed CAUTI rates were reduced 83 %. The lack of clear, evidence-based practice guidelines for the IBI procedure has potential to negatively impact care of immunocompromised patients with cancer. A systematic process including literature review, outreach to professional organizations and manufacturers, simulation of new guidelines and comprehensive education of nursing staff was an effective method to reduce CAUTI. Future initiatives include ongoing

surveillance of practice and an electronic medical record order set for IBI to support practice. Lack of national evidence-based guidelines warrants future IBI research.

**038  
BRIDGING THE GAP: IDENTIFYING  
EDUCATION NEEDS FOR NURSES RELATED  
TO BIOMARKERS AND PARP INHIBITORS IN  
OVARIAN CANCER**

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Precision oncology has changed the landscape of cancer care. The paradigm shift to genomics-informed care has led to rapid succession of novel targeted drug approvals. Though well-established in certain disease states, the use of biomarker-driven targeted treatment for ovarian cancer is relatively new. This project sought to assess knowledge, confidence, and current practice of nurses caring for patients with ovarian cancer regarding the topics of biomarker testing and related terminology, indication for and use of poly (ADP-ribose) polymerase (PARP) inhibitors, and management of patients receiving PARP inhibitors. Analysis of this information enables identification of priority issues, knowledge gaps, and needs of oncology nurses in practice. A mixed methods approach was utilized for data collection. An online survey of 100 oncology nurses was comprised of open text, multiple-choice, and five-point Likert scale questions. Additionally, a focus group with 20 oncology nurses used case-based discussion and open-ended prompts. Questions focused on knowledge and familiarity with biomarkers and PARP inhibitors, roles and responsibilities related to biomarker testing and PARP inhibitor side effect management, and challenges encountered in practice related to these topics. Results suggest lower levels of familiarity and confidence among nurses when explaining the rationale for somatic biomarkers used when prescribing PARP inhibitor therapy, such as homologous recombination repair deficiency. Nurses reported feeling less knowledgeable about specific aspects of PARP inhibitors such as mechanism of action, indication for use, and differences among approved agents. Real-world challenges perceived as significant barriers to gaining new knowledge included nursing burnout, staffing shortages, and work-life balance. Nurses noted confidence in anticipating and managing physical side effects from PARP inhibitors but endorsed challenges and lacking communication skills in addressing patients' psychological and emotional needs.



Supplementary education for practicing nurses has not kept pace with the evolution of precision oncology in ovarian cancer care. As new biomarkers are identified and targeted treatments are developed, so too must timely, succinct, nursing-focused education to establish competency in foundational genomic knowledge. Information must be concentrated and simplified to meet the time-constraints of practicing nurses. An understanding of the complex concepts of precision oncology is required for nurses to translate this information to patients using effective, empathetic communication skills. Closing this knowledge gap is critically important to ensure oncology nurses are prepared for the increased velocity of oncology care transformation.

### 039

#### **MORE THAN A BOWEL MOVEMENT: THE IMPLEMENTATION OF AN ONCOLOGY SPECIFIC NEUROGENIC BOWEL AND BLADDER PROTOCOL ON AN ACUTE CARE UNIT**

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On our acute care oncology unit, a gap in the medical management of patients diagnosed with cancer related neurogenic bowel and bladder was identified. Although this is a common diagnosis among cancer patients, we recognized a need for enhanced nursing knowledge, improved medical intervention, more complete patient education, and multi-disciplinary care coordination to adequately treat this life-altering problem in our patient population. The goal was to establish a comprehensive care protocol to be utilized as an independent order set within our electronic medical record system. The protocol would contain orders for all medications, monitoring, interventions, and communications that are necessary for successful management of neurogenic bowel and bladder. The goals for improved outcomes would include patient autonomy related to decrease in incontinent episodes, adherence to a scheduled bowel regimen, decreased need for inpatient rehabilitation, and improved patient and family understanding of cares. A multidisciplinary team, including a Physical Medicine & Rehabilitation Physician, Occupational

Therapist, Clinical Nurse Coordinator, and Nurse Educator was created and tasked with the design of the protocol. The order set would need to both meet the unique needs of Oncology patients and be feasible for nursing to manage on a busy inpatient unit. Before implementation of the new order set, a mandatory education session was held for nurses, health care assistants, and occupational therapists. An algorithm for diagnosing neurogenic bowel and bladder, as well as how to implement the protocol was distributed to providers. Prior to the education session, staff completed a pre-assessment to evaluate their baseline knowledge of neurogenic bowel and bladder. Six weeks later, a post-assessment was distributed to measure improvement in the identified knowledge gap. In the two months since the protocol was introduced, it has been initiated by providers and successfully executed by nurses and occupational therapists on five separate patients. The post-assessment indicates an improved understanding of this diagnosis, and the regular use of the protocol has enhanced patient outcomes. The results of this project indicate that greater nursing knowledge, multi-disciplinary collaboration, and an established care protocol improve the outcomes of oncology patients with neurogenic bowel and bladder. It is of benefit to nurses and patients alike, to provide oncology staff with additional training in the care of these patients as well as to integrate a sustainable protocol into regular practice.

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### **LEADERSHIP/MANAGEMENT/EDUCATION**

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### 040

#### **MANAGEMENT OF ETHICAL DILEMMAS: THE NEEDS OF THE RESEARCH NURSING COMMUNITY**

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Ethical and moral dilemmas are inherent in oncology care due to the complexity of care, patient and family expectations, and the treatment direction provided by the healthcare team. These challenges are present at our large, 740 bed, National Cancer Institute

and Magnet designated, academic medical center. Research nurses are uniquely impacted as they transition from clinical care to providing patient care within the context of the clinical trial environment. In addition to providing safe patient care, the research nurse is responsible for ensuring compliance with requirements of the study. Components of the process, such as eligibility, informed consent, and principal investigator oversight, can contribute to moral distress if patient care and study goals are not in alignment. The ability to assess and successfully manage these situations requires self-awareness and an understanding of personal values that is grounded in a solid clinical practice. Research leadership recognized the need for additional support and partnered with the Nursing Ethics Steering Committee and the Section of Integrated Ethics to address the gap. A learning needs survey was developed and routed to both research nurses and clinical study coordinators. The 36.2% response rate from 251 participants revealed the average research experience was 2.98 years with 48% indicating they had encountered an ethical dilemma or were unsure. Survey results demonstrated 42% research staff were most interested in strategies to understand and manage ethical dilemmas and another 31% requested information on stress management techniques. The team used the responses to guide the development of a series of quarterly topics including the role of the research nurse, ethical considerations surrounding informed consent, therapeutic misconceptions, and research team collaboration. Each topic was designed to be presented in two sessions. The first containing didactic content on ethical approaches to the topic and the follow up session will allow for participant input and roundtable discussion. The first component of the learning series has been offered with positive feedback. The team plans to resurvey the group following the completion of the content to evaluate impact and determine future learning needs.

#### **041**

### **WORKFLOW IMPROVEMENTS SHOW INCREASED PATIENT AND NURSE SATISFACTION IN A HYBRID CLINICAL TRIAL UNIT**

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Timely and effective communication is imperative to treating high acuity outpatient oncology patients with advanced disease who participate in complex early Phase 1 clinical trials. Recurring themes escalated in team readiness huddles identified a critical need for increased communication amongst the cross-disciplinary team, patients, and families. In addition, staffing challenges incited workflow adaptations to merge siloed ambulatory clinic and infusion nurse roles into a combined nurse care model. A newly created Triage Nurse role focused on managing between-visit care needs and ensuring smooth flow for in-person care. Face-to-face, collaborative care planning with the patient, infusion nurse, and advance practice provider (APP) was indicated to increase care team and patient satisfaction through an improved communication structure, reducing handoffs and rework. Nurses functioning at the top of their scope in managing care coordination and treatment needs would support decreased handoffs and greater consistency in care. A series of rapid experiments were conducted over two weeks to provide care, starting with intake, lab, care planning, provider visits, treatment, and monitoring. Care planning visits involved the treatment nurse and APP, aimed to increase primary nurse involvement in care by eliminating a handoff to a clinic nurse role. Nurse cross-training for the rotating, combined clinic and infusion nurse role ensured adequate and consistent staffing coverage, further stabilized by the Triage nurse role. Daily anonymous team surveys noted improved teamwork, communication, and patient care plan comprehension. Huddles were conducted with the healthcare team to assess the process and address issues. Following the workflow implementation, the Phase 1 Unit's Press Ganey patient satisfaction scores rose to the 90th percentile for the quarter. In addition, staff engagement Pulse Press Ganey survey scores were +0.38 above the national average for the question, "The person I report to encourages teamwork." A quote from an evaluation form by a nurse, "Patient, was assessed, plan devised, discussed, and all loops closed. The patient understood the plan and verbalized that he understood the plan. Excellent!" "The freedom to conduct a structured experiment is key to process improvement as it relates to improving workflow for better communication between healthcare team members. As the nursing profession

faces persistent staffing challenges, cross-training nurses to function at the top of their scope is essential. Monitoring national benchmarks long-term confirms the intended impact of change and highlights opportunities for continuous improvement.

## 042

### KNOWLEDGE IS POWER IN A LOW-FIDELITY SIMULATION WHEN CARING FOR A PATIENT WITH SUICIDAL IDEATION

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Nurses play a significant role in assessing patients and intervening on their behalf to ensure their safety and well-being. In 2019, the Joint Commission updated the National Patient Safety Goal: Reduce the risk for suicide. In response, this Magnet®-recognized, NCI-designated comprehensive cancer center implemented a new standard to screen for suicide ideation using the Columbia-Suicide Severity Rating Scale (C-SSRS). At one of this organization's ambulatory care sites, leadership recognized a gap in the RN's knowledge of how to utilize the C-SSRS. In response, a Nursing Professional Development Specialist partnered with a clinical nurse to create a low-fidelity simulation to educate the nurses on how they would use the C-SSRS. This included where to access the screening tool in the chart as well as what actions to take for each response. There is evidence that simulation-based learning experiences can help nurses increase knowledge, critical thinking skills, and improve patient care. A conversational scenario was created, and a low-fidelity simulation was conducted. Prior to the simulation, the RN was given a presurvey with questions about their knowledge of managing a patient with suicidal ideation and the use of the C-SSRS. Next, a pre-brief was completed, and a low-fidelity simulation was conducted. At the end, a debrief was facilitated and a post-survey was provided. The nurse's knowledge using the C-SSRS was assessed. The pre and post surveys were evaluated using a Likert scale. The results indicated a strong improvement in the nurse's knowledge of how to manage a patient with suicide ideation using the C-SSRS. A follow-up survey was sent at six months to evaluate the RN's knowledge and confidence using the C-SSRS. Chronic debilitating physical illnesses, such as cancer, is included among the major risk factors for suicide. It is crucial that education for screening a patient with suicide ideation is delivered to all nurses. Having the knowledge and confidence

when using a screening tool for patients with suicide ideation will allow the nurse to intervene effectively. Organizations can benefit from conducting low-fidelity simulations to enhance learning as it provides for the opportunity of implementing an educational process that can replicate clinical practices in a safe environment.

## 043

### NURSE LEADER ROUNDING AND PATIENT SATISFACTION

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Achieving excellent patient satisfaction is important because it is associated with positive patient outcomes. In addition, it can have a direct impact on hospital revenue. Despite different strategies implemented by healthcare facilities, improving patient satisfaction remains a huge challenge. Recently, there are studies showing the positive impact of nurse leader rounding (NLR) on patient satisfaction (Ayaad et al., 2019; Littleton et al., 2019). NLR allows nurse leaders to connect with patients, gain real-time feedback, achieve quick recovery, recognize staff, and follow up to ensure patients' needs are met (Morton et al., 2014; Tan & Lang, 2015). The purpose of this initiative was to improve patient satisfaction in the ambulatory oncology infusion clinics of a medical center by implementing nurse leader rounding of patients. The Plan-do-study-act model was used in this process improvement project. In January 2022, the ambulatory nursing supervisor, director of oncology operations, vice president of oncology services, and the director of patient experience met to plan, develop and implement nurse leader rounding of patients. A rounding script was created. Nurse leaders conducting rounds included the oncology nursing supervisor and the director of nursing. This initiative was implemented in March 2022. Patients were randomly selected and rounding lasted for an average of 5 minutes per patient. From March to August 2022, a total of 200 patients were rounded on between the two ambulatory oncology clinics. Post-implementation, the Consumer Assessment of Healthcare Providers and Systems (CAHPS) patient satisfaction top box scores increased from 75% to 83% for both units. Nurse leader rounding of patients may improve patient satisfaction. Despite the small sample of patients rounded by the nurse leaders in this initiative,

it still made a positive impact. One drawback of NLR is the amount of time needed to round patients especially with nurse leaders' competing priorities. Hospital leadership may consider having a designated time for nurse leaders to conduct NLR with no competing system wide meetings or other responsibilities to promote this practice. This initiative provides a different strategy that may be used in addition to existing strategies to improve patient satisfaction.

#### 044 VIRTUAL REALITY SIMULATION SHOWS GREAT PROMISE

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Virtual reality (VR) simulation pairs best practices for simulation training with gaming. This education modality has been used primarily in student nurse education but is emerging as a valuable tool in competency training of new and experienced nurses. The COVID-19 pandemic brought challenges of providing a safe environment to teach and practice skills. VR simulation provides a realistic scenario without the risk of harm to the learner or patient. Benefits of this education modality include reduced supply usage and cost; it is, low risk and low anxiety; it is not location or time bound, it can be customized, and The ability to create a consistent simulation experience with low variation in a safe learning environment leads to highly reliable education. The purpose of the VR simulation pilot was to measure knowledge, skill, and self-efficacy of cleaning a small hazardous drug spill before and after completing a virtual reality simulation. The pilot was conducted at Northwestern Memorial Hospital, a Magnet designated, academic medical center with greater than 900 beds in Chicago. After completion of the Cleaning a Hazardous Drug Spill Virtual Reality Simulation, learners will be able to choose the PPE and supplies needed to safely clean a hazardous drug spill, determine the correct order of donning and doffing PPE, and perform the steps to clean a hazardous drug spill. The learning outcomes included demonstrating how to respond and clean a small hazardous drug spill along with feeling prepared to clean a hazardous drug spill in their work environment.

Pre- and post- evaluations were collected to measure knowledge, skill, self-efficacy, and satisfaction. An in-

crease in knowledge and skills were found. learners were satisfied with their experience and interested in using VR simulation to learn new skills. According to the data, 100% of learners agreed or strongly agreed that after completing the VR simulation that they felt prepared to clean a hazardous drug spill in their setting. VR simulation is a fun and effective tool to teach novice and experienced nurses. Our pilot and recent studies show that VR simulation has comparable learning outcomes to traditional training simulation. Simulation with VR is an emerging supplement to didactic education, supplying the hands-on training nurses need, and shows great promise for the modern healthcare setting.

#### 045 INTEGRATING WELLNESS: IMPLEMENTATION OF SELF-CARE PROGRAMS IN A COMMUNITY CANCER CENTER

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Stress is pervasive in modern life and is an underlying risk factor for poor health outcomes in the healthcare environment for both providers and patients. Prolonged stress is proven to lead to the development of chronic disease, burnout and negatively impacts physical, mental and spiritual health. A cancer diagnosis is an emotionally intense and life changing experience creating additional stressors. The use of routine self-care activities can provide positive coping mechanisms, improve resilience and manage symptoms related to stress. Our Cancer Center initiated a holistic wellness program in October 2021 while recognizing "Positive Attitude Month" with the goal of providing staff and patients with tools to decrease stress and build positive coping skills. Stress reduction activities were provided including aromatherapy, nutrition, acupressure, coloring/puzzles, art projects, humor, ambient environment (nature videos/peaceful music), breathing exercises and yoga. Development of the program was nursing based by staff holding certification through the American Holistic Nurses Association (AHNA) as well as additional certifications in holistic modalities. The purposes were as follows:

- To provide stress reduction programs benefitting staff and patients
  - To educate staff on holistic self-care techniques
  - To improve individual self-care for stress reduction
- The interventions were as follows:
- Development of programming for holistic self-care

- Education with multiple self-care techniques via in-services and supplemental written materials

A questionnaire to evaluate the programming was completed by staff in August 2022 to measure the effectiveness of the activities and the impact on self-care. Measures were rated on a scale of 0-10 (none to high importance) and averages were calculated.

- 9.6/10 reported an improved awareness/interest in holistic wellness and self-care
- Pre and post education scores demonstrated the average improvement of self-care was 3 points. For those with a pre-score of 0-5, the improvement average was 5.1 versus an average of 1.2 for those with a pre rating of 6-10. This indicates that those with lower initial self-care felt a greater response to the wellness program.
- 9.7/10 report an improvement in overall effectiveness in stress reduction
- 77% shared a stress reducing technique(s) with family/friends

Integrating wellness through self-care education and interventions provides an overall reduction in stress which is additionally shared with others (family/patients) in the learner's sphere of contact. Stress reduction education empowers oncology healthcare workers to invest in their own well-being which improves quality of life and the ability to care for and teach others.

## 046

### ONCOLOGY NURSE FELLOWSHIP

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With forty percent of our nurses having less than two years of experience there is an identifiable complexity gap between the knowledge of new oncology nurses compared to the increasing demand of patient acuity. Nurses were leaving due to lack of orientation structure and continued support. The aims of this project were to support the knowledge and skill of new oncology nurses to meet the care required for complex outpatient oncology population, while decreasing orientation time, increasing confidence, and increasing retention. We implemented an Oncology Fellowship program to offer mentorship and holistic education for new to oncology nurses in a formal setting for the first 6 months of their practice. Simulation was added into the fellowship program to allow nurses to practice and be prepared to care for patients experiencing infusion reaction. In addition, interdisciplinary leaders provide nurses with care planning tools for holistic care including nutrition,

oral chemotherapy management, and social services support. Education provided aligns with Commission on Cancer standard 4.2 requirements for oncology nurses. The program decreased orientation time from 12 weeks to 8 weeks, increased retention rate to 90%, and increased Confidence Survey scores from 83.25 to 112.25. An evaluation completed by peers and leaders demonstrated the nurses were able to meet the complex needs of our oncology patient population. The Oncology Fellowship program bridged the gap between nurse's knowledge and the complexity of the patients. This standardized program should be considered by other organizations to help support knowledge, confidence, decreased orientation time and increased retention.

## 047

### WOULD ONCOLOGY RESEARCH DEPARTMENT EMPLOYEES FIND A NURSE-LED MENTORSHIP ACADEMY BENEFICIAL?

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The COVID-19 pandemic altered the workplace for health care employees including oncology clinical research staff. Employee turnover over and the challenges of working remotely highlighted the need for increased support of new staff and additional guidance in their professional development in the midst of tightening budgets. In response, an experienced oncology research nurse postulated that a nurse created and led Mentorship Academy could help promote job satisfaction, advocacy, and support for staff by utilizing mostly internal resources to foster collaboration among various clinical research department roles, including oncology research nurses, data managers, study coordinators, and regulatory project managers at a NCI-Designated Comprehensive Cancer Center. The Mentorship Academy would deliver training and facilitate staff pairing across disease teams and roles to provide support in a current role or exposure to a desired, potential future role. The mentor and mentee relationship would be a tool to improve employee engagement and job performance and satisfaction. An oncology nurse would lead this low-cost, short duration program. Leadership approved the Mentorship



Academy concept prior to implementation in May 2021 with a \$1,000 annual grant. The nurse organizer utilized department quarterly meetings, posted flyers and email to recruit participants. Enrollees received a mentorship resource book and completed four monthly training sessions prior to mentor and mentee pairings. The training sessions focused on mentorship concepts, effective communication, equity and inclusion, fostering of independence and professional development. Once paired, the mentors and mentees met either in person or virtually about bi-monthly to foster and build the mentoring relationship. Since May 2021, three cohorts have completed Mentorship Academy, totaling 60 participants. Mentorship Academy participants received an evaluation survey upon training completion and mentor/mentee pairing to elicit feedback and to quantify perceived program usefulness. The survey included both Likert scale and free form response questions. Participant responses have been overwhelmingly positive toward the Mentorship Academy and the program continues to receive departmental support. Employee confidence, job satisfaction, and retention are all important characteristics of a well-functioning organization. Oncology nurses understand the benefits of collaboration between disciplines and sharing of experience and resources to support their colleagues. The nurse led Mentorship Academy has been successful in validating and empowering staff during a challenging pandemic.

#### 048 UPDATING NURSES ABOUT MANAGEMENT OF ONCOLOGIC EMERGENCIES

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Oncologic emergencies can be life threatening and encompass a wide spectrum of disorders resulting from the manifestations of malignancy and the adverse effects associated with cancer therapy. The population of patients with cancer has been changing as the US population ages, the therapeutic landscape expands, and more patients are surviving for longer with cancer. The higher rates of older patients receiving cancer therapy and the increasing complexity of treatments make the occurrence of oncologic emergencies more frequent and necessitate education about presentation, diagnosis, evaluation, and management. This study was conducted to deter-

mine if nursing continuing professional development (NCPD)-approved activities could address gaps in oncology nurses' knowledge regarding the management and treatment of patients at risk for or experiencing oncologic emergencies, including tumor lysis syndrome, febrile neutropenia, hypercalcemia, deep vein thrombosis, intravenous line-associated bloodstream infection, spinal cord compression, and pain. Online NCPD-approved activities with expert information about treatment toxicity and management related to cancer therapies and oncologic emergencies were made available in multiple formats, including podcasts, streaming video, and monographs. Learners were given a matched pairs pre- and post-activity assessment consisting of case-based questions that gauged their ability to apply emerging data to clinical decision making. Knowledge gaps and learning gains were calculated based on percentages of learners obtaining correct responses on the pre- and post-activity assessments. Significance was assessed using a chi-squared test. Learners' competence increased in the following areas:

- Tumor lysis syndrome prophylaxis: 49% learning gain
- Monitoring for tumor lysis syndrome: 45% learning gain
- Management of clinical tumor lysis syndrome with hyperphosphatemia: 50% learning gain
- Risk assessment of venous thromboembolism: 71% learning gain
- Prophylaxis for prevention of venous thromboembolism: 58% learning gain
- Identifying symptoms of deep vein thrombosis: 53% learning gain

Responses on the post-activity assessment demonstrate notable areas of knowledge gain by nurses about the prevention, identification, and management of oncologic emergencies such as tumor lysis syndrome, venous thromboembolism, and deep vein thrombosis. These data demonstrate that online NCPD activities can result in significant increases in oncology nurses' knowledge and competence surrounding oncologic emergencies, with the potential to improve their patients' outcomes.

#### 049 PODCASTS FOR ONCOLOGY NURSES REINFORCE KNOWLEDGE OF TREATMENT TOXICITY AND MANAGEMENT, IMPROVING CONFIDENCE AND COMPETENCE IN PATIENT CARE

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With 162 million American listeners, podcasts are a rapidly growing method of education, and medical podcasts are emerging as a popular new educational format for health care practitioners. Furthermore, studies show that young clinicians prefer podcasts over traditional teaching methods, and this trend is expected to continue to grow. The most cited barriers preventing clinicians from obtaining continuing medical education are time and expenses, with most clinicians surveyed reporting that they completed professional development activities on their own time. While podcasts are emerging as a convenient method for delivering content, their effectiveness in improving knowledge gaps among health care professionals has not been determined. This study was conducted to determine if listening to podcasts of nursing continuing professional development (NCPD)-approved activities could address gaps in oncology nurses' knowledge regarding the individualized treatment of patients with cancer, including colorectal cancer, non-small cell lung cancer, and endometrial cancer, as well as patients experiencing chemotherapy-induced neutropenia. NCPD-approved activities about the management of cancer therapy-related toxicities were made available in multiple formats, including podcasts and streaming video. After listening to the podcast, learners were given a posttest consisting of case-based questions that gauged their ability to apply emerging data to clinical decision making. Learning gains were calculated based on knowledge gaps identified in the streaming video version of the activities. Podcast learners' competence increased in the following areas:

- Management of dabrafenib/trametinib adverse events: 27% learning gain
- Lenvatinib/pembrolizumab safety: 24% learning gain
- Monitoring pembrolizumab-related adverse events: 14% learning gain
- Management of immune-related adverse events: 14% learning gain
- Recognition of immune-related adverse events associated with chemoimmunotherapy: 11% learning gain
- Management of fever associated with febrile neutropenia and intravenous site redness: 5% learning gain

As assessed using Likert scale data, 90% of learners felt more confident in treating their patients after

completing the activity. In addition, 91% of learners felt that the material presented would be used to improve the outcomes of their patients. The post-activity assessment demonstrates notable areas of knowledge gain, especially regarding management of dabrafenib/trametinib adverse events (27%) and lenvatinib/pembrolizumab safety (24%). The improvements in competence seen on the case-based assessment questions, as well as gains in self-perceived competence and confidence in treating patients with cancer, show the importance of NCPD for oncology nurses and the educational benefits of a podcast format.

## **050 CULTIVATING CONFIDENCE IN THE CLASSROOM BOOSTS CONFIDENCE AT THE BEDSIDE: AN ANALYSIS OF CONFIDENCE LEVELS BY INCORPORATING AN ONCOLOGY INFUSION ESSENTIALS CLASS INTO NEW NURSE ORIENTATION**

**Whitney Houser, MSN, RN, OCN®, Huntsman Cancer Institute, SLC, UT; Christa McGrath, BSN, RN, OCN®, Huntsman Cancer Institute, SLC, UT**

The COVID-19 pandemic has changed the requirements for new nurses to obtain employment in highly specialized areas, (e.g. ambulatory oncology infusion). The global healthcare system has experienced higher levels of turnover in experienced nurses.<sup>1</sup> The increased need for nurses has allowed new graduate nurses to receive employment in areas that require nurses to have specialized skills and confidence to succeed. A needs assessment performed at Huntsman Cancer Institute's two infusion rooms and three offsite community infusion rooms revealed a lack of confidence in new nurses administering blood products, caring for central lines, utilizing and accessing oncology resources and managing infusion complications and emergencies. The purpose was to supplement new oncology nurses' orientation with an infusion didactic session after the first two weeks of bedside orientation. The learning session took place in a more structured, less stressful environment to provide knowledge, skills and promote confidence in newly hired infusion room nurses. A five-hour infusion-specific essentials didactic course was developed to promote learner engagement by using innovative learning techniques that included training, discussion and activities on central lines, blood administration, infusion complications/emergencies, and drug education resources. A high fidelity simulation of a new oncology patient who needed

drug education, central line care, safe handling and administration of hazardous drugs and experienced a hypersensitivity reaction was conducted for application and solidification of concepts covered in class. Evaluation: Pre and post assessments using a five-point Likert-scale were administered to measure nurses' confidence levels in: caring for an infusion room patient independently, administering blood products, managing central lines, responding to infusion complications/emergencies and how to access resources. Nurses' confidence significantly increased on the post-assessment compared to pre-assessment. This program has been implemented into all newly hired oncology infusion room nurses' orientation. In late 2022 this program will be added to the Ambulatory Oncology Transition to Practice Program. The long term goal is to require the class for all newly hired nurses who administer hazardous drugs throughout inpatient and ambulatory areas of Huntsman Cancer Institute and its community sites. This program positively impacted nurses' confidence levels in caring for oncology patients in the infusion room by using creative learning techniques such as "what went wrong" video demonstrations, flipped classroom, group worksheets activities and discussion and a high fidelity simulation.

## **051**

### **UNPLUGGING AND RECHARGING: ADDRESSING INPATIENT NURSE LEADER BURNOUT THROUGH CHANGES IN THE MANAGER ON-CALL PROCESS**

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The inpatient nurse leader is a challenging position due to the 24/7 nature of the job. The inability to disconnect from work when away from the hospital directly impacts work-life balance and leads to burnout (Kelly, 2019). In the cancer hospital, weekend on-call responsibilities have been covered by each inpatient unit's Nurse Manager and Clinical Nurse Coordinator (CNC) rotating every other weekend. On-call required being available and within one-hour of the hospital, making it difficult to disconnect. The oncology inpatient nurse leaders proposed changing the weekend on-call system and trialing a shared on-call

model between the three inpatient units, in an effort to decrease nurse leader burnout and increase the ability to unplug and recharge. A phased approach was used to reduce the burden related to the manager on-call process. An algorithm was first introduced to charge nurses, in order to address commonly asked questions and mitigate concerns from weekend staff. The algorithm provided resources to empower charge nurses and nursing supervisors to effectively work together to handle various situations. The frequency of on-call weekends was then assessed. A pilot was initially implemented for 8-weeks, which provided a shared on-call model among the three inpatient oncology units. In preparation, a team site was created to facilitate communication and provide resources such as unit staffing grids and contact lists. Access to timekeeping and schedules for each unit was granted. Friday sign-outs and Monday check-ins were scheduled, to facilitate communication between unit leaders and the on-call individual. The frequency and types of calls were evaluated before and after algorithm implementation. A significant decrease in the frequency of calls was noted, and leaders recognized they were receiving only necessary types of calls, post-implementation. Weekend manager on-call frequency decreased from every other weekend to once every 8 weeks. The impact of the on-call responsibilities on individual burnout was evaluated before and after the pilot, and a notable decrease of burnout was seen. The ability to disconnect from work increased with the change to shared on-call. The ability to unplug from work is vital in building resiliency and decreasing burnout in oncology nurse leaders. Changes in the manager on-call process had a positive effect in nurse leader burnout. Burnout is multifactorial and further interventions are needed to allow nurse leaders to thrive in their roles.

## **052**

### **EDUCATING GENERATION Z LEARNERS: AN INTERACTIVE ONCOLOGY TRAINING PROGRAM FOR NEW GRADUATE NURSES**

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A new generation is joining the nursing workforce; Generation Z, those born between the mid-1990s and ending around 2012. This generation has only lived in a digital world and are accustomed to constant stimulation from technology, and thus exhibit short attention spans (Chicca & Shellenbarger, 2018). This poses a challenge and need for change in teaching-

learning practices. In an Acute Care Oncology Unit at a large hospital in the Phoenix Metropolitan area, an educational gap was identified. Historically, the hospital had lacked standardized, oncology-specific training for novice oncology nurses. As an added impetus for change, ten new graduate oncology nurses were recently hired, having received minimal or no oncology-specific training during their Baccalaureate nursing education. Each of the ten new graduate nurses belonged to Generation Z. As a component of their onboarding process, all new graduates were asked to complete a learning needs assessment in order to better understand any knowledge gaps, educational needs and preferences pertaining to learning styles. Based on these results, a four-week oncology nursing education program was developed using evidence-based oncology nursing principles. Entitled Oncology Nursing Bootcamp, this program sought to meet the learning needs of Generation Z learners and prepare them to provide safe, compassionate oncology patient care. The program consisted of one four-hour, in-person learning session offered weekly over the course of four weeks. This program was offered in conjunction with a 12-week clinical preceptorship on the oncology unit. Interactive educational learning activities including flipped classroom, case studies, word clouds, audience response systems, gamification and hands-on skills training. Topics were based on the Core Curriculum for Oncology Nursing 6th Edition (2020) and included professional oncology nursing practice, biology of cancer, treatment modalities, chemotherapy safety, patient assessment, and oncologic emergencies. Post-course surveys were completed by the learners after each bootcamp session. The surveys included questions about teaching methods, course content and learning activities. Feedback from each session was utilized to make improvements to upcoming sessions in order to more effectively meet learner needs. A final course evaluation demonstrated an overall improvement in knowledge and clinical skills. Additionally, 100% of learners (n = 10) reported that all teaching methods effectively met their individual learning needs. Based on this feedback, this program will serve as foundational training for all future novice oncology nurses at this institution.

### 053 STANDARDIZATION OF MONOCLONAL ANTIBODY EDUCATION FOR NON-ONCOLOGY NURSES TREATING COVID-19 PATIENTS

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In December 2020, the Food and Drug Administration (FDA) granted emergency use authorization (EUA) for the first monoclonal antibody (MoAB) for non-hospitalized COVID-19 patients at high risk for hospitalization or severe disease. Since then, four antibodies targeting variants of COVID-19 have received EUA. Initially, the outpatient rapid evaluation clinic (REC), which provides cancer treatment and assessment of COVID-positive oncology patients, was identified as the location for all patients in the healthcare system to receive MoAB infusions, based on staff familiarity administering MoABs and managing hypersensitivity reactions. The REC accepted patients from five system hospitals, satellite sites, and non-system community referrals. However, REC space also needed to be reserved for oncology patients. Facing competing demand for space as MoAB infusion volume increased, a solution was to identify and educate other clinical areas on MoAB administration. Our purpose was to develop an educational program for staff competency in MoAB administration at identified infusion sites across the delivery network. Infusion sites were selected by each hospital and included adult and pediatric outpatient infusion areas and emergency departments. Standardized education was developed for all nurses administering MoABs. This education included: an overview of the drug and EUA approved indications, when patients no longer meet the parameters for infusion, review of the templated order-set, hold parameters, administration of medication, required documentation, and management of hypersensitivity reactions. A standardized educational sheet was developed for patients that was inclusive of all MoABs being used to treat COVID-19. Additionally, Epic smart-phrases were used to template the nursing infusion note and discharge instructions for standardization across all sites. From the inception of the MoAB program to present day, 13 adult and pediatric infusion sites have been educated with more locations identified. Staff have verbalized increased comfort with review of infusion process and management of hypersensitivity reactions. After 20 months, over 6,800 patients have been treated with MoABs across the healthcare system to prevent hospitalization or severe disease. By providing education to nurses across the healthcare system, 53% of patients were able to be treated closer to their community, optimizing the number of treatments available for non-oncology COVID

patients. In the process, the REC was re-established as a dedicated site for oncology patients and their special needs in the face of COVID, maintaining continuity and quality of care.

## 054

### **ESTABLISHING AN ONCOLOGY NURSING STUDENT SENIOR PRECEPTORSHIP TO PROMOTE RACIAL CONCORDANCE AND RURAL COMMUNITY ACCESS TO HEALTH CARE**

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Oncology care in rural areas across the United States have gaps in accessibility to early cancer detection, diagnosis, treatment and follow up as well as an absence of oncology trained nurses. Oncology nursing education and delivery of care must shift to be racially concordant provided by people of shared ethnic/racial identification with patients. Rural communities often have limited health care resources and are often comprised of communities of Native American and Hispanic backgrounds. An NCI designated Cancer Center collaborated with a Hispanic and Native American-serving Non-Tribal University on the Yakama Indian Reservation to create a partnership for oncology education and support of local students' clinical preceptorship. The purpose was to identify creative methods for teaching and clinical rotation support for rural community nursing students and establish a curriculum for senior preceptorship that encompasses clinical skill acquisition and comprehensive oncology knowledge. An affiliation was established in January 2022 to host a 160-hour Preceptorship in a quaternary cancer center for feasibility analysis. This clinical preceptorship implementation was a collaborative process with university faculty and oncology staff in a dedicated education unit in an ambulatory care clinic. Challenges included the fact this clinical rotation was in a city 250-miles away from the university and the students' homes. With donations secured the first year to defray living costs while away from home, future scholarships will be provided by Washington State Oncology Society, a local oncology physician group. Evaluations were

completed by the student, faculty and clinical nurse leadership and demonstrated a successful academic and clinical learning experience. The oncology centers nurses reported special dedication to participating in oncology work force development in Hispanic and Native American students supporting cancer care skills in rural communities. This preceptorship allowed for creativity in content delivery and clinical skill acquisition. A model of shared learning between departments promoted the range of experience needed to encompass the scope of cancer care and knowledge needed for future application in the rural community to which students returned. Next steps include financial funding to support 2 preceptorships in 2023, ongoing evaluation and modifications as identified to best meet work force development and informed racially concordant cancer care delivery in rural communities. Building shared learning across interdisciplinary teams, geographic and ethnic/racially diverse populations for improved cancer outcomes was a privilege and an honor.

## 055

### **STANDARDIZING THE CLINIC NURSE ORIENTATION TO IMPROVE THE ONBOARDING EXPERIENCE**

**Christina Matousek, MSN, RN, OCN®, Smilow Cancer Hospital, New Haven, CT**

The shift of oncology care from the inpatient to outpatient setting has increased over the years, requiring an increased number of ambulatory oncology nurses. Ambulatory care at our academic, comprehensive cancer center is organized into sixteen, multispecialty disease team clinics, making nursing orientation challenging. The ambulatory nursing roles are multifaceted, requiring specialized knowledge of disease-specific diagnostic workup, management, and symptom profiles that patients experience over the course of their illness. Our institution lacked a standardized orientation process for clinic nurses, requiring a systematic restructuring of the onboarding experience to ensure competence, retention, and high-quality patient care. The purpose was to standardize the orientation process in the oncology clinics for nursing. A current state assessment was performed to understand the nursing roles in the sixteen teams. A gap analysis was conducted to understand the orientation process, staff needs, and best practice. Best practice included having a consistent preceptor while utilizing a multidimensional approach to the onboarding experience. A standardized orientation was developed based on nursing roles.



Orientation templates were created for each team to ensure consistency in the onboarding process. Disease-specific onboarding experiences for each team were identified to build an orientation relevant to the clinic workflow. The nursing professional development specialist (NPDS) scheduled staff to observe the entire patient experience process; including new patient consultation, surgical procedure, inpatient care, and return visit. The NPDS also performed weekly check-ins to assess orientees progress. Vacancy and turnover rates were compared from May 2020 and July 2022. The May 2020 vacancy rate was 8.49% whereas July 2022 was 8.76%. The May 2020 turnover rate was 17.39% whereas July 2022 was 4.17%. A post-implementation survey was distributed to determine staff satisfaction with a 90% response rate. Respondents were practice nurses (32%), nurse coordinators (22%), and radiation nurses (22%). Common needs included increasing the shadow experiences specific to their disease team and observing their surgical and medical oncology counterparts. **DISCUSSION:** Creating a comprehensive orientation has allowed staff to understand ambulatory patient care. Changes to the onboarding process were made based on feedback and trends. While the vacancy rate remained unchanged, turnover has reduced drastically, suggesting that improved orientation positively affected nursing turnover. This data also suggests that the COVID pandemic may have had a greater impact on vacancy rates whereas turnover stabilized after meeting staff needs.

## **056 UTILIZATION OF AN ESCAPE ROOM TO ENHANCE NEW HIRE INFUSION NURSE ORIENTATION**

**Lauren McGovern, BSN, RN, OCN®, Dana Farber Cancer Center, Boston, MA**

Nurse educators are tasked with creating a new hire orientation that is engaging, informative, and adequately prepares newly hired staff to transition into their new careers. Gamification in nursing education can help achieve these outcomes and increase knowledge retention. **Purpose:** The purpose of this study was to evaluate the implementation of an “escape room” game (i.e., correctly answering questions and demonstrating skills to complete the day) during new hire nursing orientation. **Intervention:** In August 2022, an escape room was implemented during new hire orientation for infusion nurses at an outpatient oncology cancer center. The escape room event occurred at the end of infusion nurse skills training

to assess knowledge retention of critical concepts taught. Topics incorporated into the escape room included locating policy manuals, programming chemotherapy into a smart infusion pump, and responding to a hazardous drug spill. **Evaluation:** Across three orientation cycles, 22 infusion nurses completed the escape room event. The post orientation evaluation demonstrated that the escape room, as part of the orientation format was extremely favorable. The overall orientation was rated by the majority as strongly agreed for the categories of: topics presented during orientation were relevant to their role (86%), satisfaction with central orientation (81%), had gained the basic knowledge to start clinical unit orientation (86%). Specific to the escape room event, results from an open-ended question demonstrated that the escape room was highly favorable. **Discussion:** Overall, feedback has been positive about the escape room implementation. The escape room provided a fun, interactive, and engaging conclusion to the orientation. **Innovation:** Gamification can be incorporated into nurse orientation to improve new hire engagement and to assess knowledge retention.

## **057 RAISING HAZARDOUS DRUG PRECAUTION AWARENESS AMONG NON-ONCOLOGY NURSES**

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According to the Centers of Disease Control and Prevention (CDC, 2020), approximately 8 million United States healthcare personnel are at risk for hazardous drug (HD) exposure. Exposure to HDs can cause acute and chronic adverse health effects including skin rashes, adverse reproductive outcomes and, possibly, cancer (CDC, 2020). Healthcare workers can protect themselves and the environment from exposure to HD by administrative controls and utilizing proper protective equipment (PPE), safe disposal methods, and chemotherapy spill management. Since January 2017 the monthly average of outfield chemotherapy (OFC), the administration of chemotherapy and HD on non-oncology units, at a large urban academic medical center was 97 treatments. Non-Oncology registered nurses (N-ORNs) are exposed to HD during patient care and handling of body excreta. Outfield chemotherapy nurses (OFNs) noted education gaps regarding HD exposure amongst N-ORNs. Targeted HD safety education was provided to a non-oncology unit with a high volume of OFC

administrations. This project describes how OFNs established an education workshop to increase HD precaution awareness among N-ORNs on a 28-bed blended medical surgical stepdown inpatient unit. OFNs sought to increase N-ORN post-intervention survey scores by 50%. The Chemotherapy Handling Questionnaire (Polovich, 2011), a validated tool for measuring knowledge of safe handling practices in nurses, was adapted into electronic pre- and post-surveys with author permission (Polovich, 2022). Baseline results were analyzed and used to tailor education to unit specific needs. Using convenience sampling methods, 53% (n=21) of targeted N-ORNs were taught using evidence-based education and live demonstration. A post-survey was done immediately after the intervention and at two week intervals. Results demonstrated increased knowledge and proficiency when caring for patients receiving HD. In alignment with the organizational goals of Zero Harm, this initiative promoted a culture of safety on the targeted unit. Analyzing pre- and post-test surveys indicated knowledge improvement among N-ORNs. Oncology patients are placed throughout the hospital with many of them receiving HD treatment. In addition, HD treatments are increasingly being given to patients with non-oncologic conditions. Nurses and other healthcare workers are at risk for HD exposure through environmental contamination from body excreta post-HDs and drug spills. Oncology nurses play a crucial role in advocating for occupational safety as well as sharing knowledge on HD precautions in all areas where HDs are administered.

## 058

### ESTABLISHING CAR T CELL THERAPY AS AN OUTPATIENT TREATMENT OPTION

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Chimeric Antigen Receptor (CAR) T cell therapy is a growing treatment option for cancer patients. Six commercial products are currently approved by the FDA. These products are associated with the risk of potential life threatening reactions including cytokine release syndrome (CRS) and immune effector cell-associated neurotoxicity syndrome (ICANS) and require risk evaluation and mitigation strategy (REMS) training for all staff involved in the care of these patients. Due to the risks associated with CAR T cells the majority of these patients are admit-

ted for care. At this NCI-designated comprehensive cancer center, oncology leadership made a decision to establish a CAR T cell program and pursue this as outpatient treatment. Relevant stakeholders met frequently to establish guidelines for care, including algorithms to treat CRS and ICANS. An institutional CAR T cell policy was created to ensure patient safety. The workgroup determined that patients would be treated in the existing bone marrow transplant (BMT) outpatient clinic which is run by experienced BMT providers and nurses. The clinic has established rules in place regarding caregiver support and local housing requirements that meet the REMS guidelines for CAR T cell products, as well as direct admission capabilities to the inpatient BMT unit. The staff that works in the clinic is a dedicated group ensuring that those caring for the patients would have the necessary CAR T cell knowledge. The CAR T cell policy includes strict admission criteria to a consistent inpatient service. Providers who are assigned to this team are required to complete REMS training. REMS training was also completed by the inpatient nursing staff on the BMT units. 55 patients have been treated since January 2019. Nine patients had planned admission post infusion to monitor for toxicities. Eight patients were never admitted. Two patients were admitted prior to infusion. Of the remaining thirty-six patients, the average day of admission was Day +4 and the average length of stay was 8 days. 86% of admissions were for fever. Cancer centers that provide CAR T cell therapy must have established policies in place to ensure that REMS training is completed by relevant staff and teams have the necessary resources to quickly identify and treat any adverse reactions. Our center has demonstrated that this can be safely done as an outpatient therapy with these policies and training in place.

## 059

### BUILDING AN ONGOING ONCOLOGY EDUCATION SERIES TO SUPPORT SPECIALTY PROFESSIONAL DEVELOPMENT AND EDUCATION OF STAFF BY LEVERAGING INTERDISCIPLINARY EXPERTISE ACROSS A HEALTH SYSTEM

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With the ever-changing management of complex oncology patients, nurses report a desire for focused, easily accessible oncology education to improve their care of oncology patients. Professional oncology organizations increasingly recommend or require ongoing oncology education as expected standards of care. To meet nurses' reported education needs, promote professional development and improve patient care, an ongoing Oncology Education Series was developed to provide on demand learning modules to nurses across a large health system. The Oncology Education Series was created to support nurses' self-reported education needs and professional development through access to up to date, ongoing, asynchronous oncology education. Interdisciplinary collaboration was promoted to leverage expertise across a health system to provide education to nurses in various settings. A steering committee of oncology nurses and interdisciplinary partners was formed to oversee development and dissemination of ongoing oncology education. Topics of education were selected for a twelve-month period through review of a needs assessment sent to nurses throughout the health system. Education development occurred by leveraging interdisciplinary expertise and knowledge of specific topics. Pooling of clinical experts across the health system promoted collaboration between settings and allowed for broader sharing of knowledge from experts in different specialties and settings. Review of module evaluations and launch of a new needs assessment informed topics for following year along with ongoing program development. Since the launch of this program in 2021, 18 modules were created and disseminated with over 1600 completions for Nursing Continuing Professional Development hours. The average overall evaluation of modules has been 4.5 out of 5. Feedback from this program included nurses reporting impact on their practice, as well as support in obtaining or renewing oncology certification. Nurses also shared appreciation for exposure to topics and education beyond their typical setting of care. In the current challenging nursing climate with a myriad of competing demands, high onboarding needs and nurse burnout, collaboration across settings for educational purposes promotes partnerships and allows for leveraging expertise of clinical experts to facilitate sharing of knowledge to a broader audience. Robust ongoing education programs that are easily accessible can provide needed educational support for nurses starting their oncol-

ogy careers as well as promote engagement and encourage professional advancement for more experienced nurses.

## **O60**

### **DESIGNING A NOVEL EDUCATIONAL PROGRAM TO DECREASE FALLS WITH INJURIES IN ONCOLOGY AMBULATORY SETTINGS**

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Falls prevention education programs commonly focus on inpatient care, with less attention to the outpatient setting. Our cancer center treats over 18,000 ambulatory patients annually across 21 statewide locations; including infusion, radiation, practice, and procedure settings. Ambulatory oncology patients often have decreased performance status and can functionally weaken during a treatment encounter. Consequently, our fall with injury rate was increasing. The Oncology Nursing Governance Council chose to develop fall prevention education specifically to address the mobility challenges our ambulatory oncology patients face. The purpose was to design an education program for nursing staff with video module to demonstrate mobility assistance strategies to prevent fall injury in ambulatory oncology settings. Council reviewed baseline ambulatory fall rate and injury data from 2019-2021 and causal analysis. We next engaged the hospital's Physical Therapy fall expert and developed a sub-group with Council chairs, a nurse educator, patient education specialist, and simulation specialist. The team created a case study, which followed a patient over the course of a treatment day, and demonstrated key physical therapy techniques and mobility assistance strategies for guarding, use of walkers and equipment, and proper body mechanics for transfers. We developed a scripted storyboard, enlisted a cast, and used the simulation center as realistic setting to film in. The video was incorporated into an online interactive learning module, detailing key content such as environmental, medical and cognitive fall risks and prevention policies. Council presented the video to the hospital's Ambulatory Fall Committee and received approval to implement system-wide. Baseline fall with injury

rate (per 1000 patient days) was 0.17. The course was assigned to 2500 ambulatory staff overall. Of 430 oncology staff, completion rate after 6 weeks was 77%. Council plans to conduct site observations to assess adherence to proper rooming and mobility assistance strategies, and will continue observational monitoring in the next calendar year. Fall with injury data is being trended. Using a video case study, we designed a novel course to heighten awareness of fall risks in the ambulatory setting. The concept was highly regarded by the Ambulatory Fall Committee, and course implemented system-wide by other service lines including Heart and Vascular Procedure, Medicine, Primary Care, Orthopedics and Neurology. Our initiative had greater impact than expected and filled a needed gap in fall prevention education.

### **061 CANCER TREATMENT EDUCATION FOR CORRECTIONAL FACILITY NURSES: A COMMUNITY PARTNERSHIP**

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At a correctional facility where infusion cancer treatments are administered, many of the nurses have not had formal training in hazardous drug administration nor are they all aware of symptom management for treatment side effects. Because of this, there are a select few who are trained and competent in administration. The chemotherapy/immunotherapy administration educators at a midwestern comprehensive cancer center were asked to provide education to this specialized group of correctional nurses to increase the number of nurses available to administer these drugs. The purpose of this project was to develop and deliver chemotherapy/immunotherapy administration and symptom management education to the nurses at the correctional facility. Prior to developing the education plan, the two educators visited the facility to complete a learning needs assessment. The educators and facility health care administrator scheduled two interventions: a two-day onsite chemotherapy/immunotherapy course currently used at the cancer center and a half-day symptom management course that would be developed for the correctional nurses. Seven nurses completed the two-day Chemotherapy/Immunotherapy course, and six nurses completed the half-day Oncology Symptom Management course. The nurses completing the two-day course were administered a post-test prior to

passing the course. All nurses successfully passed the post-test. Nurses required to administer the cancer treatments by infusion would complete competency assessments in their infusion area after the course. NCI-designated comprehensive cancer centers are expected to serve as resources to the community by providing evidence-based findings. Assisting and educating the nurses at the correctional facility helped to meet their educational needs and provided a collaborative service to the nurses and their oncology patients. We were able to strengthen a partnership with this facility and staff. The implications for oncology nursing practice in community education are to assess the needs of the population and to work with community leaders to develop and plan for meeting those educational needs. The experts are used to assist with plan implementation and then to assess for further training or support. At this time, dates are scheduled for future training sessions and learning needs assessments within the correctional facility.

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## **QUALITY IMPROVEMENT**

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### **062 IMPLEMENTATION OF AN INPATIENT ONCOLOGY FALL PREVENTION PROGRAM TO IMPROVE NURSING KNOWLEDGE AND PATIENT AND CAREGIVER ENGAGEMENT**

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Despite current fall risk assessment standards and ongoing prevention strategies, hospitalized oncology patient falls continue to be a significant safety problem, with NDNQI rates consistently exceeding benchmark. Often, oncology patients experience a sudden onset of their disease or related symptoms, contributing to difficulty reconciling their new health status. Hospitalized and previously healthy and independent individuals may experience a rapid decline in condition, leading to a change in independence with activities of daily living. Unanticipated physical and cognitive changes cause oncology patients to

overestimate their functional abilities. Fall risk assessment and implementation of a fall prevention plan must include a knowledgeable oncology nurse and the involvement of patients and caregivers in the risk prevention interventions. The purpose was to improve nursing knowledge and compliance with fall risk assessment and prevention plans while engaging oncology patients and their caregivers in fall mitigation strategies. The evidence-based Fall Tailoring Interventions for Patient Safety (TIPS)<sup>TM</sup> Toolkit, which utilizes a multi-pronged approach to reduce patient falls, will be implemented for fall prevention. Daily communication of fall risk and prevention strategies will include patients, caregivers and team members. A validated evidence-based Fall Prevention Knowledge Test (FPKT) administered to oncology nurses prior to and after the implementation of the toolkit, will guide an educational program to improve fall knowledge and patient risk identification. Compliance with toolkit implementation and patient and caregiver engagement will be measured using the TIPS audit tool <sup>TM</sup>. Pre-education baseline knowledge survey scores from one hundred and twenty-two inpatient oncology nurses indicated that nurses were overconfident in their ability to identify a patient's risk for falls and to implement an individual fall prevention plan with their patients and caregivers. A survey will be repeated post education and following the rollout of the toolkit with the patients and caregivers to determine education efficacy. Patient falls and falls with injury will be reduced following the implementation of the staff education and fall prevention program. Patient engagement allows collaboration with the fall assessment, risk identification, and interventions to be a shared responsibility. A successful fall prevention program incorporates improved nurse and patient knowledge, communication, and a shared strategy to keep our patients safe.

### 063 BEHIND OPEN DOORS: MAINTAINING PATIENT PRIVACY

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Patient privacy is top-of-mind for nurses, yet main-

taining privacy is often focused on protected health information and upholding the standards of the Health Insurance Portability and Accountability Act of 1996. A 100-bed oncology specialty hospital consistently scored high in overall patient satisfaction, yet some areas warranted improvement. A “Wildly Important Goal” was created to attempt to move the needle in one of these areas. Three units focused on “staff concern for privacy” with a mean percentile ranking of 53%. Oncology patients are often faced with difficult conversations related to care decisions and deserve privacy during these conversations. This initiative was to ensure that patients’ felt that staff cared about their privacy. The units created interactive boards to track progress. Teams met weekly to review interventions and progress. Teams were charged with meeting goals and held accountable by their peers and leaders. Staff intentionally used the word “privacy” when caring for patients or talking with visitors. Interventions evolved, including scripting with patients, visitors, physicians, and others. Also included were knocking and identifying one’s self when entering patient rooms, asking permission to have conversations in the presence of others, and asking team members, including physicians, to delay sensitive conversations until privacy was ensured. Progress was measured via self-reporting, peer recognition, patients’ verbal feedback during leader rounding, and Press-Ganey percentile rankings. Within the first month, scores rose dramatically to 81%. By the end of month four, most units had achieved percentile rankings close to 100% and to date have sustained these scores. Leader rounding and Press-Ganey surveys revealed that patients’ expressed dissatisfaction with staff concern for their privacy. It was necessary to improve patients’ perception, staff interventions, and percentile ranking. Improving patient privacy scores in a hospital with semi-private rooms seemed a daunting task to leaders. The original goal was a 10% increase, yet a 45% increase was seen in 7 months. Placement of tracking boards kept the initiative at top of mind and allowed patients to see that there was concern for their privacy. A QR code was created for staff check-in and accountability. When faced with what appeared insurmountable, leaders coached their staff into moving the needle and front-line nurses were empowered to advocate for their vulnerable patients faced with private, often difficult conversations.

### 064 IMPROVING READMISSION RATES THROUGH



## TRANSITIONAL CARE MANAGEMENT FOR ONCOLOGY PATIENTS AT HIGHEST RISK FOR READMISSION

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Hospital readmission rates have historically been higher in oncology compared to other patient populations. Patients receiving care at our National Cancer Institute – Designated Comprehensive Cancer Center rely on communication between inpatient providers and outpatient oncology clinics to identify appropriate outpatient care needs after an inpatient stay. Additionally, outpatient oncology clinics must provide timely follow-up and appropriate interventions to prevent unnecessary readmissions. An audit of 141 hospital discharges (8/2020 – 2/2021) with a 7-day readmission suggested that patients at ‘Highest’ risk for readmission, as identified through an inpatient electronic medical record (EMR) algorithm, were readmitted 4 days after discharge yet the next scheduled appointment with the oncology clinic was scheduled for 5 days after discharge. The Transitional Care Management (TCM) model was implemented to reduce 7-day readmissions by offering an appointment to ‘Highest’ readmission risk patients as soon as possible after discharge, and depending on availability, within 3 days. The process begins with clinic nurses, who contact patients within 48 hours of discharge. Medication changes, lab requirements, home health needs, and overall wellbeing are addressed and documented by the clinic nurse. A follow up appointment, either in person or telemedicine, is offered as soon as possible. Implementing these changes required significant collaborative effort. The EMR was updated to meet requirements for nursing, oncology providers, billing, and coding. Education was required for inpatient oncology providers, outpatient oncology clinics, the scheduling department, and the billing team. The TCM model began in March 2022. Since then, 101 patients have been discharged from the hospital with ‘Highest’ readmission risk. Twenty-one patients have completed a TCM appointment, utilizing in person and telemedicine visits. The 7-day readmission rate for patients who completed a TCM appointment is 9.5% (2/21). Eighty patients did not

complete a TCM appointment. The 7-day readmission rate for these patients is 27.5% (22/80). Nursing plays a critical role in the success of TCM. Documented communication between patients and nurses within 48 hours of discharge allows providers to learn of patient needs before the appointment. This collaborative initiative proves successful in reducing 7-day readmission rates for ‘Highest’ readmission risk oncology patients. The future of this project includes collecting data over a longer period, analyzing interventions provided during appointments, sharing findings throughout the network, and expanding the TCM project.

## 065 IMPLEMENTATION OF AN INFUSION CENTER LAB CHAIR AND ITS EFFECT ON INFUSION EFFICIENCY

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As oncology care continues to shift toward the outpatient setting, many oncology programs have encountered challenges with infusion center efficiency (NCCN, 2019). Because of the increasing use of immunotherapy in treatment regimens and the different adverse event profile of these drugs, more regimens have hold parameters for renal and hepatic values within a complete metabolic panel (CMP). Wait times for CMP results can add up to two hours of unproductive chair time for each patient. Laboratory testing processes are a known barrier to increasing patient wait times, ultimately effecting productivity (Lafferty et al., 2020). The purpose was to increase patient safety and infusion center efficiency by having patients obtain required pre-treatment labs up to three days prior to treatment. An infusion center lab chair was created for patients to have pre-treatment labs drawn up to three days prior to treatment date. A full time nursing position was approved to staff this chair, allowing labs to be drawn by venipuncture and from central venous catheters. Patients who lived within the county and surrounding counties of the treatment area were scheduled to have pre-treatment labs drawn prior to their scheduled infusion appointment. Patients outside of the immediate area could have labs drawn one to two hours prior to their infusion appointment. From January-August 2022, an average of 88 patients per week were treated in the infusion center lab chair, allowing for 170 hours of unproductive chair time to be saved

per week. Pre-treatment lab values were monitored by the oncology clinic in order to proactively adjust or hold treatment. On average, 2.6 treatments have been held per week because of lab values outside of treatment parameters. These treatments were held before the patient reached infusion. Better utilization of infusion chair time has allowed infusion to meet the needs of a growing census. Decoupling pre-treatment lab appointments from the infusion visits can help the medical team identify potential problems and necessary adjustments to treatment plans before infusion, increasing patient safety and decreasing treatment delays. Maintaining patient safety while increasing efficiency is essential as patient volume increases in the setting of growing cost constraints.

## 066

### THE EFFECT OF INFUSION RATE TITRATION ON TAXANE-RELATED HYPERSENSITIVITY: AN EVIDENCE-BASED PRACTICE PROJECT

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Patients receiving taxanes for cancer treatment have a greater risk for developing hypersensitivity reactions (HSRs) during first and second lifetime exposures. HSRs may be decreased when the rate of administration is slowly titrated up, but there is no agreed upon guideline or standard that specifies titration rates or methods. Picard and colleagues reduced HSRs using a three-step titration in patients being rechallenged with taxanes. The purpose was to determine if a three-step, gradual rate titration of first and second lifetime doses of paclitaxel and docetaxel reduces the occurrence and severity of HSRs. A prospective sample of patients were titrated using a 3-step method during first or second lifetime exposures to paclitaxel or docetaxel. A historical sample of non-titrated patients, obtained from the most recent medical records of patients meeting identical eligibility criteria, was compared. Two-sided Fisher's exact tests at a 0.1 level of significance were used to detect differences in the rate and severity of HSR between groups. To achieve 80.4% power to detect an 8.9% difference, we determined that a total sample of 180 infusions (90 per group) was needed. The final sample included 222 taxane infusions given to 134 unique patients;

65 patients received 123 non-titrated infusions in the retrospective group (52.8%), and 69 patients received 99 titrated infusions in the prospective group (69.7%). No significant differences were found between groups in terms of age, gender, lifetime dose, infusion duration (1 or 3 hour), or allergy history. The titrated group had a significantly lower rate of HSR (7%) than the non-titrated group (19%) ( $p=0.017$ ). Six titrated patients were immediately rechallenged successfully, and one completed treatment with successful desensitization. Lower age ( $p=0.026$ ), first lifetime dose ( $p=0.001$ ) and paclitaxel in comparison to docetaxel ( $p=0.016$ ) were associated with higher rates of HSR occurrence. There was no difference in the severity of reactions between groups ( $p=1.00$ ). Preventing taxane-related HSRs for patients starting treatment has important clinical implications; including reduced treatment interruptions, delays, and cessations; fewer desensitization appointments; and reduced distress experienced by patients, families, and nurses. Resource and cost savings are additional benefits for the organization and patient. Oncology nurses were key to project implementation and evaluation of practice sustainability, which included careful analysis of challenges to complex staff and patient safety issues in the system of care.

## 067

### IMPROVING CHEMOTHERAPY SAFETY FOR HEALTHCARE WORKERS. INTRODUCING A CHEMOTHERAPY ALERT BANNER IN A TERTIARY MULTI-SPECIALTY INSTITUTION

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Chemotherapy is administered by many routes within hospital systems, including intravenous, intravesicular and Intra-peritoneal. These administrations occur in ambulatory, in-patient and operating room settings. When chemotherapy is administered, the alert stating the medication is chemotherapy and to use precautions is no longer visible once the medication is signed off on the electronic medication administration record. Communication regarding chemotherapy precautions is inconsistent leaving healthcare workers vulnerable to exposure from bodily fluids. Bodily fluids of patients receiving chemotherapy are considered contaminated for up to 48 hrs. post

administration. Although systemic absorption by certain routes may be considered minimal, there is no safe exposure limit. Finding a suitable alert solution that can be utilized throughout the hospital system will increase the safety of healthcare workers caring for these patients. Several meetings between nursing, pharmacy and Information technology led to a plan for a chemotherapy banner that would appear on the patients storyboard whenever a healthcare worker would open the patient's electronic medical record. This banner would disappear after the 48 hours post treatment. The plan was presented to multiple stakeholders including the oncology affinity group and the hospital system practice council. All stakeholders were very much in support of the plan. As the plan moves forward into production we will be conducting quality assessments to determine the acceptance and efficacy of the project. Providing chemotherapy safety to all healthcare providers can be challenging as patients move through complex medical systems. Short staffing and closed beds have also resulted in patients who receive chemotherapy via various routes being placed on units who do not regularly administer chemotherapy or manage patients post chemotherapy treatment. A better way to communicate which patients have received treatment and that chemotherapy precautions are necessary is imperative for healthcare worker safety.

## 068

### STEPPING UP: IMPROVING INPATIENT AMBULATION FOR AUTOLOGOUS STEM CELL TRANSPLANT PATIENTS

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Physical activity could help prevent deconditioning during hospitalization for patients undergoing autologous stem cell transplant (ASCT). Although patients are encouraged to ambulate, no structured program to incentivize activity exists. During a unit practice council, nurses on an inpatient SCT unit proposed utilizing wearable technology systems developed in the post-surgical setting to encourage ambulation. With the support of the Medical Director of the Blood and Marrow Transplant Program and a researcher developing systems to utilize wearable tech-

nology to measure inpatient step counts, as well as funding from the Melamed Foundation, a pilot study was launched. This study evaluated the effect of inpatient ambulation and a feedback loop facilitated by nursing on fitness at discharge by collecting baseline activity data and measuring daily step counts during hospitalization for ASCT using wearable technology, in myeloma patients randomized to receive feedback or no feedback. 23 patients were enrolled; 11 were randomized to receive visual feedback of daily step data with thrice daily encouragement by nurses to meet step goals, 9 received no feedback, 3 were removed due to missing primary endpoint data. Physical fitness assessed by 6-minute walk test (6MWT) served as the primary endpoint. Both experimental and control groups had similar age, gender, ethnicity and baseline 6MWT scores. Overall, patients experienced an average drop of 24.4% in 6MWT performance at discharge compared to admission (pre=492m vs post=372m). Feedback patients had a statistically significant increase in total steps (38700 vs 23226 steps,  $p=0.048$ ) vs control, with the largest difference from day 1-6 (4108 steps vs 2561,  $p<0.01$ ). All demonstrated a steep decline in step counts around day +5 in association with severe pancytopenia. Ultimately no statistically significant improvements in post-6MWT were captured. Higher pre-mobility scores were associated with higher post-mobility scores, with every 50m increase in pre-6MWT associated with a 31.9m increase in post-6MWT ( $p=0.0065$ ). Utilizing wearable step count devices with a visual feedback loop allows for exact measurements of physical activity and allows nurses to improve inpatient ambulation for ASCT patients. Findings suggest that baseline activity level and fitness before admission impacts fitness at discharge. Further studies will need to be conducted to assess whether inpatient ambulation affects mobility and quality of life outcomes.

## 069

### IMPROVE COMPLIANCE OF MEDICATION BARCODE SCANNING IN THE AMBULATORY SURGICAL ONCOLOGY SETTING

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Scholarly data in the United States has reported that over 30% of medication errors occur at the point of medication administration. Barcode medication scanning addresses the five rights of medication administration (right patient, right time, right route, right dose, and right medication). Medication barcode scanning compliance is equally imperative in the ambulatory setting and the project goal was to increase nursing medication barcode scanning compliance in the ambulatory surgical oncology department. The objective of this quality improvement project was to increase nursing medication barcode scanning compliance by identifying barriers through collaboration with nursing leadership, education, pharmacy, and information technology (IT). The goal was to increase and maintain medication barcode scanning compliance of 70% or greater during FY22 (November 2021 through April 2022). A fishbone diagram was created to identify barriers including medication, patient, equipment, and current policy. Throughout discussion, the team collaborated with IT to fix several identified broken scanners and schedule yearly maintenance at the beginning of the fiscal year. Nursing education was provided to fellow nurses in the form of one on one, small group huddles, and emails with tips and recommendations to help improve medication barcode scanning compliance. Pharmacy was also involved to identify several medications that did not have bar codes to scan which were then added to ensure compliance. From November 2021 through April 2022, nursing medication barcode compliance increased from 50% to 95%. Nursing staff have been able to sustain medication barcode scanning compliance of 95% or greater since April 2022 through present (July 2022). Team members continue to monitor nursing staff compliance, equipment, and potential barriers monthly or more frequently if needed. Medication barcode scanning compliance is a critical safety measure to ensure nursing staff are properly following medication rights and minimizing potential medication errors.

## 070 ONCOLOGY NAVIGATOR PROGRAM COLLABORATION

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A big priority in health care today is preventing hospital readmissions. Cancer, with readmission rates as high as 27% (JOP 2016; 12:5, e594-e602) historically has largely been excluded from readmission interventions due to the complexity of a cancer diagnosis. UPMC is unique in that it is both a world-renowned health care provider and insurer. UPMC Hillman CancerCenter in collaboration with UPMC Health Plan have partnered to decrease 7-day readmission rates in oncology patients with a high risk to readmit. Literature is aligned on 3 interventions that are effective in decreasing readmissions for oncology patients: educating health care providers on rationale for providing improved care transitions, outpatient follow-up appointments within 5 business days of discharge, and oncology nurse calls within 48 business hours of discharge (JOP 2016; 12:5, e594-e602). Through collaboration a novel nurse navigator position was created. The nurse is well-versed in oncology and motivational interviewing and utilizes a real-time dashboard to identify oncology patients discharged from Shadyside Hospital that also have UPMC Health Plan insurance and follow-up with doctors at The UPMC Hillman CancerCenter. The nurse contacts patients telephonically, but then can choose to initiate a virtual visit or meet with the patient at the cancer center. The nurse identifies medical, behavioral, and social needs that may be barriers to care. In this unique role with strong relationships on the payer and provider side the patient is linked to resources from UPMC Health Plan, community programs, and health team members at UPMC Hillman CancerCenter. In the 12 months prior to implementing this unique role the average readmission rate for Hematology Oncology patients with UPMC Health Plan insurance was 9.42%, and in the 12 months since the start of the navigator it has decreased to 7.8%. This positive outcome has been realized as other readmission rates have been rising due to the lack of staffing locally for home health and transition services. Data is currently being analyzed to compare outcomes on the specific patients the navigator has engaged, and we fully expect to see further decrease in readmission rates. The results have been strong enough to warrant a business case to add an additional Oncology Nurse Navigator to increase the number of patients and Health Plan members whose quality of life and outcomes can be improved through this program.

## 071 DECREASING RATES OF INPATIENT FALLS



## WITH INJURY: IMPLEMENTING AN INDIVIDUALIZABLE FALL PREVENTION ALGORITHM FOR HEMATOLOGY/ONCOLOGY PATIENTS.

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Hematology-oncology patients have unique fall risk factors associated with the side effects of their treatment, as well as increased risk for injury related to their disease process. A fall during inpatient admission can cause unforeseen complications for the patient, increase length of stay and increase cost to the hospital. A review of inpatient falls with injury on a 30-bed Heme/Onc/BMT unit determined that despite the use of the Morse Fall Scale and standard fall precautions, many inpatient falls with injury occurred at the time patient ambulation to the bathroom. Upon review of the literature, as well as clinical patient data, these authors acknowledged a gap in fall risk assessment for this population. During the spring of 2022, an algorithm capturing relevant risk factors and corresponding prevention interventions was developed and implemented with the assistance of the inpatient nursing team. The purpose of this project is to decrease the rate of falls & falls with injury for patients on an inpatient hematology/oncology unit. The use of a Standby Assist Algorithm will allow nurses to better individualize fall prevention interventions, and further engage patients in maintaining their safety. Providing more individualized risk assessment will encourage better understanding of, and adherence to, fall prevention strategies by both patients and care providers, decreasing rates of falls and falls with injury. This QI project reviews the implementation of a nurse-developed heme/onc risk factor algorithm to be used for evaluation of patients' risk of falling. Nurses are instructed to assess patient risk based on the algorithm at change of shift, 7am and 7pm. Patients flagged as requiring assistance with ambulation per the algorithm must be informed of their ambulation needs and risk factors and have corresponding signage outside of their room. Though this project is still ongoing, these authors have noted a 50% reduction in falls with injury on this 30-bed unit from the last calendar year to date in comparison to this calendar year to date. There appears to be a parity of research regarding hematology/oncology specific fall prevention strategies, and even less available healthcare IT products which integrate relevant risk factors with hospital documentation systems. It found to be impactful in reducing falls and falls with

injury within this population, the SBA Algorithm may not only improve patient outcomes, but also reduce admission costs and reduce length of stay.

## 072 UTILIZING VIDEO-BASED PATIENT EDUCATION TO IMPACT ADVANCE DIRECTIVE COMPLETION IN AN ONCOLOGY AMBULATORY SETTING

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An advance directive (AD) filed in one's medical record is of benefit to persons of all ages, and of vital importance if facing a cancer diagnosis. When prognosis is poor, without an AD on file, providers exercise life-preserving measures, notwithstanding terminal illness, or negligible chance for full recovery. Without documented ADs, oncology nurses witness patients receiving futile, aggressive treatment measures, accompanied by patient and caregiver distress. American Society of Clinical Oncology advises practices to offer advance care planning (ACP) discussions and documentation of ADs. Despite their significance, nationally, less than 37% of patients have documented ADs. Oncology nurses develop therapeutic relationships with patients; they are in a unique position to initiate AD discussions. The quality improvement project's purpose was to increase AD completion utilizing a nurse-led initiative within an outpatient oncology clinic. By sending messages and uploading educational videos to patient-portals, the goal was to increase the number of patients that upload their ADs by 3%, in 8 months, measured by documented ADs in the patient charts. Nurses opening ACP discussions, provide patients the opportunity to document their preferences and reduce distress for themselves and their caregivers. Two weeks prior to the oncologist appointments, the practice nurse identified patients without ADs and uploaded an ACP educational video along with a personalized message intending to normalize the ACP process. To isolate the efficacy of the video initiative, only patient-initiated follow-up occurred. Common patient questions were raised, relating to witnesses and multiple proxies, while clarification regarding necessity was a topic of dialogue. Baseline, system-generated data revealed 33.8% of patients, seen first quarter had documented ADs. System-generated and manually tallied data was collected over two-month intervals, including number of video uploads and newly completed ADs. The first two-month phase revealed 660 patients had



uploaded videos and 41 patients (6.77%), provided ADs to the oncology nurse after receiving the video. Additionally, system-generated year-to-date data showed 35.4% AD completion, an overall 1.6% increase over baseline. ACP education and communication through nurse-led patient-portal initiatives proved effective. Nurses should be familiar with ADs to answer associated questions. Time constraints threatened sustainability; therefore, system-generated reports were created allowing for mass uploads while retaining the nurse's personalization. Follow-up by nurses and providers, using the initiative as a springboard for discussion, may further increase AD completion.

### 073 STANDARDIZED PATIENT EDUCATION ON CHG TREATMENT TO IMPROVE DAILY COMPLIANCE

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In the hematology oncology service at Brigham and Women's Hospital, CLABSI can be particularly devastating for our immunocompromised patient population affecting length of stay, patient satisfaction and outcomes. In addition, CLABSI reduction is in line with our organization's strategic goals and critical to our Magnet re-designation. Daily bathing with chlorohexidine has been shown to decrease CLABSI in the hematology oncology and bone marrow transplant population (Giri et al 2021). Routine CHG bathing also decreases the likelihood of patients developing MRSA or VRE (Huang et al, 2019). As a result of this evidence, our organization has added daily CHG treatment orders to all of our oncology admission order sets. It is nurses' responsibility to educate patients on the benefits of this treatment and the proper technique for use. CHG administrations are documented in the medication administration record (MAR) of our electronic health record. Since implementing MAR documentation for CHG, the CLABSI taskforce has tracked ordering and administration compliance. The most prevalent reason for "Not Given" entries was "Patient Refusal". Patients often cited feeling sticky or preferring their own soaps to the CHG 2% wipes or 4% Liquid soap. Patients

lacked understanding of why the CHG treatment was important to their inpatient care. A unit-based practice counsel in our oncology service line developed a teaching brochure to explain the rationale for CHG treatment to patients as well as to educate on the proper application technique. This brochure included standardized information that was vetted through infection control colleagues. Oncology nurses were provided with the brochure as well as talking points to speak to the information and address any myths about CHG treatment. After implementing the brochure, our taskforce reviewed the process measure of patient compliance with CHG treatment (administration versus refusal) via a MAR report. In the four months post-intervention, the percent of "patient refusal" decreased compared to other reasons for "Not given" entries. The overall compliance with CHG treatment did not change significantly in the first month post-intervention but did decrease in the subsequent three months. Patient education is a critical component of nursing care. Providing nurses with evidence-based patient education materials that are at an appropriate literacy level for patient understanding helps to ensure that patients are aware of the need for treatment. Oncology nurses should tailor education to their patient population and care setting.

### 074 DEVELOPING A STANDARDIZED ELECTRONIC FLOWSHEET FOR SAFE CHEMOTHERAPY VERIFICATION AND ADMINISTRATION ACROSS THE INPATIENT ADULT ONCOLOGY SERVICE

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practice variation across the inpatient oncology units during the independent verification process and created an opportunity for improvement and standardization. The goal was to standardize nursing chemotherapy dual-independent verification process across the adult inpatient oncology units. An electronic flowsheet that meets the ONS and ASCO administration safety standards for independent verification was created and provides an organized approach for nursing staff to verify chemotherapy orders and preserve patient safety. A group of staff nurses sought to address the issue through the health system's evidence-based practice nursing council. Oncology nurses were surveyed on their perspective of the current chemotherapy verification practices, which revealed several barriers: the chemotherapy verification process was described as time consuming, non-standardized, and repetitive in nature. An electronic dual verification checklist was created to address the barriers identified by the staff nurses. The checklist was added as a flowsheet in the electronic medical record, making it more accessible and user friendly. It also standardized the process to include:

- Drug calculation including BSA
- Drug regimen, protocol schedule, and deviations
- Lab parameters, regimen specific test results, and/or dose limiting considerations
- Patient access and patency with blood return
- Patient education

A post-implementation staff satisfaction survey indicated 81.82% of staff surveyed (n=18) agree/strongly agree that the new flowsheet has improved the safety of chemotherapy administration. 90.91% agree/strongly agree that this new workflow is simple to use and makes the dual verification process more efficient. In addition, chart review audits are being conducted to ensure compliance. This electronic flowsheet standardized the independent verification process to ensure each nurse performed the same safety checks prior to each chemotherapy administration. This initiative is an example of professional practice through the nurses' use of specialty standards and guidelines to improve practice. Creating and implementing this electronic tool allowed nurses to assume leadership roles in improving care delivery in the oncology areas through our institution's professional governance council.

## 075 BREAKING BARRIERS: A SOLUTION-DRIVEN NURSE-LED INITIATIVE TO PROVIDE ACCESS TO SPECIALIZED CANCER CARE

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This nurse-led initiative was developed in response to numerous barriers that exist for patients seeking specialized oncology care at an NCI-designated cancer center in New York City. Some of these include long-distance travel, insurance constraints, and State restrictions on telehealth consultations by providers. A prior workflow was in place that did not involve the Oncology Certified Nurse (OCN) and had a longer turnaround time. To meet this challenge and increase access to oncology care, an Expert Medical Opinion (EMO) program was developed to offer patients a remote comprehensive consultation by a sub-specialized oncology provider. The OCN facilitates the successful delivery of a written second opinion from a specialized oncology provider for patients who might otherwise experience barriers. The OCN interviews the patient to determine if they are appropriate for the EMO based on their clinical status. History of present illness is obtained, including past medical history, and a review of the medical records. The collection of this information is used to create a clinical summary of the patient's oncologic history. Nursing partnered with Informatics to create an electronic document that streamlined the information, which is utilized by the provider to construct a written opinion answering eight standardized questions. Patients had the opportunity to ask additional questions tailored to their disease with the nurse's guidance. Due to the success and growth of the program, clinical summaries were then created by third parties utilizing an automated workflow. Incremental OCN positions were required to allow continued focus on providing patient support and assist with the coordination of care. Participating patients and consulting physicians completed surveys, which were overwhelmingly positive. By involving the oncology nurse in the process, we pioneered a more personalized approach that might otherwise have felt like a remote experience. This program increased access to patients who historically met barriers to care and improved patient satisfaction. The pandemic led to innovations

in digital technology in healthcare outside of the traditional model. An Expert Medical Opinion from a renowned comprehensive cancer center is an example of this transformation.

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## RADIATION

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### 076

#### **PREGNANCY SCREENING, PREVENTION, AND EDUCATION WITH RADIATION TREATMENT**

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Our Radiation Clinics had the opportunity to create a process of pregnancy screening that was not currently in place. The screening included education and on-site pregnancy testing for the patients. The severity of the risks to the fetus if the patient became pregnant during treatment needs to be discussed with the patient/family in detail and provided in written form for family that was not present for consultation. Radiation Centers use multiple charting systems making it difficult to find pregnancy screenings. The purpose of our work was to have standardized screening, education, and prevention of pregnancy during radiation treatment. Written education sent home with the patient gave the significant others who were unable to attend the consultation the opportunity to understand the long-term toxicity to an unborn baby such as fetal mental retardation, fetal malformations, or fetal death. Every adult female patient up to age 55 was asked during consultation if they are pregnant or trying to get pregnant. Exceptions included patients who had a hysterectomy or who were post-menopausal. Patients were given both written and verbal education about the risks to the fetus if pregnant while receiving radiation. Patients signed a Consent- Waiver verifying they received education regarding risks of pregnancy during treatment and need for pregnancy screening on-site. Screening was documented in the healthcare system electronic medical record (EMR) by the absence of pregnancy and into the Radiation Center EMR by Pregnancy Screening Consent-Waiver form. In 2021, 50 patients met criteria of being female and up to age 55 that needed screening and education. Only 2 out of 50 patients screened opted for on-site pregnancy testing. Patients joked that they would be able to have a “doctor’s note” for abstinence during treatment showing the importance of needing written ed-

ucation for their significant other. Only 2 out of 50 patients screened opted for on-site pregnancy testing showing that this service may not be needed. Testing, if needed would require a lab certification and testing education for staff. Written and verbal education on pregnancy prevention during consultation adds another layer for patients to understand the severity of effects to the fetus and to share this information with their partner. Consent- Waiver adds accountability to the patient to understand the severity of pregnancy during radiation treatment.

### 077

#### **ROMAN: PHASE 3 TRIAL OF AVASOPASEM MANGANESE (GC4419) FOR SEVERE ORAL MUCOSITIS (SOM) IN PATIENTS RECEIVING CHEMORADIOTHERAPY (CRT) FOR LOCALLY ADVANCED HEAD AND NECK CANCER (LAHNC)**

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Intensity-modulated radiotherapy (IMRT) plus cisplatin is an established treatment for LAHNC, but ~70% of patients develop SOM (WHO grade 3 or 4), limiting their ability to eat solids (grade 3) or liquids (grade 4), and often requiring feeding tube nutrition. There are no US-approved drugs to reduce SOM in LAHNC. A radiotherapy (RT)-induced burst of superoxide initiates oral mucositis (OM) development (Sonis 2004). Avasopasem (GC4419, AVA) is an investigational selective small molecule dismutase mimetic designed to convert superoxide to hydrogen peroxide, which may protect normal cells from, and potentially sensitize cancer cells to, RT (Riley 2006, El-Mahdy 2020). In a randomized, double-blind phase 2b trial, AVA reduced duration and incidence of SOM due to CRT for LAHNC vs placebo (PBO). The present trial (NCT03689712) further assessed safety and efficacy of AVA to reduce SOM due to CRT for LAHNC of the oral cavity or oropharynx. Double-blind, PBO-controlled trial; patients receiving 60-72 Gy of IMRT (≥50 Gy to ≥2 OM sites) plus cisplatin (weekly or q3 weeks) were randomized 3:2 to IV AVA 90 mg vs PBO M-F within 1 hour before each

RT fraction. OM by the WHO scale was assessed by trained evaluators biweekly during RT and weekly for 2 weeks thereafter. Primary endpoint: SOM incidence through the end of IMRT. Secondary endpoints included SOM duration through 2 weeks post-IMRT, grade 4 OM incidence through the end of IMRT, and safety outcomes. Exploratory analyses included opioid and gastronomy tube use. N=455 randomized, 407 (241 AVA/166 PBO) primary analysis population; median age 61; 86% male; 82% oropharynx. Statistically significant 16% relative reduction in SOM incidence (54% vs 64%;  $P=0.045$ ) and 56% relative reduction in SOM duration (median, 8 vs 18 days;  $P=0.002$ ) were observed. Grade 4 incidence was reduced 27% ( $P=0.052$ ). Improvement was seen in multiple secondary and exploratory endpoints. Adverse event frequencies were comparable between treatment groups without clear AVA-specific toxicity or increase in cisplatin-attributable toxicity. Oncology nurses are frontline in caring for the LAHNC population; however evidence-based interventions to decrease toxic effects of treatment are limited. AVA produced statistically significant, clinically meaningful improvement of SOM vs PBO that was consistent across multiple SOM measures, with an adverse event profile consistent with expectations for IMRT/cisplatin. Clinical workflows successfully accommodate this intervention. Funder Galera Therapeutics, Inc.

## 078 ASYNCHRONOUS ONLINE JOURNAL CLUB TO ADDRESS EDUCATION DEFICITS AND COVID-19 SOCIAL DISTANCING RESTRICTIONS

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Radiation Oncology is rarely taught in nursing school, and continuing education (CE) opportunities are limited at local, state, and national levels. Registered Nurses (RNs) in radiation oncology are still subject to annual requirements to obtain CEs for the North Carolina Board of Nursing, Commission on Cancer (COC) if not certified, and Oncology Nursing Society/Oncology Nursing Credentialing Center

(ONS/ONCC) if certified. The American Nurses Credentialing Center Magnet™ designation requires a percentage of certified RNs. COVID-19 has presented an unprecedented challenge to provide nursing education. The purpose was to create relevant radiation oncology CE for radiation oncology nurses in a large diverse, multi-site academic department. Experienced Radiation Oncology nurses and the Oncology Clinical Nurse Educator formed a team to develop an effective journal club program and its processes. The Continuing Education and Professional Development Department provided free, relevant CEs to our nursing staff. We used Microsoft Teams™ to disseminate articles and provide a discussion board. Questions were asked of participants to obtain CE credit. Participants could participate on their own time using their phone, work, or personal computer. Articles were posted for a one-month duration at the beginning of the month. Providers were invited to participate in presentations and discussions to enrich disease-specific specialty care. The Merge-ner formula was used to calculate CE credit, which uses word count, degree of difficulty, and number of questions per month. Over 17 months, 34 articles were posted. 40 Nurses signed up from four facilities in three cities. A new graduate nurse who shadowed and participated was subsequently hired. Topics included HPV oropharyngeal cancer dose de-escalation, sarcoma clinical trials, radiation-induced nausea and vomiting guidelines, radiation safety with pacemakers and diabetes management technologies, breast cancer survivorship guidelines, disparities of access based on race and location, financial toxicity, protons, MRI-guided brachytherapy, radiation recall, dermatitis management, abscopal effect, pediatric CNS treatment, and spinal cord compression. Staff were asked for input into the choice of articles and topics. A total of 18.25 CEs was available to staff from May, 2021 to the end of September, 2022. The online asynchronous model was a successful method of providing radiation oncology nursing education to our staff. This project has been expanded to include other facilities and departments. We could respond to staff requests, and provide timely education on new research or unanticipated clinical events.

## 079 SPEAKING TO PATIENTS WITH PROSTATE CANCER: ARE WE MEETING THE NEED?

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In 2022, the Center for Disease Control stated that prostate cancer is the most common cancer among men in the United States and research has shown that men with prostate cancer are less likely to communicate their needs related to symptom management and less likely to feel comfortable discussing their experience due to the delicate nature of their symptoms (Manne et al., 2019). According to a qualitative study with patients with prostate cancer, “many participants did not have ‘a point of reference’ that they felt they could trust and rely on” while undergoing treatment. (Chen et al., 2021, p. 7). The purpose of this project is to evaluate the current educational tools provided to patients with prostate cancer, in order to explore how to better prepare patients for the challenges of radiation therapy and describe ways in which nurses and physicians can better meet patients’ emotional and educational needs. A qualitative approach was used to explore the effectiveness of the educational tools provided to patients with prostate cancer about radiation treatment at a specific oncology center. Informal interviews were used to gather evidence. A total of 6 patients who received radiation therapy for prostate cancer were asked to discuss their thoughts on the educational tools given to them. A phenomenological thematic analysis of the qualitative data was conducted. Patients were at least 4 months post treatment. After analyzing the data from the interviews four major themes emerged, which included individualization, informal peer support, expectations vs reality and nursing communication. In contrast to oncology staff thoughts, participants stated that the prostate cancer education tools prepared them “very well” for during and post treatment life. However, through more direct questioning and discussion with participants, gaps did emerge in education. The gaps fall in clarification of specific medical terminology, discussion of sexual side effects, and differentiation between symptoms of old age and symptoms of radiation therapy. Participants expressed multiple times the importance of the informal peer-to-peer education and support that occurred in the men’s waiting room.

## **080 BRIDGING GAPS AND STANDARDIZING CARE AMONG HEAD & NECK CANCER PATIENTS RECEIVING RADIATION**

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Head and neck cancer (HNC) patients receiving radiotherapy often have multiple baseline comorbidities and develop significant toxicities that put them at risk for health decline, hospitalization, and treatment interruptions. Data suggests that improved communication and standardization can reduce these adverse events. The purpose was to improve standardization of care and communication between inpatient and outpatient care settings in patients receiving radiation therapy for HNC. The following initiatives were developed, with associated qualitative data collection:

- Weekly multidisciplinary HNC rounds with the ambulatory radiation nurse, social worker (SW), speech therapist (SLP), dietician (RD)
- First day packet with a shaker bottle and recipe for baking soda/salt (BSNa) rinse for oral mucositis
- Inpatient HNC order set for inpatients receiving radiotherapy, including SLP and RD referrals, daily weights, skin care and oral care orders

Serial HNC rounds have identified roughly 1-2 patients per week missing active referrals for SW and roughly, 1-3 patients weekly for a priority check in. Dietician identifies roughly 5 out of 20 patients weekly that require a prioritized check in for weight loss. First day packets have qualitatively improved performance of BSNa rinses, particularly among underserved/under-resourced patients historically at risk for adverse outcomes. The HNC orderset is in development, with favorable feedback from key stakeholders. Improved standardization and communication is possible across disciplines and care settings caring for HNC patients, and has produced rapid qualitative improvement in patient care.

## **081 WHO’S IN THE WAITING ROOM- A PATIENT, OR A PERSON?**

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By mid-2021, Radiation Therapy patient satisfaction scores had sharply declined, especially in the areas of staff concern for patients’ comfort and sensitivity to inconveniences. Radiation staff identified unclear processes, lack of staff visibility in waiting areas, and uninformed patients as contributing factors to negative scores. Using feedback from patient satisfaction scores and our institution’s Patient Family Advocacy Committee, and with support of nursing leadership,



this medical assistant- led initiative sought to improve the patients' waiting room experience, as well as bring awareness to staff of what patients need to feel a greater sense of dignity and compassion- to feel less like a patient, and more like a person. Our waiting areas were redesigned to be more user-friendly, attractive spaces with a palpable emphasis on patient's wellbeing. Fresh paint, updated signage, new gown storage with clear labeling, and comfort items, such as robes for privacy, were added to refresh the space. To help patients feel better informed, QR codes were placed in waiting rooms with a link to our "What to Expect with Radiation Therapy" video for cell phone viewing, and Radiation Side Effect Emoji Cards were created to serve as quick, eye-catching reference guides for patients. A workflow was established for hourly waiting room rounds by nursing staff, in order to continuously address any patient needs or concerns, and to keep patients informed of delays. To add enjoyment and encouragement, themed Patient Appreciation Days ("Dog Days of Summer") were created & held quarterly throughout the department. Evaluation: A year later, and six months after implementation of these measures, scores dramatically increased! Our NCI Cancer Center rank soared from 3rd to 72nd in radiation staff concern for patient comfort. For radiation staff courtesy and respect, our rank increased from 3rd to 69th. Patients' overall rating of the Radiation Therapy experience increased our rank from 4th to 29th. Additionally, Radiation staff was awarded the FCCC Top Performers Award for 2022! Performance was based on Top Box Scores, comparing FY2021 year-end data to FY2022 year-end data. Our patient scores speak for themselves- this creative, innovative project combining technology with simple comfort items and increased nurse presence has transformed the patient experience in Radiation, and these initiatives could be easily utilized in other patient waiting areas to decrease the burden of cancer care everywhere.

## 082

### A WHIRLWIND OF INITIATIVES: MAKING POSITIVE PATIENT EXPERIENCE A BREEZE IN A RADIATION DEPARTMENT

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People often say, that stress is a part of life. Oncology patients experience even more stress due to their diagnosis, and subsequent treatment for their disease.

Patient knowledge of radiation therapy is often very limited, with many experiencing anxiety, misconceptions, and fear. All of this can have an impact on the patient experience. Improving patient satisfaction can correlate with better treatment compliance, care team-patient relationship, and also may improve the efficiency of therapy. At Fox Chase Cancer Center-Temple Health, a review of patient satisfaction survey results at the end of fiscal year 2021 reflected all Radiation department indicators falling steadily over 2 quarters. Overall rankings against comparison groups were lower than the 10th percentile. The specific measured indicators of concern were explaining what to expect, staff concern for comfort, staff courtesy, and managing side effects. Through shared-decision making, a team of Radiation nurses and therapists developed a whirlwind of initiatives intended to improve the overall experience for the oncology patient. Enhancing team communication through creation of an RN-RT taskforce, a Simulation Nurse pilot to improve patient preparedness, a professional "Introduction to Radiation" video to increase patient education, waiting room rounds to connect and respond to wait times and questions, and a variety of departmental refresh concepts to focus on patient comfort, were the initiatives that were rolled out in a step-wise fashion over a year project timeline. Quarterly data after implementation showed improvement in all patient experience metrics. Most notably, explaining what to expect during Radiation, from the 5th percentile ranking to 84th percentile, and staff courtesy from the 3rd to 52nd percentile against the comparison group. This data clearly demonstrates that thoughtful execution of a variety of performance and quality improvement initiatives has been of value to radiation patients and has provided a greater level of quality care and patient experience before, and while on treatment. The team earned the Top Performer's Award in September for their improved experience results. This can be considered as a very first step of a more comprehensive evaluation of patient satisfaction, as the current body of knowledge concerning patient satisfaction related to Radiation Therapy is very small. Further research can be beneficial in the future to determine the effect that positive patient experience may have on compliance with treatment, perception of side effects, and actual response to treatment.

## 083

### BRIDGING THE GAP BETWEEN INPATIENT AND RADIATION ONCOLOGY NURSING: AN

## INITIATIVE TO IMPROVE COMMUNICATION AND PATIENT SAFETY

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Bridging the Gap is a nurse developed and led project, whose ultimate goal is to improve communication, continuity of care, and knowledge sharing between inpatient and radiation nurses, in order to ensure the ability of nurses in both areas to safely address the needs of patients receiving radiation therapy. Historically, no workflow existed for communication between the inpatient and Radiation RN when patients admitted to the hospital were ordered to receive radiation; additionally, no radiation RN was assigned to monitoring and care of inpatients while in their department, and no formal education existed for inpatient nurses in regards to radiation therapy. Radiation nurses determined that these gaps in knowledge and communication adversely affected patient safety, as inpatients travelled to the radiation unit without a nurse prepared to assume responsibility for often complex nursing needs. Nurses sought to bridge these gaps by providing education, establishing workflows for communication, and creation of a new role within radiation nursing. Through a multidisciplinary effort involving inpatient and outpatient nursing leadership, education for inpatient nursing staff was developed, provided by radiation nurses through roving inservices and mandatory online education, explaining radiation therapy, the patient experience, nursing care of radiation patients, and the roles of the many clinicians within radiation. Next, a new workflow for a daily RN-to-RN report was piloted, including assessments for fall risk, language/cognitive barriers, pain/anxiety, and cardiac or respiratory considerations. Lastly, a radiation triage nurse role was created to assume responsibility for receiving report on, and monitoring of, nursing needs of inpatients receiving radiation. Staff survey results showed that 92.8% of inpatient nursing staff felt more comfortable caring for a patient receiving radiation after the Bridging the Gap Initiative. Pre- & post-education test scores also improved greatly, indicating a better understanding of the basics of radiation therapy and the radiation nurse role. Most importantly, the previous gap in patient care was eliminated as the now daily inpatient-radiation RN report outlines the nursing needs of each inpatient who travels to Radiation. This completely nurse-driven innovation has improved multidisciplinary communication, streamlined processes, standardized education, and

enhanced patient safety. These initiatives made a tremendous positive impact on nursing culture overall, and could be easily emulated by other institutions as the care delivery model for patients receiving care in both inpatient and outpatient departments.

## 084 NURSE NAVIGATION IN RADIATION ONCOLOGY

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The role of the radiation oncology nurse navigator is a newly created position in a large cancer treatment facility. This treatment specific navigator role was created to provide highly specialized education, and coordination for patients undergoing radiation therapy. It was noted that site specific nurse navigation usually diminished after patients went through their initial diagnosis and treatment with surgical and medical oncology clinics. Site specific nurse navigators that are not specialized in radiation are sometimes reluctant to educate about radiation. Also, because they are based in surgical and medical oncology clinics, this presented a logistical challenge when following patients through radiation therapy. Nurse navigation in radiation oncology begins before consult, ensuring that appointments are scheduled correctly, and within an appropriate time frame. This was necessary in a cancer center with providers that specialize in different areas of treatment, with non-clinical scheduling staff. Patients are met during a pre-simulation appointment, the navigator assists with questions, describes the radiation scheduling process, and gives site specific education. The navigator serves as the primary contact between simulation and treatment start. Many patients have specific scheduling needs, and the nurse navigator serves as a liaison between patients and radiation oncology staff as well as the disease specific navigators. This role can also serve as an educational resource for disease specific navigators and cancer center staff. In our center the radiation nurse navigator gives a presentation to all new hires on radiation oncology. Creating this role has proved to be successful in a large cancer center with many moving parts. Patients are receptive to education at simulation and eager to know how their radiation appointments will be coordinated. They are often relieved to have a point of contact for questions or specific scheduling issues during the pensive time between simulation and the start of treatment. Receiving radiation therapy is complicated and life

changing, having a large impact over several weeks. Radiation oncology can be a mysterious specialty, provoking fear and confusion for many. A radiation specific navigator can help relieve some of that mystery, fear and confusion. Nurse navigator roles have traditionally focused on disease specific areas, following patients throughout the trajectory of their disease. The role of the radiation nurse navigator was created to address the specific needs of patients undergoing radiation.

## 085

### ADVANCED PRACTICE PROVIDER LED RAPID ACCESS PALLIATIVE RADIATION CLINIC

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Palliative radiation is a critical component of comprehensive care in oncology and the demand is increasing. Patients typically do not have timely access to this treatment and are confronted with an inefficient process that involves multiple visits to the radiation oncology department. There is currently no published data on having an advanced practice provider (APP) led Palliative Radiation Clinic (PRC) in the USA or internationally. The purpose of the PRC is to reduce the time from referral to consultation for patients with cancer who need radiation for the palliation of symptoms. The APP led PRC is available 5 days a week in the outpatient setting, fosters multidisciplinary interaction, and offers proactive follow up care. The APP collaborates with a weekly rotating radiation oncologist, a nurse, and administrative staff. The APP led PRC was established in March 2022. The analysis compared patients with bone metastases treated from June to August 2022 (PRC cohort) with similar patients treated by physicians from June to August 2021 (pre-PRC cohort). In the PRC group, the median time from referral to consultation was four days (25%-75% range, 2-6 days) compared with pre-PRC group of seven days (25%-75%, 4-12 days), a 43% decrease in time to consultation. In the pre-PRC cohort 37 patients received treatment, compared with PRC cohort of 55 patients, a 49% increase in palliative treatments. Additionally, the PRC clinic received a 100% satisfaction rate from patients. The APP led consultation PRC removes the barrier to patient access, decreases time from referral

to consultation, increases patient volume, promotes patient satisfaction, and empowers practice at the top of licensure. The PRC provides a framework for a new practice model for APPs that is different from the classic return and surveillance model. These outcomes are applicable to oncology nursing because it highlights the ability to address a gap in quality by practicing at the highest capacity and provides a new framework to address a critical component in comprehensive cancer care.

## RESEARCH

## 086

### THE EXPERIENCE OF NURSES AS DOUBLE-DUTY CAREGIVERS FOR A FAMILY MEMBER AT THE END-OF-LIFE: INTERPRETIVE DESCRIPTION

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This study explored the experiences of nurses providing end-of-life care for family members while continuing to work as a nurse. Increasing numbers of individuals with complex, advanced illnesses are living longer and being cared for in the home by family members. As a result, family caregivers often experience physical, emotional, psychological, and social distress because of the demands placed on them. A unique subset of this population are nurses who find themselves providing care in both their family lives and work lives, a phenomenon known as “double-duty caregiving.” Minimal research has been conducted examining informal caregiving at the end-of life when the family caregiver is a nurse. This is the first study to explore the long-term effects of double-duty caregiving. A qualitative design, interpretive description, was used to capture the double-duty caregivers’ experiences. Semi-structured, in-depth interviews, were completed with 10 nurses who had previously provided end-of-life care for a family member while continuing to work. Four overarching themes represent the rich, personal descriptions of the caregivers’ experiences as a double-duty caregiver: It Takes a Village, Driving the Bus, Juggling Many Hats, and Moving Through and Looking Back. It takes a village captures the components of a support system that were essential for the double-duty caregiver to

perform this arduous and demanding work. Driving the bus encompasses the multifaceted expectations placed upon the double-duty caregiver by family members and healthcare providers. Juggling many hats incorporated the double-duty caregiver's relentless need to balance multiple roles. Finally, moving through and looking back illustrates the immediate and long-term physical and psychological impact of double-duty caregiving. Significant implications for education, clinical practice, and research were identified. High expectations and lack of support from family and professionals contributed to the double-duty caregivers' persistent distress. The importance of developing open lines of communication between the double-duty caregiver, their family, and the healthcare team is critical. Clarity of roles and mutual respect between the double-duty caregiver and the health care team is vital in determining how the double-duty caregiver wants to be involved in care. The identification of educational and support needs is also imperative.

## 087 CENTERING THE VOICES OF AFRICAN AMERICAN PARENTS: PERSPECTIVES ON PSYCHOSOCIAL NEEDS AND SUPPORT SYSTEMS DURING CHILDHOOD CANCER

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Research efforts in developing parent-level psychosocial interventions in pediatric oncology primarily emphasized the experiences of White, non-Hispanic families. Given the context of racism within the U.S. operating at systemic, institutional, and interpersonal levels, African American (AA) parents face disproportionate material hardship and contend with psychosocial stressors that are missing from the current pediatric psychosocial oncology evidence

base. This de-centering of AA parents' voices leaves the field at risk for employing interventions that do not meet the psychosocial needs of AA parents. The purpose was to elicit perspectives related to psychosocial needs of AA parents of children with cancer. Guided by an adapted childhood cancer continuum framework (Figure 1), a single-center grounded theory qualitative study was conducted to elicit perspectives of AA parents (biological parents, and/or grandparents, aunts, uncles, adoptive parents and ≥ 16 years) of children (<18 years) with cancer on their psychosocial needs. The study was approved by the IRB prior to recruitment. In-depth semi-structured interviews (~30-60 minutes) were audio-recorded and transcribed verbatim. Constant comparative analysis ensured that emerging concepts informed subsequent interviews. Participants received \$25 gift card after each interview. Twenty-nine AA parents (21 biological mothers, 6 biological fathers, 1 stepmother, 1 grandmother) completed interviews. Emerging themes from preliminary analyses in a cohort of 8 parents include: (1) communication as a coping mechanism to weather the emotional crises of childhood cancer (bolstering communication), and (2) strained finances and material hardships as significant psychosocial stressors. Bolstering communication comprised (a) bible reading, (b) uttering prayers to God or a higher being, or with faith communities, (c) talking to loved ones [partner, friends, and/or family relatives], and (d) active listening by child's care team. Much of the bolstering communication AA parents described occurred outside of the healthcare context. Whether this reflects suboptimal communication support within healthcare environments has important implications for psychosocial intervention development. Given prominent concerns around material hardship, systematic identification of material needs and actions to remediate these needs may also ease psychosocial distress. Effective identification of AA parents' psychosocial needs may foster culturally congruent psychosocial interventions that address factors contributing to pediatric oncology care disparities. The dedicated investigation of AA parents – a historically marginalized group – whose cancer-related psychosocial needs have gone unrecognized serves as one of the important steps in achieving equity in pediatric psychosocial research.

## 088 FACTORS INFLUENCING PELVIC FLOOR MUSCLE EXERCISE ENGAGEMENT AMONG PATIENTS POST RADICAL PROSTATECTOMY:

## A PROSPECTIVE CORRELATIONAL STUDY GUIDED BY THE REASONED ACTION APPROACH MODEL

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Limited research has explored the factors influencing pelvic floor muscle exercise engagement (PFME) to manage urinary incontinence (UI) post radical prostatectomy (RP). We propose to fill the gaps in PFME research and practice through the lens of the reasoned action approach (RAA) model. The overall goal of this study was to examine the effects of determinants in the RAA (i.e., experiential and instrumental attitude, injunctive norm, autonomy, capacity, perceived urinary incontinence, and PFME intention) on PFME engagement. The study may provide a new level of systematic and theory-based understanding about the influence of determinants in the RAA on PFME engagement over time to manage UI for men post RP in Jordan. We used a correlational study design. Data were collected at baseline upon enrollment (i.e., RAA determinants) and at follow-up 4 weeks post-baseline (i.e., PFME engagement). A survey was completed by 107 men post RP in selected hospitals in Amman, Jordan. PFME engagement was measured using a self-report scale to assess the average duration, number of repetitions, and perceived PFME engagement in the past month; and the RAA determinants were assessed using the RAA standard self-report scales except for perceived UI which was assessed using subscale in the EPIC-26. Hierarchical regression analyses were used to determine the correlations between the RAA determinants with PFME engagement. In the final model predicting PFME engagement, RAA determinants explained 73.7% of variance in PFME engagement. PFME intention ( $\beta = 0.33, p < 0.001$ ), and perceived UI ( $\beta = -0.08, p < 0.001$ ) were significant influencing factors on PFME engagement. Follow up regression showed that PFME intention offered weaker prediction of PFME engagement when participants were 6 months or longer post RP ( $B = 0.51, p < 0.001$ ), compared to less than 6 months; and perceived UI more strongly predicted PFME engagement when participants were 6 months or longer post RP ( $B = -0.22, p < 0.001$ ), compared to less than 6 months. The RAA may be a useful framework for predicting PFME engagement in men post RP. Findings from this study may therefore aid in the development of more effective interventions that are tailored to the needs of patients for increasing PFME engagement, and ultimately, improve UI.

## 089 HIGHER LEVELS OF DEPRESSIVE SYMPTOMS ARE ASSOCIATED WITH WORSE RATINGS OF DISTRESS FROM SHORTNESS OF BREATH PROFILE IN PATIENTS RECEIVING CHEMOTHERAPY

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Shortness of breath (SOB) is a multidimensional symptom that warrants evaluation across the sensory-perceptual, affective distress, and impact domains. Very few studies have assessed the affective distress associated with SOB in oncology patients. Little is known about the relationship between distress ratings and co-occurring symptoms and between distress ratings and quality of life (QOL) outcomes. The purpose was to identify subgroups of patients with distinct distress profiles associated with SOB and evaluate for differences in demographic and clinical characteristics, common co-occurring symptoms, and cancer-related QOL outcomes among the subgroups. Outpatients ( $n=380$ ) completed questionnaires six times over two cycles of chemotherapy. Distress associated with SOB was assessed using the Memorial Symptom Assessment Scale. Latent profile analysis was used to identify subgroups of patients with distinct distress profiles associated with SOB. Spielberger State-Trait Anxiety Inventory, Lee Fatigue Scale, Center for Epidemiological Studies-Depression Scale (CES-D), General Sleep Disturbance Scale, Attentional Function Index, and Brief Pain Inventory assessed co-occurring symptoms. QOL was assessed using the Multidimensional QOL Scale-Cancer. Two distinct distress profiles associated with SOB were identified and named based on the MSAS scores (i.e., Little bit to somewhat (LBS) [83.9%], Somewhat to quite a lot (SQL) [16.1%]). Compared to LBS class, SQL class had a higher number of comorbid conditions, a higher comorbidity burden, and poorer functional status. They were more likely to report a current or previous smoking history and self-reported a diagnosis of lung disease. Compared to LBS class, SQL class had higher levels of depressive symptoms, trait and state anxiety, morning and evening fatigue, sleep disturbance, pain interference, and lower levels



of attentional function and morning and evening energy. Of note, the SQL's CES-D score suggested clinically meaningful levels of depressive symptoms. In addition, SQL class reported clinically meaningful decrements in evening energy. Except for the spiritual and social well-being scores, the SQL class reported lower overall QOL scores than patients in LBS class. This study is the first to identify subgroups of oncology patients with distinct distress profiles associated with SOB. Given that depressive symptoms and decrements in evening energy are modifiable risk factors, clinicians need to assess the relationship between these symptoms and the distress associated with SOB and provide appropriate interventions.

## 090 EXPLORATORY ANALYSIS OF THE RELATIONSHIP BETWEEN DNA METHYLATION OF ADRENERGIC RECEPTOR AND NOREPINEPHRINE TRANSPORTER GENES AND REPORTED WORST PAIN IN WOMEN WITH BREAST CANCER AFTER SIX MONTHS OF CONTINUOUS AROMATASE INHIBITOR THERAPY

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Chronic musculoskeletal pain (MSKP) is a common adverse effect of aromatase inhibitors (AIs) and often results in the discontinuation of therapy. Norepinephrine decreases pain by binding to  $\alpha_2$ -adrenoceptors but can increase pain via  $\alpha_1$ -adrenoceptors. Disruption in this balance may be present in individuals at risk to develop chronic pain. Evidence suggests that  $\alpha_2$ -adrenoceptor-mediated analgesia could be decreased by estrogen, but it is unknown if the  $\alpha_1$ -adrenoceptor is affected by estrogen. We hypothesize that DNA methylation (DNAm) of adrenergic receptor and norepinephrine transporter genes could be an important factor in the development of AI-associated MSKP. The purpose was to describe the relationship between DNAm of adrenergic receptor and norepinephrine transporter genes and self-reported pain in women with HR+BC after six months of continuous AI therapy. The Brief Pain Inventory Worst Pain (BPI-WP) item (score range 0-10; higher scores designate greater pain) and peripheral blood samples were collected after six months of AI therapy in 52 women with HR+BC. Genome-wide DNAm data were

generated using the Infinium Methylation EPIC Beadchip. DNAm data were extracted for 241 CpG sites in 11 candidate genes (ADRA1A, ADRA1B, ADRA1D, ADRA2A, ADRA2B, ADRA2C, ADRB1, ADRB2, ADRB3, SLC6A2, SLC6A5) from the transcript region  $\pm$  2000bp. The association between DNAm and BPI-WP was determined via CpG-specific linear regression while controlling for age and BMI, and again while controlling for age, BMI, and cell-type heterogeneity (CTH). Associations with a p-value  $<0.05$  were considered "suggestive." In the models unadjusted for CTH, suggestive associations were identified at 12 CpG sites in five genes and, in the models adjusted for CTH, nine CpG sites in five genes. Five CpG sites (cg22461835, cg23008606, cg14377277, cg04490714, cg12101354) across four genes (ADRA1A, ADRA1D, SLC6A2, SLC6A5) were suggestively associated with pain in both the adjusted and unadjusted models. No associations remained significant after correction for multiple testing. Differences in DNAm of adrenergic receptor and norepinephrine transporter genes may be related to the development of MSKP in women with HR+BC prescribed AIs. With future work in larger samples, this research may provide insight into the biological underpinnings of MSKP and guide cancer symptom management by using DNAm profiles to identify patients at risk for MSKP who may benefit from preventative measures.

## 091 MENTAL HEALTH RISKS AMONG HEAD AND NECK CANCER PATIENTS DURING COVID-19 PANDEMIC

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Head and neck cancer (HNC) patients are at high risk for acquiring COVID-19 because of compromised upper airway anatomy, mucositis, aspiration, and immunosuppression from cancer treatments. We conducted a study describing factors related to COVID-19 perceived threat among HNC patients between 2020 and 2021 when vaccines were not available or were initially introduced to the general population.

This study is the first to investigate COVID-19 perceived threat in respiratory cancer patients. The perceived threat from a specific disease is conditioned by an individual's personal experience of the disease and social context that may influence engagement in health behaviors, thereby contributing to health disparities. HNC patients were recruited from the head and neck clinic at a comprehensive cancer center. A one-time survey was completed by phone or through the Internet. Instruments included the Perceived Threat Scale of COVID-19, Perceived Stress Scale, and Demographic and Clinical Factor questionnaire. Descriptive statistics and multiple regression were applied. Participants (N=65) mean age was 62.5 years (SD=11.1). Men were 68.1%. Twenty-five

percent (25%) had either oral cancer or pharyngeal cancer. The majority had stage III/IV cancer (45.6%). Controlling for age, two significant factors related to COVID-19 perceived threat were identified: perceived stress ( $\beta=0.87$ ) and women ( $\beta=0.70$ ). The model explained 31% of the variation in COVID-19 perceived threat. Since HNC patients who are psychologically stressed during the pandemic may perceive a greater COVID-19 threat, the use of perceived threat in health messages for this population should be carefully crafted, especially when the intended audience includes female HNC patients. The findings from this study will also raise awareness regarding the need for mental health screenings in regions where COVID-19 new cases or reinfected cases are high.