

Poster Abstracts

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Digital Object Identifier: 10.1188/21.ONF.E2

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ADVANCED PRACTICE

NURSING CONSIDERATION IN SALIVARY GLAND CANCER (SGC) PATIENTS RECEIVING TARGETED THERAPY IN THE NEW ERA OF MOLECULAR PROFILING: WHAT IS THE CURRENT UPDATE?

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Patient Education and Safety

Salivary gland cancers are rare and very few systemic therapy options are available. Mucoepidermoid carcinomas are the most common type of salivary gland cancer. Patients who are not candidates for local treatment such as surgery or radiation do not typically respond to traditional chemotherapies. No standard of care for systemic therapy exists for metastatic salivary gland cancer, and there are no Food and Drug Administration (FDA) approved systemic treatment at this time. Therefore, patients with advanced SGC have a clear unmet need for effective systemic treatment options. However, there are recent advances in cancer medicine exploring potential systemic therapy in targeting pathways based on tumor molecular characteristics. Patients with advanced SGC can participate in several clinical trials studying various targeted agents such as pertuzumab and trastuzumab with HER2 alteration, vismodegib with *PTCH-1/SMO* mutation, vemurafenib with *BRAF V600* mutation, or atezolizumab with high tumor mutational burden (TMB). Oncology nurses play a unique role in educating and advocating for our SGC patients receiving targeted therapies to improve quality of life and overall survival. It is imperative to continue to educate nurses on any new novel agents that can enhance our understanding of the complex disease and better assist the patients receiving biologic treatment in the world of individualized and personalized medicine. The learner will be able to identify the names of the targeted agents currently studied for advanced SGC and state a molecular marker tested for each targeted agent prior to receiving treatment. I performed current literature search using online engine such as PubMed and MEDLINE on the topic of SGC systemic treatment, targeted agents 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 advanced SGC patients on systemic treatment including targeted agents and any potential adverse events management. Oncology nurses need to be cognizant of currently studied targeted agents used to treat SGC patients.

As an increased number of patients are receiving novel targeted agent treatment, oncology nurses need to engage in collaborative groups to educate and improve management of adverse events.

COMING TOGETHER: MEETING THE EDUCATIONAL NEEDS OF ONCOLOGY NURSES DURING THESE CHALLENGING TIMES

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Professional Development

Providing timely, oncology nursing education has historically proven challenging as the culture of the various nursing workplaces lend it to be a struggle to find the best time and venue to provide for this need. These workplaces include busy infusion centers, outpatient clinics, APP clinics and inpatient areas. Each area has various workflows that lend itself to be unique with downtime for education varying. The purpose of this project was twofold. First was to find the best time and venue for oncology nursing education and the second was to allow for the nurses to interact with their physician colleagues in a more proactive way and to gain insight into decisions involved in treatment choices. This cancer center encompasses four infusions centers located in different geographical areas, a 34 bed inpatient oncology unit, a BMT unit, radiation center and many outpatient clinics located in the same building as the primary infusion center. The project began with a trial of 7am sessions at the request of the clinic and infusion nurses. The venue was a conference room in the primary building. The education was provided by physician colleagues within the specialty. This allowed for relationship building in the context of neutral ground. The first session had over 25 staff attend from the various areas. Evaluations were extremely positive. These monthly sessions continued to be successful and then there was COVID. Finding the silver lining, the sessions were reestablished remotely. This allowed for nurses in all areas to attend. Since this cancer center was part of an enterprise, the remote sessions allowed for staff at three other sites, including one in a different state, to attend. In order to further fill the educational needs, virtual OCN review for the enterprise was initiated and remote sessions with themed series including BMT, hematologic malignancies, solid tumors and geriatric oncology are beginning. Lastly, the annual oncology nursing conference which was postponed due to COVID was rescheduled virtually. This presentation will include the process to establish robust educational sessions, challenges related to remote education and successes with the process.

DISEASE LINE CLINICAL NURSE SPECIALIST: THE JOURNEY TO OBTAINING DISEASE-SPECIFIC CARE CERTIFICATION FROM THE JOINT COMMISSION

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Oncology Nursing Practice

Providing quality of care for individuals with chronic diseases, such as Acute Leukemia and Sickle Cell Disease, poses challenges in a continuously changing complex healthcare arena. Obtaining a Disease-Specific Care (DSC) Certification from The Joint Commission provides the community with confidence in the quality of care a program is delivering. Expertise in clinical nursing practice and quality improvement displayed by the Advance Practice Register Nurse-Clinical Nurse Specialist (CNS) is instrumental in developing a robust foundation for Disease-Specific Care Certification survey. The purpose of obtaining DSC certification from The Joint Commission is to provide accountability design, decrease undesirable variations in care, advance patient outcomes, provide consistent patient care among providers, and endorse culture of excellence. The Disease-Line Specific CNS is actively involved in the process and moves the team toward success. The goal of DSC preparation is to ensure the staff feels confident and comfortable with the expectations of the survey. It is also imperative to ensure the team acknowledges and focuses on quality improvement initiatives that promote best practice. The CNS can modify education to the needs of several disciplines. The CNS attends service rounds, identifying gaps, trends, and educational needs. An established rounding routine on staff gives insight into the current state and allows for observational assessment on where there may be additional opportunities for review. The CNS works collaboratively with the quality manager and accreditation on data collection, results of tracers, and mock surveys. The disease-specific performance indicators dashboards are reviewed monthly; the committees identify opportunities for improvement based on the data trends. The goal is to progress toward improvement. Disease-specific tracer results are discussed regularly, and patterns are addressed. Pursing certification has heightened awareness of disease-specific program outcomes and drives compliance to meet and exceed evidence-based standards and nursing practice benchmarks. The CNS incorporated staff nurse participation in decision-mak-

ing processes utilizing evidence-based practice. CNS influence elevated nursing engagement and demonstration of nursing excellence. The CNS operates on core competencies across the spheres of influence model to implement change through education, collaboration, policy/guideline development, research, and evidence-based practice. Disease-Specific Care Joint Commission Certification has only been offered to three Acute Leukemia programs in the United States, and this author's institution has the only Sickle Cell Disease Program certification.

RAPID IMPLEMENTATION OF TELEHEALTH SURVIVORSHIP SERVICES DURING THE COVID-19 PANDEMIC

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Survivorship

Post treatment follow up care for cancer survivors dramatically changed during the COVID-19 pandemic due to postponement of routine surveillance visits to decrease infection risk. Cancer survivors face significant health challenges from treatment related side effects and were at risk of these issues being left unaddressed. As a response, telemedicine was quickly implemented to maintain face-to-face interactions and allow for the continuation of care for cancer survivors who have recently completed treatment. A total of 114 cancer patients were screened for late/long term effects and counseled about health promotion via telehealth between the peak season of COVID from April-August while restrictions were in place. This volume accounts for 23% of the total visits for the survivorship clinic. Patient satisfaction was high for telehealth visits as measured by Press Ganey. This included exceeding top box scores for 'video connected during visit,' 'audio connected during visit,' staff helpful' and 'ease of talking with care provider.' Survivorship patients were located across 73 counties in five states. The telehealth initiative for the cancer service line as a whole also increased access to care reaching 375 of the 617 zip codes throughout Nebraska beyond Nebraska Medicine's primary and secondary service areas and across 19 states. Once the pandemic stabilized in Nebraska, the survivorship program sought to create sustainable processes to innovate care delivery. Historically, barriers to survivorship visits included patient travel distance and time, duplicate appointments with other care providers and availability of specialized survivorship providers. Scaling virtu-

al offerings for survivorship visits to two out of five days per week allowed Nebraska Medicine to create a competitive advantage in the market. This format also increased productivity for providers who were previously traveling between clinic locations and now seeing patients from their home or nearest office location. The telehealth initiative encouraged conversion of other survivorship resources for patients including website design and accessibility and celebration of survivorship week in virtual format. The virtual offerings and telehealth appointments are expected to expand access for patients outside the primary service area, ensuring access to routine surveillance for cancer patients.

MORE THAN ADDED VALUE: THE EXPANSION OF THE ADVANCED PRACTICE NURSE ROLE IN SURGICAL ONCOLOGY TO DELIVER QUALITY CANCER CARE DURING THE COVID-19 PANDEMIC AND BEYOND

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COVID-19

During the COVID-19 Pandemic, healthcare professionals in oncology have been challenged to deliver the same quality of patient care with limited patient interaction, and with modifications to multidisciplinary collaborative process. Surgical oncology is a clinical discipline dedicated to providing complex surgical care to manage both local and advanced stages of disease. Although most cancer surgeries are planned procedures, this current health crisis has significantly changed how patients access healthcare services, and interact with their cancer care teams. A comprehensive approach was required to ensure this vulnerable patient population continued to receive the high-quality patient care they need to successfully transition from the preoperative to the postoperative phase of cancer care. Virtual care coordination, the incorporation of telehealth resources into daily clinical practice, and the expansion of clinical privileges for advanced practice nurses beyond state lines played an important role in ensuring patients remained on track for surgery as scheduled. As an experienced coordinator of care, the advanced practice nurse reviewed the treatment timelines for all patients preparing for surgery. This process allows the surgical team to prioritize the patients that have completed their planned preoperative regimens of systemic or targeted therapy, and identify the patients with no other options for cancer management that could potentially be harmed by a delay in treatment. It was also important to advo-

cate for both timely and safe access to healthcare resources such as the diagnostic imaging and laboratory testing required to clinically restage the cancer prior to surgery. A combined model of virtual care coordination and telehealth has allowed the surgical team to prepare over 30 patients for cancer surgery during the current COVID-19 Pandemic. The new process of care coordination has enhanced how the clinical teams communicate with each other, patients, and other members of the cancer treatment team. Patients and caregivers have also been empowered to play a more active role in developing their plan of treatment by deciding where and when they will access required healthcare services during the perioperative phase of care.

STRATEGIC PLANNING FOR ADVANCED PRACTICE INPATIENT MANAGEMENT OF COVID POSITIVE MEDICAL ONCOLOGY PATIENTS

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COVID-19

During the Coronavirus pandemic, patients with cancer were at increased risk for infection requiring strategic planning for their hospitalizations. A Pandemic Surge Plan (PSP) was created to meet the specific needs of these patients at a major metropolitan academic oncology medical center in the epicenter of the pandemic. This plan directed Advanced Practice Providers (APP) to capitalize on APP to patient ratios, rapidly develop critical care skills, reassign outpatient staff to inpatient areas, and utilize innovative methods for providing remote patient care. The PSP created a tiered structure where an experienced inpatient advanced practice provider behaved as a team lead. They worked closely with staff reassigned to the inpatient arena from other specialty areas. Non-emergent surgical procedures and outpatient clinical visits were suspended. APPs from these areas were reassigned to inpatient services. The reassigned staff were oriented and trained to provide inpatient care quickly. That training included acknowledgement of the in person and remote APP expert resources. To ensure patient and staff safety, patients diagnosed with COVID-19 were placed in cohorts. They were designated to inpatient teams upon their arrival with the help of the APP Triage Team. This was done to ensure that patients who required oncology or treatment related inpatient care were being taken care of by the appro-

ropriately skilled providers. This was essential as team configurations changed to care for COVID-19 positive and negative patients. The increased ratio of patient to APP was absorbed by the support of remote work. These remote providers maximized communication considering restricted visiting, maximized efficiency by taking ownership of any administrative work such as discharge planning and medication reconciliation while acting as a resource for less experienced providers. The PSP provided a hospital-wide structure for optimized use of resources, staffing flexibility, enhanced skill utilizations without compromising inpatient oncology care. In addition, APP staff with medical exemptions for COVID-19, were able to continue remote work without disruption.

AN ADVANCED PRACTICE NURSE AND REGISTERED DIETICIAN LED LIFESTYLE MEDICINE CLINIC

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Survivorship

Approximately 1/3 of all cancer cases in the U.S. are linked to diet and lifestyle choices. The American Cancer Society recently updated their guidelines on diet and lifestyle for cancer prevention to include more physical activity, less sedentary lifestyle, avoiding excess sugar and processed foods, taking a variety of fruits, vegetables and grains and reducing red meat intake. Smoking cessation and eliminating or severely reducing alcohol intake is also strongly recommended. Beyond prevention of cancer occurrence, healthy lifestyle habits and diet may also help to reduce the risk of cancer recurrences and second cancers. As a result of cancer treatment, survivors are at greater risk for other chronic illnesses such as heart problems, overweight or obesity, osteopenia or osteoporosis, and diabetes. Additionally, cancer treatments can leave survivors with a weakened immune system, reduced strength, stamina, or stability, fatigue, anxiety and sleep problems. Financial hardships may be an additional factor impacting the health behaviors and wellbeing of survivors. Advanced practice nurses share a key role with the oncologist in providing survivors with education, tools and resources to assist survivors in recovery after cancer treatment. Healthy behaviors are a particularly important tool that helps improve survivors functioning and quality of life. However the typical confines of the cancer follow-up visit is limited by the time needed to do an comprehensive individualized assessment of a cancer survivor's health/wellness goals, personal resources, and barriers. The Lifestyle Medicine team at the Massa-

chusetts General Hospital Cancer Center developed an innovative program to meet this gap in care. The MGH Cancer Center Lifestyle Medicine Clinic is available any patient with a history of cancer. At the MGH Waltham network site, which serves cancer patients in the Metro-West area of Massachusetts, the clinic was designed and is provided by an advanced practice nurse, with wellness and coaching training and a registered dietician. The patient is referred by their cancer care team for an individualized multidisciplinary consultation and receives personalized diet and lifestyle recommendations, free access to exercise videos and referrals to programs both within MGH and in their communities to help and support their health/wellness goals. Due to the COVID-19 pandemic, clinic visits are now provided virtually. Virtual care has ultimately helped improve the safety and accessibility of the clinic to cancer survivors.

NUT CARCINOMA

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Treatment Modalities

NUT Carcinoma (previously known as NUT-Midline Carcinoma) is a rare, poorly differentiated squamous cell carcinoma, considered the most aggressive subtype of squamous carcinoma, with a median survival time of 6–7 months. It is seen mostly in children and young adults but can arise at any age. Only 20–30 cases are diagnosed in the United States each year. It often forms along the midline structures such as the head, neck or lungs but can erupt in any area of the body. Its name refers to the NUT protein and another adjacent protein that is formed by the fusion of the *NUTM1* gene and another gene (typically *BRD4*), causing uncontrolled proliferation of squamous cells. The purpose of this abstract is to educate APRNs on how to identify, diagnose, and manage NUT Carcinoma as it is underdiagnosed. Due to its aggressive nature, the timing of diagnosis has a major role in determining outcomes. It is recommended to test all poorly-differentiated noncutaneous carcinomas of the head and neck with a monomorphic pattern for NUT Carcinoma. Most patients present with a rapidly-enlarging mass with mass-related symptoms such as cough, dysphagia, and diminished vision. Diagnosis can be made by IHC staining, utilizing a commercial antibody against NUT. There is no established standard of care for diagnosed patients. Treatment consists of surgery, chemotherapy and radiation. Complete surgical resection with adjuvant chemotherapy can increase survival. Cisplatin, taxanes, and alkylat-

ing agents are initially effective in some patients; however, the response is short-lived and the disease recurs. A number of clinical trials with BET inhibitors (BETi) and histone deacetylase inhibitors (HDACi) show promising results. One study investigating a novel BETi was able to extend the overall survival of two patients to 18 and 19 months. It is important to recognize the common toxicities associated with these drugs, such as diarrhea, nausea, decreased appetite, and thrombocytopenia. Studies have shown that response to the initial treatment affects survival; therefore, a treatment sequencing strategy is critical. An international NMC registry was developed to help raise awareness and collect clinical data for future research, along with providing guidance on treatment. Although there is early success with BETi and HDACi, all patients eventually develop resistance and the disease. Further investigation into combination therapy or other therapeutic approaches is urgently needed.

ONCOLOGY NURSE PRACTITIONER FELLOWSHIP: A REFLECTION ON THE EDUCATIONAL BENEFITS OF A POSTGRADUATE CERTIFICATE PROGRAM

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[Professional Development](#)

It is well known that the number of individuals with cancer and cancer survivors continues to grow, and with this growth advanced practice providers are depended upon to ensure that patients receive high-quality cancer care. The role of the oncology NP requires extensive training and education in a specialized area of practice. Participation in an Oncology NP Fellowship can support the transition from novice NP to confident provider. The NP Fellowship program, blends academic learning with clinical work and patient care. It prepares you to become a leader in high-quality, compassionate care across the illness span for cancer patients and families. The rigorous didactic courses provide scientific background on cancer biology, cancer therapeutics and other relevant topics. The clinical work provides experience in all areas of oncology care, from prevention to end-of-life, while receiving mentorship and support along the way. City of Hope, a comprehensive cancer center and leader in cancer treatment, has provided me with the opportunity of being the first Nurse Practitioner Fellow of its kind. This innovative program offers 12 months of clinical rotations throughout the institution, alongside 12 months of rigorous coursework and learning opportunities. The exposure and collaboration with clinical experts in each specialized area, in-

cluding genomics, infectious disease, palliative care, hematology, medical oncology, and survivorship, has provided me with a wealth of knowledge and experience that I will be able to carry into my career with cancer patients and their families moving forward. In order to provide evaluation of my progress and growth as a provider, specific milestones are required throughout the fellowship. These measures include completion of clinical rotations in Hematology, Medical Oncology, Supportive Medicine, and the Department of Medicine; ASCO Certification; presentation at a local or national conference; and graduation from a post-masters ONP certificate program. Curriculum and clinical training are based on the competencies determined by the ONS and the ONCC for advanced nursing practice. Participation in this fellowship has direct implications on the improvement of nursing practice, as well as job satisfaction. Investing in the education of nurse practitioners through a fellowship improves retention and satisfaction, enables rapid adaptation to the therapeutic milieu in cancer care, and equips the NP for independent practice and continued professional advancement.

CLINICAL PRACTICE

ONCOLOGY NURSES' CONFIDENCE LEVELS WITH ADMINISTRATION AND MANAGEMENT OF PATIENTS RECEIVING CANCER TREATMENT RELATED IMMUNOTHERAPY

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[Oncology Nursing Practice](#)

Immuno-oncology is a complex treatment paradigm for many malignancies. As a result, Nurses need to increase knowledge awareness regarding safe, evidence-based care of the patient that receives oncologic immunotherapy with their treatment regimen. This study looks at nurse confidence levels specific to the challenges associated with this complex treatment. The research design is quantitative quasi-experimental and correlational. The Oncology Nurse Immunotherapy Confidence Survey was developed for this project and allowed for 28 confidence measurements along with demographics and 3 open-ended questions. Purposive sampling was utilized with a population sample of 10. All analyses were conducted with the p values of 0.05 utilized as the level of significance. The mean pre- and post-education confidence scores were 53.5 and 80.8, demonstrating a 51% overall

improvement. A two-tailed paired sample t-test was significant with a $p = .001$, indicating null hypothesis is rejected supporting positive impact of the education. A two-tailed Wilcoxon test demonstrated significance with a $p = .005$ indicating that the differences seen were not due to variation by chance. The result of the Pearson correlation demonstrated a significant positive correlation between education and confidence with a $p = 0.013$ further supporting the positive effect of education on nurse confidence. Spearman correlation confirmed the positive effect of education on nurse confidence with a $p = .007$. No significant correlations were identified between education and age, experience, or degree status. Collectively the results demonstrate that treatment specific education has a significant positive impact on nurse confidence; however, the thematic analysis reveal concerns remain with nurses about the ability to adequately manage care in the current treatment environment. Nurses must understand the science behind the treatments in order to understand how and when immune related adverse events may occur. By educating on drug class, nurses gain greater understanding of drug effect. Education is able to impact nurse confidence which can translate to improved oncology patient care. However, how staffing and education is effectively managed will need to be assessed at the organizational level. Further research is needed on larger scale that looks at how education is managed. This can also include the critical impact of full time oncology nurse educators and nurse navigators with supporting nurse and patient needs in the community setting.

TRANSITIONING FROM NEW GRADUATE RN TO PROFESSIONAL ONCOLOGY RN

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[Professional Development](#)

The overall goal of professional nursing practice is to provide safe high-quality patient care which promotes positive outcomes. As new graduate registered nurses (RNs) enter specialty areas, such as oncology, unique knowledge and skill sets must be obtained to provide competent and effective care. Thus, the implementation of Nurse Residency Programs (NRPs) is recommended to support new graduate RNs transitioning from student to professional. In July 2017, Atrium Health launched an oncology-specific Transition to Practice (TTP) Program—an extension of the established NRP. The primary purpose of the Oncology TTP Program is to increase the support,

knowledge, and clinical preparedness of new graduate RNs hired into oncology-specific roles. Prior to the implementation of the Oncology TTP Program, new graduate RNs entering the oncology specialty progressed through the Adult Acute Care TTP Program without receiving oncology-focused support or education. Patricia Benner's Novice to Expert model was utilized to develop the system-level NRP, as well as the Oncology TTP Program. The NRP is nine months in length and new graduate oncology RNs are designated a 14-week preceptorship. The Oncology TTP Program curriculum includes didactic classes focused on foundational knowledge for cancer care, chemotherapy, and immunotherapy; online learning, including obtaining an ONS Provider Card; inter- and Intraprofessional shadowing experiences; and simulation. Since July 2017, over 120 new graduate RNs have progressed through the Oncology TTP Program. Data from pre and post program surveys has been continuously evaluated along with retention rates. Overall, it is imperative novice oncology RNs are provided with educational support which incorporates the use of evidence-based teaching strategies to enhance the specialty-specific knowledge and skills needed to provide competent care. Literature suggests NRPs contribute to organizational cost savings, promote critical-thinking and leadership skills, and decrease turnover rates among new graduate RNs, all of which have been a result of the Oncology TTP Program at Atrium Health. The Oncology TTP Program is an innovative approach to NRPs as it spans both inpatient and outpatient (ambulatory) oncology care areas. Because oncology care can be fluid, requiring frequent outpatient appointments, and hospital admissions, bridging inpatient and outpatient oncology nursing is essential. Cultivating a collaborative learning network and a standardized curriculum for all new graduate oncology RNs ultimately elevates nursing practice and patient care.

COLORECTAL CANCER SURVIVORSHIP: ENHANCING COMMUNICATION DURING COVID-19 THROUGH CANCER CARE COORDINATOR VIRTUAL VISITS IN THE VETERANS HEALTHCARE SYSTEM

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[Survivorship](#)

The COVID-19 pandemic led to new source of stress and anxiety for the Veteran living with a cancer diag-

nosis. Veterans at all stages of the treatment trajectory, from initial diagnosis to long-term survivorship remain affected. To meet requirements of social distancing many veterans experienced modifications in treatment protocols or schedules. Those in survivorship, already fearing recurrence, experienced delays of scans, procedures, and lab work. Providers discovered new ways to interact with Veterans to improve lines of communication through virtual visits. This same concept, utilized by Cancer Care Coordinators (CCC), maintains potential to decrease additional stressors related to COVID. Veterans appreciate individualized face-to-face visits with their CCC, for welcoming and responsive discussions, assistance navigating the intricacies of care, and positive affirmation. Veterans expressed anxiety regarding changes in care: questioning effectiveness and impact on outcome and survival. They also voiced fears related to leaving the safety of their home and re-entering hospital settings. Staying connected and maintaining the Veterans' support network, CCC's can decrease anxiety for our cancer survivors. The objectives were to decrease anxiety and stressors related to COVID-19 and improve patient satisfaction related to their cancer survivorship care. Pre-surveys were emailed to Veteran colon cancer survivors. The email contained simplified pictorials on use of the virtual platform and accessing the appointment. Scheduling occurred based on the Veterans preferred time of day in 20-minute increments. Upon virtual visit completion, post surveys were emailed. During the visit, Veterans were provided reassurance of COVID cancer treatment and surveillance recommendations. They were informed of safety measures utilized to maintain continuity of care and processes implemented to decrease their potential exposure. 100% of the surveys emailed were returned. 95% of Veterans reported an overall decrease in anxiety. Virtual CCC visits reduced COVID stressors (90%) and improved patient satisfaction (96%), while augmenting trusting relationships. Covid-19 empowered innovative improvements in Veteran-Centered care. The friendly face-face virtual visit enabled expression of empathy through conversational body language and attentive listening. Virtual Visits offer facilities the ability to improve the Veteran experience through overall appointment convenience: reduced travel time, less time off work, and lack of parking issues. Continued virtual visits post-Covid-19 maintains potential to increase overall access, efficiency, and Veteran satisfaction, while decreasing related burden of travel reimbursement.

IMPLEMENTATION OF THE ONCOLOGY NURSE NAVIGATOR ROLE: PUTTING CONCEPT INTO PRACTICE

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Coordination of Care

A need for the Oncology Nurse Navigator (ONN) role was identified to assist with the integration of multidisciplinary cancer care within a large, academic medical center. Literature shows the benefit of the ONN role in assisting with coordination of complex cancer diagnosis and treatment. The ONN differs from the Oncology Ambulatory RN in that they work across and between service lines to streamline and expedite necessary services, provide a single touch point for patients receiving multidisciplinary care, monitor the patient's clinical course for gap in service, and facilitate transitions in care between departments. The purpose of this project was to implement the ONN role into practice, through creation of a distinct ONN workflow within each service line and completion of an orientation program. The ONN role was tailored to meet the needs of five cancer service lines identified based on the need for complex multidisciplinary care. A decision tree was built for each service line, outlining processes within each department, which served as the basis for the ONN workflow. An orientation plan was developed in collaboration with each department, with ONN core competencies and the service line decision trees incorporated. Initially, learners focused on disease specific knowledge and departmental processes. Learners then focused on more complex concepts of the role, gaining understanding of the service line and where the navigator role interfaced. Following discovery of each service line, ONN workflows were documented and the ONNs successfully completed orientation. The ONN role was successfully implemented across five service lines with a high need for multidisciplinary care. The role is important in facilitating care across the continuum of the cancer service line. Challenges of implementation included differentiation of the ONN role from the Oncology Ambulatory RN, lack of a formal preceptor, and receiving buy in from existing departmental nursing roles/multidisciplinary clinics within each service line. Implementation was further complicated by the COVID 19 pandemic mid-implementation. Simultaneous workflow creation and orientation of ONNs across departments posed challenges as it was difficult to apply lessons learned. The implementation of the ONN role successfully aligned with the institutional direc-

tion to integrate cancer service lines, however further work is needed to ensure success and sustainability.

IMPROVING HPV VACCINATION RATES: BARRIERS TO VACCINATION AMONG HISPANIC AND BLACK ADOLESCENT PATIENTS AND WHAT YOU SHOULD KNOW

Dania Munoz, AGACNP-BC, Columbia University School of Nursing, New York, NY

Patient Education and Safety

The human papillomavirus (HPV) is one of the most common sexually transmitted infections in the United States affecting both men and women. The virus can cause cancer in the cervix, vagina, vulva, penis, anus and oral pharynx. The HPV vaccine can prevent 90% of these cancers, therefore, the center for disease control (CDC) recommends that HPV vaccination occur between the ages of 11 and 12. Rates of HPV related cancers are higher in black and Hispanics, yet despite the CDC recommendations, black and Hispanic people tend to have lower rates of HPV vaccination. The purpose of this review is to determine barriers that cause black and Hispanic/Latinos to have lower rates of HPV vaccination and identify interventions that providers can implement to decrease these barriers. PubMed, CINAHL, and Cochrane were searched for articles that included the following search terms: HPV Vaccine AND HPV Vaccination AND Black AND Hispanic OR Latino AND Barriers. The search was limited to articles published in the last 5 years and written in English. It was found that barriers to HPV vaccination among black and Hispanics were lack of knowledge about HPV, mistrust, and fear of early sexual activity by parents for their children, mistrust of the vaccine, its side effects, and healthcare providers. Parents were also less likely to vaccinate their children if healthcare providers did not recommend the vaccine to them. Interventions to increase vaccination rates are to educate patients and their families about HPV and the vaccine, finding culturally sensitive ways to increase vaccination rates, and recommending the vaccine to patients at appointments. As healthcare providers, it is important to ask our patients about their concerns regarding the HPV vaccine and the virus, and to provide them with the most updated information so that they can make the best-informed decisions.

THE CHANGING LANDSCAPE OF CHEMOTHERAPY ADMINISTRATION: FROM HOSPITAL TO BEYOND

Anne Delengowski, RN, MSN, AOCN®, CCTM®,

Thomas Jefferson University Hospital, Gloucester, NJ; Martha Michael, BSN, RN, CRNI, Thomas Jefferson University Hospitals, Philadelphia, PA; Carol Gung, AGPCNP, Sidney Kimmel Cancer Center, Thomas Jefferson University, Philadelphia, PA; Kaitlin Rancani, ANCC-FNP, Thomas Jefferson University Hospital, Philadelphia, PA; Ellen Sweeney, RN, MSN, OCN®, Thomas Jefferson University, Broomall, PA

Treatment Modalities

Historically, patients received more complicated chemotherapy regimens in the hospital. Issues associated with this setting include cost associated with inpatient care, decreased patient satisfaction and quality of life due to hospitalization, and potential nosocomial complications. The concept of hospitals at home (HaH), successfully piloted for geriatric patients as early as the mid 1990's, demonstrated a positive impact on issues similar to those associated with hospital-based chemotherapy. The purpose of this multidisciplinary project was to transition chemotherapy traditionally administered in the hospital to the outpatient and home setting. In 2017, a multidisciplinary team, including staff from the hospital-based home infusion service, met to develop a process to successfully allow AML consolidation with HIDAC to be administered in the home. Structured processes were developed to capture the necessary safety checks that were in place during hospital administration. Oncology education needs for both the home infusion staff and the outpatient infusion nurses were outlined, as it was identified that some of the agents were previously only given in the inpatient setting. As this pilot program proved successful, in late 2018, the team, along with the lymphoma providers, met to discuss transitioning select patients to the outpatient and home settings to receive DA-R-EPOCH. The core group has ongoing meetings to address improvements in the processes. To date, 26 HIDAC patients were treated in the home and 16 DA-R-EPOCH in the home/outpatient setting. The group is now awaiting the first patients to receive ICE and HDMTX in the home and outpatient setting. As more therapies are being transitioned, innovative processes to allow for patient assessment were developed, including neurological assessments specific for HIDAC and Ifosfamide, and pH testing for HDMTX. This presentation will address patient selection, the process of developing standards for these therapies traditionally done in the hospital to be safely administered in the outpatient infusion center or in the home, and establishing processes to assure safety and ongoing assessment of patients.

NAVIGATING THE CARE OF THE PATIENT WITH MELANOMA

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Coordination of Care

Historically melanoma has had limited options in the metastatic setting. This disease consists of cutaneous, ocular, and mucosal subtypes, each with different and detailed treatment options. Previously, chemotherapy was the primary treatment option with pretty dismal results and low progression free survival. Since 2011, recent advancements and continued clinical trials have moved the pendulum in the care and improved outcomes for these patients. These advancements include but are not limited to immunotherapy, targeted therapy, oncolytic viruses, liver directed treatment, tumor infiltrating lymphocytes, as well as other innovative therapies and clinical trials. Additionally, patients usually will seek out institutions that have disease experts as well as conduct clinical trials. To that end, coordination of care and assuring quality care for the patient population is essential. Here we will be discussing immunotherapy specifically. Patient education and side effect management are crucial for successful treatment in melanoma patients. The purpose of this presentation is to describe the therapeutic advances of melanoma subtypes with a focus on the critical role of the care team nurse.

AND THEN THERE WAS COVID: CHANGING THE WAY WE CARE

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COVID-19

COVID-19 changed the landscape of healthcare. Healthcare was faced with the challenge to deliver care while protecting all involved from exposure to the virus. During the pandemic, many specialties were able to postpone care, but this was not an option for the specialty of oncology. For cancer centers delivering comprehensive cancer care, the challenges related to this were amplified. The purpose of this presentation is to describe one cancer centers response to assure safe,

quality care during the pandemic, while maintaining the “heart” of the care we deliver. The initial exposure mitigation was to implement a no visitor policy in all areas of oncology. Although this seemed like a simple implementation, the emotions associated with this were quite intense. To mitigate this, a nurse leader was assigned to assess situations that would necessitate a patient needing the support person to be physically present. This process was base on the individual’s needs, allowing for an exception to the policy when necessary. Screening and education were done both real time and via a call to patient 48 hours prior to visit. A team-based care model, in which providers shared in the care of patients and collaborate on treatment and decision-making was established. This allowed for a 50% reduction of staff in the clinics. Telehealth became the new norm, not only for provider visits, but for obtaining consents. Cancer support programs went virtual. COVID specific algorithms were developed for emergent treatments such as neutropenic fever. These algorithms included both inpatient and outpatient care. The cancer enterprise established regular zoom meetings to discuss best practices at each site and issues that might impact the group. Slack channels were implemented to keep all staff informed of ongoing issues. As the pandemic continued and patients that were COVID positive or had a history of the virus needed outpatient care, specific policies and procedure were put into place to assure safe care for all involved. Home based chemotherapy and supportive care increased. A structure for emotional support of the inpatient cancer patient was developed. Lastly, a sustainability committee was established to allow for processes that developed during this time and were successful would be maintained in the future. These and many more innovative processes will be presented.

THE ONCOLOGY INFUSION CENTER CLINICAL TRIAL NURSE: DEFINING AND IMPLEMENTING THE ROLE TO IMPROVE NURSE SATISFACTION AND PATIENT OUTCOMES

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[Oncology Nursing Practice](#)

Oncology research, and ultimately the development of new treatments for cancer, depends strongly on clinical trials. The successful delivery of these complex trials relies on a collaborative team of medical pro-

fessionals. As part of the team, the oncology infusion nurse provides safe first line care to the patient, while assuring accuracy within the protocol. Outpatient cancer treatments are continuing to evolve. In this outpatient infusion center, both clinical trial and standard of care treatments are provided in one centralized area. Through annual nursing evaluations, 91% of the staff identified concerns within the clinical trial processes. These concerns included the need for improvement of patient safety, as well as avoiding protocol deviations. As a result, the decision was made to pilot a new role titled, The Oncology Infusion Center Clinical Trial Nurse (OICCTN). The purpose of this role was to promote safety, facilitate continuity of care, alleviate patient delays, and better prepare the treating nurse with important patient and study information for the safety and accuracy of protocol implementation. In order to make the position successful, there were multiple guidelines established to facilitate the safe and appropriate treatment of clinical trial patients. Responsibilities and workflow processes were standardized. The new direction that this role provided allowed for improved patient outcomes, thus alleviating nurses' concerns. Various disciplines including: pharmacy, medical staff, phlebotomy, lab, and scheduling have all benefited from the development of the OICCTN role. After its implementation, clinical trial patients arriving ready for treatment increased from 56% to 100%, therefore decreasing wait times and improving the utilization of chairs. In addition, nurses were given a blind survey that showed improvements in satisfaction with the clinical trial process. The introduction of the OICCTN is successful in distinguishing a point person to collaborate in the care of clinical trial patients. This role allows for an oncology infusion nurse to serve as a liaison between nursing, research, pharmacy, and care teams. Intricate details of each trial are more easily identified. This process improves relationships and communication among nursing, research staff, and patients. It strengthens coordination of care, which relieves the stress of the nurses by enhancing education and understanding of the trials. Overall, the OICCTN role improves care and promotes the efficiency of the unit.

HEPARIN VERSUS NORMAL SALINE: FLUSHING EFFECTIVENESS IN MANAGING CENTRAL VENOUS CATHETERS IN PEDIATRIC ONCOLOGY PATIENTS—A PROCESS IMPROVE- MENT PROJECT AT KAPI'OLANI MEDICAL CENTER FOR WOMEN AND CHILDREN

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Oncology Nursing Practice

Our aim is to evaluate the effectiveness of the standard flushing practice of central venous access devices at Kapi'olani Medical Center for Women and Children in Pediatric Oncology Patients through increase alteplase usage. Central line catheters have long been utilized in health care for long term intravenous therapy and are cared for by both health care professionals and families themselves in the home environment. To maintain the catheter's patency, heparin has traditionally been utilized as the standard of practice. However, multiple recent studies, although done in adults, have demonstrated normal saline to be just as safe and effective. There is insufficient evidence on the effects of intermittent flushing with normal saline versus heparin to prevent occlusion and/or increased alteplase usage in pediatric patients with central venous catheters. There are also increased discrepancies due to the wide variation of the product guidelines for flushing recommendations. Additionally, heparin is a costly medication compared to saline. Flushing once daily at home with normal saline or a lower concentration of heparin may provide a meaningful difference in cost outcomes, as heparin a medication not covered by insurance. Due to the lack of agreement in the evidence, a project to evaluate the effectiveness between the current standard of heparin flushing to saline flushing in the management of central line catheters within the pediatric oncology population at KMCWC would likely have a significant effect in this area. Recommend implementing the following guidelines: For inpatient, (a) accessed port: continuous infusion = no flush, (b) accessed port: no continuous infusion = saline lock 10 ml (push/pause method) Q12H or heparin lock (100 u/ml) with deaccess: 5 ml- >10 kg, 3 ml- <10kg, (c) external Hickman/Broviac/Powerline: continuous infusion = no flush, or (d) external Hickman/Broviac/Powerline: no continuous infusion = saline lock 10 ml (push/pause method) Q12H or heparin lock 2 ml (10 u/ml) upon discharge and daily at home. For outpatient, (a) accessed port: no continuous infusion = saline lock 10 ml (push/pause method) Q24H and PRN or heparin lock (100 u/ml) with deaccess: 5ml- >10kg, 3ml- <10kg, or (b) external Hickman/Broviac/Powerline: no continuous infusion = saline lock 10 ml (push/pause method) Q24H and PRN or heparin LOCK 2ml (10 u/ml) upon discharge

and daily at home. Project implementation to start on September 1st and run for a period of six months. Plan to do monthly assessments of TPA utilization and report to oncology SOE committee monthly.

HYPERSENSITIVITY REACTION—WHEN THINGS GO WRONG

Patricia Jakel, RN, MN, AOCN[®], UCLA Health Santa Monica, Santa Monica, CA; Amanda McKaig, BSN-RN, OCN[®], UCLA Medical Center, Santa Monica, CA

Treatment Modalities

Standard Infusion Reaction Anaphylaxis can occur with any IV medications, usually mild, irritant effect of chemo or cytokine release. Cytokine Release Syndrome: After agents that target the immune system are infused, cell damaged and complement pathways activated. Hypersensitivity Reactions—Type 1-IV. Anaphylaxis—Rare in Chemotherapy except taxanes and platinum. The focus of the presentation will be on Hypersensitivity Reactions and our protocol for Rapid Drug Desensitization. Between 1999–2010, significant increase in fatal drug anaphylaxis from 0.27 per million in 1999–2001 to 0.51 per million in 2008–2010. Most common cause of fatal anaphylaxis—medications (58.8%) followed by idiopathic (19%), venom (15%) and food (6.7%). Anti-neoplastic medications reported to be 3rd leading cause of fatal drug-induced anaphylaxis in US. Risk Factors are intravenous administration, multiple cycles of same medication with more than 48 hours between dosing, history of prior infusion reaction with similar drug class, and history of multiple drug allergies. Intervention for Rapid Drug Desensitization: Castells et al completed 413 desensitization. 67% no reactions. 27% mild reactions. 6% severe reactions. Majority of reactions occurred during first 2 desensitization. Most reactions occurred during infusion of Bag C (75%) with 51% occurring during the final step. RDD for Cancer Patients: The drug is critical to the patient's treatment outcome. RDD induces a temporary state of tolerance that depends on drug half-life. Different steps 12–16 with 3–4 dilutions. 12 Step RDD: (a) Step 1–4: Bag A with 2 to 2.5 fold increase with each step. (b) Step 5–8: Bag B with 2 to 2.5 fold increase with each step. (c) Step 9–12: Bag C with 2 to 2.5 fold until last step which is prolonged to complete target dose. Review Skin test, premeds, nursing protocol: (a) Pre-medications, (b) antihistamines—H1 and H2 antagonists—reduce or prevent histamine mediated reactions—pruritis, urticaria, angioedema, (c) Cetirizine 10 mg night prior and morning of desensitization, (d) benadryl 25–50 mg po 30 minutes prior to initiation of desensitization, (e) famotidine 20–40 mg night prior and morning of. A Clinical Nurse that performs the RDD procedures will present 3 Case studies with Type I–IV reactions. The nurse will include the education and competency for RDDs

sitization, (e) famotidine 20–40 mg night prior and morning of. A Clinical Nurse that performs the RDD procedures will present 3 Case studies with Type I–IV reactions. The nurse will include the education and competency for RDDs

PATIENT IDENTIFICATION OVER THE PHONE

Cassandra Durand, MS, CNS, OCN[®], Memorial Sloan Kettering Cancer Center, New York, NY; Kathy Choo, MS, RN, CNS, BMTCN[®], Memorial Sloan Kettering Cancer Center, New York, NY; Mary Elizabeth Davis, DNP, RN, AOCNS[®], CHPN, Memorial Sloan Kettering Cancer Center, New York, NY

Patient Education and Safety

Since the advent of the COVID-19 pandemic, how healthcare is delivered has been transformed. Alternatives to face-to-face visits have become a primary source of patient interaction. Although now the patient may not physically be present, proper identification should be performed in order to keep confidential information safe and private. The Joint Commission requires clinicians to reliably identify the individual as the person for whom the service or treatment is intended, however identification via the phone and/or telehealth is not standardized at many institutions. Proper identification during virtual interactions is equally important as when providing care in person. Communication errors can result in adverse outcomes, compromising patient safety and satisfaction. This is particularly important for oncology patients who receive sensitive information over the phone. At our institution an administrative policy exists requiring proper patient identification including two distinct identifiers prior to the provision of in-person care, however content on virtual patient identification was not included. A PICO question was developed, extensive literature search performed in PubMed, Cochrane, and Joanna Briggs. Nine quality articles were identified. External organizations were consulted, and regulatory body standards were reviewed to define best practice. Findings from all data sources were synthesized to produce a standard. No standard process was found in the data gathering process. Common findings included asking the patient to spell their first and last name and an additional patient identifier such as date of birth, street address or social security number. It also emphasized the clinician should not state the patient's name and ask if this is correct. The Joint Commission states individual organizations should determine how accurate patient identification will be completed. Based on these findings recommendations for changes to organization

standards and policies were made. When identifying oncology patients via telehealth it is imperative to establish standards to keep patient's information safe. Our institution's nursing policy was revised to include virtual patient identification with two identifiers and all staff were educated to the practice change. Education is provided to nurses and ongoing tracking will be done to ensure compliance with the policy. It is imperative, especially with the push towards telehealth in 2020, that each hospital has a standard for identifying patients virtually, just as when in-person.

MEDICAL MARIJUANA USE IN ONCOLOGY PATIENTS

Mary Casselbury, RN, BSN, OCN[®], Rochester General Hospital, Rochester, NY

Symptom Management and Palliative Care

Medical marijuana and cannabinoids may help alleviate some of the common side effects of chemotherapy but it is not clear whether they are superior to traditional anti-emetics. There is an increased risk of short-term side effects which need to be considered for patient safety. Healthcare providers also need to consider possible interactions with the patient's current medications. The choice for using cannabinoids should be tailored to each patient taking into account issues such as cost, regulatory policy and personal preference.

RADIATION THERAPY CONTINUATION AND REDUCTION OF HOSPITALIZATIONS DURING THE COVID-19 PANDEMIC IN NEW YORK

Gayle Somerstein, RN, BSN, OCN[®], MPH, MBA, Northwell Health, New Hyde Park, NY

COVID-19

The purpose of the project was to provide other oncology nurses with a comprehensive plan to maintain clinical treatment of patients during the COVID-19 Pandemic and to minimize hospitalizations by better managing side effects of radiation treatment. The attendee will understand the challenges presented by the COVID-19 pandemic in the New City Metropolitan Area. The attendee will understand clinical guidelines developed by a multidisciplinary team to help manage patients care effectively, allowing them to continue with cancer treatment. Northwell Health, New York's largest healthcare system was at the epicenter of the COVID-19 Pandemic, treating over 300 radiation patients throughout NYC, Long Island and Westchester during the height of the pandemic. An oncology diagnosis and potential immunocompromised condition puts these patients at high risk for

contracting COVID-19. The NYS Governor had issued a stay-at-home order, but this would not be possible for our patients, who need daily treatment. It is crucial for oncology nurses to help patients navigate this stressful situation by focusing on initiatives to ensure patient safety while reducing their exposure to potential infection. Our guiding principles were simple, to protect the health of staff, to protect the health of patients and to maintain our patient's access to care throughout the pandemic. Strategies included daily screening of patients, rapid transition to telemedicine, limiting visitors and minimizing patient time within the department. Additionally, inpatient and emergency room resources were strained or unavailable and we needed to be proactive and improve interventions to avoid hospitalization. As a final step, we prepared a protocol for the treatment of COVID-19 positive patients. We developed and implemented 'Consensus Guidelines for Intensive Treatment Management' to reduce hospitalization and minimize adverse reactions to radiation. Our goal was to reduce hospital utilization by reducing preventable ED visits and subsequent admissions. Time to focus on returning to the 'new' normal. We evaluated new policies to determine if they could become permanent such as working from home and the on-going use of telemedicine. We continued with fully re-opening the department and anticipated increase in patient volume. And most importantly, we made sure we recognized and rewarded our staff for their dedication to the department and our oncology patients.

PERSONALIZING NAVIGATION WHEN THE PERSON IS UNFAMILIAR WITH CANCER AND LACKS ENGLISH-LANGUAGE AND HEALTH LITERACY

Megan Wachlin, BSN, RN, OCN[®], Penn Medicine-Pennsylvania Hospital, Philadelphia, PA

Coordination of Care

Effective oncology navigation requires addressing barriers to optimal cancer treatment experience posed by limited or absent health and general literacy. While literacy assessment is frequently part of intake assessment in oncology navigation, personalizing the experience when the patient is an immigrant who speaks a language other than English is less well described in the literature and clinical guidelines. The purpose was to share a principle-based approach to navigating cancer treatment with a person who has limited or no health, general, and cultural literacy using a case study approach and examples of personalized tools. The principles guiding the navigation interventions

used when literacy is limited on many levels are personalizing the cancer journey with the patient, proactively anticipating and avoiding worst case scenarios for the patient, and ensuring all navigation is physical as well as educational and logistical. Specific interventions created to overcome constraints imposed by literacy include pictorial and color-coded guides for self-care and chemotherapy administration, oncology nurse navigator presence at all cancer care encounters, use of interpretation services to avoid potential problems with simple translation, and personalized emergency information cards to avoid crises when encountering other healthcare services including emergency response system. Effective oncology navigation mandates achieving metrics such as unplanned admissions and readmissions to acute and emergency room care. However, success in navigating the cancer treatment journey for a person with no literacy skills also requires including evaluating the quality and frequency of communication with the patient, the family, and the interdisciplinary team. Ultimately, evaluation must return to the person.

UTILIZATION OF A MONTHLY NEWSLETTER TO IMPROVE EDUCATION AND COMMUNICATION BETWEEN CLINICAL RESEARCH NURSING AND ONCOLOGY SERVICE LINE STAFF

Sarah Lewis, BSN, RN, OCN[®], Beebe Healthcare, Lewes, DE

Coordination of Care

Education and communication regarding clinical research in the community ambulatory oncology clinic setting is important to maintain a healthy referral base for clinical trials and to keep oncology service line staff aware of available clinical trial opportunities. The purpose of implementing a monthly clinical research newsletter was to improve communication and education between clinical research nurse coordinators and investigators, non-investigator providers, nursing, navigators, and other disciplines within the service-line as well as other providers and services within the organization who may refer patients for clinical trial consideration. The clinical research nurse coordinators implemented a clinical research newsletter that is sent out via email on a monthly basis to all service line members as well as pertinent non-service line staff who may be referring patients for clinical trial consideration. The format of the newsletter is standardized so that staff know what specific sections may pertain to their practice. The newsletter features a general clinical research department update, clinical trial updates (suspensions, amendments, openings),

protocols of the month (including cancer control, cancer care delivery, treatment, and radiation specific protocols), investigator of the month, monthly and year-to-date accrual statistics, new protocol reviews (including schemas and eligibility), and nursing/staff education.

THE IMPACT OF ADVANCE DIRECTIVES ON PATIENT CARE STAFF

Andria Caton, MSN, OCN[®], CHPN, Northeast Georgia Medical Center, Gainesville, GA; Shannon Garner, MSN, RN, NE-C, Northeast Georgia Medical Center, Gainesville, GA; Kathy Strebe, MSN, RN, RN-BC, CPHIMS, PMP, Northeast Georgia Medical Center, Gainesville, GA

End of Life

Although magnified by the COVID-19 pandemic, nurses at the bedside have always been witnesses to the suffering experienced by patients, families, and other co-workers when providing end of life care. Although end of life care is often a positive experience, there are other times when positive emotions are replaced with emotions like distress, frustration, or sadness. The source of negative emotions can occur when nurses witness end of life care that does not respect a patient's communicated choices. Furthermore, the lack of advance directives can directly impact all patient care staff working at the bedside. To better understand the impact of advance directives and the experiences of patient care staff providing end of life care at a suburban hospital system in Georgia, a qualitative ethnographic study was designed and submitted for expedited IRB review in 2019. Eighty semi-structured interviews of patient care staff were conducted in multiple nursing units, and a chart review examined one hundred deceased patients to determine concordance of care for advance directives. The primary endpoint explored the impact of advance directives on patient care staff. The secondary endpoint examined the concordance of care with advance directives. After an NVivo qualitative analysis of the interview responses, the overall themes of patient advocacy, the role of team dynamics, and family involvement and support were identified. For the primary endpoint, the presence of advance directives observed by the care team promoted the acceptance of impending death and pride in end of life care for the patient care staff. Conversely, the presence of advance directives that were not honored set in motion narratives from patient care staff that described the needless suffering of patients and unwanted care. Next, the absence of advance directives promoted feelings of frustration with

system barriers, provider issues, and family conflicts. For the secondary endpoint, concordance of care was observed in 80% of the medical records. Study barriers included the length of interviews, changing work schedules, and length of time between caring for the patient and the conducting interviews. As anticipated, patient care staff, patients, and families could benefit emotionally and physically from the presence of advance directives and by respecting patient choices.

RADIATION NURSES DELIVER ON PATIENT SURVIVORSHIP

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Survivorship

We are a community hospital cancer center accredited by the Commission on Cancer (CoC) and hold Commendation level recognition for compliance with required standards. When the CoC suspended requirements for Survivorship Care Plans (SCP), our radiation nursing team saw an opportunity to continue their role, particularly at the end of active treatment. The Commission's new 2020 Standard 4.8 Survivorship Program ensures cancer centers commitment to partnering with patients throughout the continuum of care. Our center has taken the extra step to purposefully choose to maintain our goal of creating and providing care plans for cancer survivors. To accomplish our goal, we formed a multidisciplinary team from nursing, social work, radiation therapy, cancer registry and palliative care. This team created our SCPs and ensured they included clinically relevant information with patient-friendly formatting and language. Also developed was an informational video we use to onboard staff. The video features actual cancer center staff discussing the importance of SCPs and the role nursing plays as patients transition out of treatment. Operationalizing SCPs begins with nurses identifying curative intent patients, customizing the document based on diagnosis and treatment plan, and reviewing the plan in person with patients on their final day of treatment. This conversation marks an important patient milestone and creates a dialogue about risk of recurrence, surveillance schedules, lifestyle guidelines, and psychosocial resources. The SCP then becomes part of the patient's medical record. Patients report feeling supported as an individual with unique needs during and after cancer treatment. The positive feedback staff hear from patients and families acknowledges that this care planning step is critical to the overall effectiveness of cancer survivorship. Our innovative approach to cancer care

extends far beyond treatment. SCPs are about relationships and meaningful connections between providers and patients. It is our intention that each patient and family feel special and their needs are heard and met during, as well as after treatment. We look forward to exploring two additional programs designed to support cancer survivors, developing survivorship clinics and a peer mentor program.

MANAGING SIDE EFFECTS OF TEPOTINIB TREATMENT TO OPTIMIZE OUTCOMES FOR PATIENTS WITH NON-SMALL CELL LUNG CANCER HARBORING MET EXON 14 SKIPPING: EXPERT GUIDANCE BASED ON CLINICAL EXPERIENCE

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Tepotinib is a highly selective MET tyrosine kinase inhibitor (TKI), with proven efficacy and tolerability in patients with *MET* exon 14 (*MET*_{ex14}) skipping non-small cell lung cancer (NSCLC). *MET*_{ex14} skipping occurs in 3-4% of patients with NSCLC, and patients are typically elderly; tepotinib offers a new therapeutic option for these patients. The clinical benefits of cancer treatments, including MET TKIs, comes with the risk of adverse events (AEs), which can disrupt treatment duration or intensity and compromise clinical outcomes. As part of the multidisciplinary teams that coordinate the management of patients with cancer, nurses are integral to the timely identification of AEs, initiation of preventative strategies and appropriate management. Here, we provide guidance for the early identification and effective management of AEs specifically associated with tepotinib treatment in patients with *MET*_{ex14} skipping NSCLC, with the aim of optimizing patient treatment experience and outcomes. Visual, nurse-specific guidance was developed following analysis of the clinical features of common AEs associated with tepotinib treatment and highlighted the most frequent AEs and their likely occurrence during the treatment journey. Based on real-world nursing experience, proactive and reactive management approaches are presented to mitigate the impact of these AEs on patients and increase the potential for optimal dosing and treatment duration. While most tepotinib-associated AEs are manageable, clinically relevant guidance is provided to support appropriate, timely interventions

in cases where lack of recognition or symptom visibility could affect clinical outcomes. For example, low grade edema (a MET inhibitor class effect) is common, even in fit patients, but progression to established edema can make it more difficult to treat. Combining insight into likely AE chronology, with early-stage symptoms observed in routine practice (such as unexplained weight gain and skin erosions) and suitable management approaches can support early recognition and effective intervention. Guidance for other common AEs will also be presented. Supporting timely and effective management strategies to mitigate the impact of common AEs during tepotinib treatment could improve quality of life for elderly patients and contribute to increased time on treatment and the potential for improved outcomes. This is the first, nurse-specific recommendations for the management of side effects with tepotinib that will support therapeutic goals by improving patient experience.

SAFE ADMINISTRATION OF CHEMOTHERAPY TO COVID POSITIVE PATIENTS

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COVID-19

Tuesday March 3rd Biogen reported to the Massachusetts Department of Public Health that fifty attendees of the Boston Biogen Conference had become ill. March 10th Massachusetts Governor Baker declares a state of emergency and the World Health Organization declares Covid 19 a pandemic. Monday, March 23, Governor Baker announce, all nonessential businesses would be closed and a stay-at-home advisory. Massachusetts was the 13th state to do this. At the same time COVID-related admissions began rising in hospitals across the state, there were sudden shortages of everything from ventilators to masks, gowns, and gloves. At the Brigham on March 19th visitors were no longer allowed. Surgical masks are worn for one shift unless contaminated. All patients with suspected Covid-19 where admitted to the negative airflow. The Brigham cancelled elective surgeries. Enrollment in clinical trials for all diseases has stopped. Oncology providers evaluated the ability to reduce number of direct admissions. The BMT team determined if admissions can be delayed on a case by case basis. Teams looked at autos/multiple myeloma patients to delay transplant. Deci-

sions on modifying or withholding chemotherapy were made based on the indication for chemotherapy and goals of care. Stem cell transplantation and cellular immunotherapies provide curative treatments for many with aggressive disease that cannot be put on hold. For example, if the cancer is rapidly progressing and the risk: benefit assessment favors proceeding with treatment of the cancer, then it was necessary to administer the chemotherapy even if patient is being ruled out for Covid 19 or positive for Covid 19. Patients with aggressive hematologic malignancy cannot delay life-saving treatment. In order to separate Covid suspected and positive patients from the rest of the oncology inpatients on March 21st a decision has been made to open a twenty-two-bed oncology special precaution negative airflow unit. Nursing had to rapidly change policies and cohort these patients. Verbal chemotherapy consents in lieu of patients' signatures now are accepted. The chemotherapy administration policy was changed so chemotherapy could be administered safely in strict isolation rooms. Nurse leaders, physicians, staff nurses and pharmacists collaborated to keep the staff safe and provide the care that was needed. These case reports emphasize the need for collaborative efforts and the challenges in caring Covid positive oncology patients.

INNOVATIVE APPROACH TO MANAGING BARRIERS TO PATIENT CARE BROUGHT ON BY COVID PANDEMIC WITHIN THE OUTPATIENT ONCOLOGY SETTING

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COVID-19

Covid-19 brought the entire world to an abrupt halt during the winter of 2020. This novel virus evoked distress and conjured a great deal of fear and uncertainty into the public at large. Oncology treatment centers and providers were challenged with mitigating risk while providing care and in some cases postponing non emergent care. While some patients preferred to delay procedures to reduce risk of contracting the virus, others had greater anxiety related to routine care being delayed. A regional cancer center's medical practice and infusion center were challenged with exploring new care delivery strategies to provide needed therapies while reducing risk in the highly vulnerable immunocompromised patient population. "Curbside Care" was proposed as a care delivery model that brings the care

team to the patient's vehicle to reduce exposure risk. The care model proposed administering injections, lab draws, port maintenance, post chemotherapy infusion pump disconnections and growth factor support; from the comfort and safety of their own vehicle delivered by cancer center staff to patients, in the privacy and security of the hospital's enclosed parking area. Key stakeholders were identified to assess feasibility of the proposal and focused on patient safety, regulatory standards and budget neutrality, as the pandemic was already impacting hospital dollars. Approval was easily obtained as implementation only required patients to park their vehicle and call a dedicated number to register virtually. Notification of nursing triggers the procession to the patient's vehicle with a name bracelet and supplies, including a backpack stocked with frequently used supplies and a wireless internet connected computer on wheels equipped with a work area, and scanning device. The nursing care being provided mirrors the care offered within the infusion center. When the service is completed, the patient is given instructions and is discharged. This innovative Curbside Care model enables continuity of care while reducing exposure risk by reducing the number of patients requiring care within the infusion center while improving patient satisfaction. Additionally, this kept patients within the health system for their services and maintained revenue within the health system. This innovative model is unique to the organization's service area and a model that can be replicated in other oncology care settings to improve care and outcomes.

THE DEVELOPMENT OF A MULTIDISCIPLINARY CARE TEAM TO PROVIDE OPTIMAL PATIENT-CENTERED CARE AT AN OUTPATIENT RADIATION ONCOLOGY CLINIC

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Coordination of Care

The Radiation Oncology department within the University of Washington Medical Center is part of the alliance that provides world-class cancer treatment and research in Seattle, Washington. The current opportunity within the facility identified is a lack of standardization of communication within individual health care teams. The radiation oncology nurse

works closely with the radiation oncologist to ensure the best patient outcomes related to their treatment. The radiation oncology nurse establishes therapeutic relationships with each patient by providing education, coordination of care, and triaging issues. To ensure that all patients receive the highest level of quality care, a proposal for interdisciplinary care teams was developed. The proposed evidence-based practice change is developing and implementing a collaborative multidisciplinary patient-centered care team in a radiation oncology outpatient clinic. Multidisciplinary bi-weekly rounds via zoom or in-person were developed to ensure that our radiation oncology patients received the highest care level. The stakeholders for the proposed practice change were identified. Stakeholders included the Attending Radiation Oncologist, Radiation Oncology Resident, Radiation Oncology Registered Nurse, Patient Service Specialist, Social Work and Dietician attended on an as-needed basis. An action plan and timeline were created to ensure the success of the proposed practice change. The action plan identified planned meetings on a bi-weekly basis with stakeholders to engage them in the practice change process, review patient care, coordinate individual patient care needs, and request input from all team members. Standardized agendas were developed to ensure that the meeting was organized, covered required topics, and mindful of members' time. Educational in-services will be regularly shared by all members to foster collaboration and knowledge sharing. The practice change was piloted with two multidisciplinary care teams. A survey was developed and given to all involved members to assess the impact of the patient-centered care practice change. Survey results and practice change shared at the department-wide leadership council to request their support and collaboration. Roll out new best practices along with standardized tools to all clinic teams to foster multidisciplinary teams. By enhancing the interdisciplinary communication of staff and improving standardization tools, we will ensure the best patient outcomes, increasing the patient's experience. An increasing interdisciplinary dialogue will improve the clinical outcomes of the radiation oncology patient.

3 WISHES: IMPROVING END OF LIFE CARE FOR ONCOLOGY PATIENTS

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End of Life

Although death is unfortunately common for patients with end-stage cancer, there are few inpatient interventions in oncology that are designed to create a digni-

fied, compassionate end-of-life experience for patients and families. By empowering frontline staff to elicit and implement final wishes for terminal patients on the oncology ward, the 3 Wishes Project (3WP) aims to humanize the dying process for the patients, families, and healthcare staff by shifting the focus from the medical standpoint to a personalized celebration of life. Patients are eligible for the 3WP when they are imminently dying (patients who are on end-of-life symptom management protocol or who are being discharged on home hospice). For eligible patients, oncology nurses introduce the 3WP and offer patients and/or their family members ways to celebrate the patient's life and dignify their death. Wishes are elicited, implemented, and documented. Oncology nurses also filled out anonymous electronic surveys on burnout and resilience prior to 3WP implementation and will do so again one year after the start of the intervention. We will discuss successes, barriers, and the effects on the healthcare team. I will discuss the goals of compassionate care, and how meaningful deaths on the oncology ward at one large academic health center are being achieved with the 3WP. Although the quantitative data on nursing impact is mixed, we have seen that the 3WP has made a clear and powerful impact on both families and clinicians. Interviews with family members after their loved one's death have revealed that the 3WP is reshaping the end-of-life experience by creating a more humanistic, personalized experience during the darkest moments of people's lives. Bonding among nurses has strengthened as we create unique memories for our patients, including performing a wedding, decorating patients' rooms, coordinating special date nights, anniversary celebrations, and spa days, and creating tangible mementos for family members to take home. In doing so, we are able to honor the unique lives of our patients and celebrate the immeasurable bond oncology nurses share with their patients.

EMOTIONAL, INFORMATIONAL, AND INSTRUMENTAL SUPPORT IN CHINESE BREAST CANCER PATIENTS

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Social relationships have been viewed as beneficial to help patients to cope with their disease. However, core social relationships such as emotional, information-

al, and instrumental support needs of breast cancer patients remain unaddressed in clinical settings. The objective of this study was to evaluate emotional, informational, and instrumental support needs in Chinese breast cancer patients, and explore the predictors. This was a cross-sectional study. Using convenience sampling, eligible breast cancer patients from tertiary hospitals in China were recruited and completed the sociodemographic information questionnaire, the PROMIS Social relationships Short Form, the PROMIS Anxiety Short Form, and the PROMIS Depression Short Form. A total of 641 breast cancer patients were investigated, with a mean age of 50.9 years. T score of informational support was lower than the average level while emotional and informational support were in the average level. Marriage status, childbearing history, lifestyle, current employment, anxiety and depression were found to be related to the emotional, informational, and instrumental support scores. Regression analyses revealed that emotional support, instrumental support, marriage status, current employment, anxiety and depression outcomes were predictors for informational support. Informational support should be specially assessed and promoted in breast cancer patient. Marriage status, childbearing history, lifestyle, current employment, anxiety and depression should be considered and evaluated when conducting interventions to promote emotional, informational, and instrumental support in breast cancer patients. Our study utilizes brief and accurate self-report measures to assess breast cancer patients' social relationship needs and put forward concerted efforts for nurses. The results provide valuable insight to attract attention on unmet emotional, informational, and instrumental support needs of breast cancer patients, and are conducive to guide further development of interventions to ensure better care. Early and regular screen for unmet emotional, informational, and instrumental support also allow for identifying high-risk groups that are likely to benefit from targeted preventive interventions.

PALLIATIVE CARE ONCOLOGY NURSES ADAPTING CARE TO MEET THE COMMUNICATION NEEDS OF PATIENTS WITH COVID-19 AT THE HEIGHT OF A WORLDWIDE PANDEMIC

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[End of Life](#)

On March 12th, 2020, COVID-19 was declared a pandemic by the World Health Organization. Access

to essential palliative care has been limited by the demands of the COVID-19 pandemic. Physical distancing regulations meant to slow disease transmission led to increased isolation and suffering for both palliative care patients and their loved ones who are unable to say goodbye or grieve. When the COVID pandemic surged in Massachusetts in the spring of 2020, it was anticipated that many patients suffering from COVID-19 would require palliative end-of-life care in the hospital setting. Our Intensive Palliative Care Unit (IPCU) was converted to provide palliative care exclusively to a COVID-19 positive population. The nursing staff, already trained and experienced in providing palliative care, adapted their existing skill set to care for patients safely and effectively through intensive interprofessional care and new technology. This technology, primarily in the form of linked iPads, also allowed for broader family “visitation” at a time when face-to-face support could have threatened the health of all involved. Palliative nursing staff, well accustomed to supporting families, triaged family concerns and support as surrogate bedside caregivers when family could not safely do so. Nurses also utilized the communication system Vocera which allowed them to consult with colleagues about patients’ changing clinical condition, continuing the interdisciplinary and collaborative strength of palliative care without compromising safety. Patient care rounds on each patient were intensive and deliberate with input from all team members including a chaplain and social worker. Designated status as an exclusively COVID-19 positive unit allowed for unique care accommodations for the patients in the IPCU. In one case, nurses collaborated with the intensive palliative care team, hospital management and engineering to convert a single room into a double room to accommodate two patients who were decades-long domestic partners prior to their illnesses. Nurses cared for these patients through the death of one and the ultimate discharge home of the other. Caring for patients who require intensive palliative care as a result of COVID-19 illness requires adaptation of skills to support their unique needs. The palliative care nurses addressed the isolation of their patients by providing enhanced communication support. Supporting families and each other through an active pandemic requires flexibility and innovation, both hallmarks of excellent care.

TELEHEALTH FOR THE PROVISION OF SERVICES FOR THOSE WITH GENETIC RISK

FOR DEVELOPING CANCER: OVERCOMING BARRIERS TO CARE

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Screening, Early Detection, and Genetic Risk

Access to counseling from a credentialed genetics professional has been cited as a barrier for families to access germline genetic testing. When germline testing is ordered by noncredentialed provider there is increasing evidence that many errors occur including ordering the incorrect test, interpreting results incorrectly, and care is not coordinated for other at-risk family members. The COVID-19 pandemic presented new challenges to providing this care and required a quick pivot to telehealth. This presentation outlines the challenges and how to provide optimal genetic counseling during a pandemic. A Midwestern university cancer center switched to complete remote counseling in less than a week. A review of the number of counseling sessions from March 2019 through August 2020 was compared with the same 6 months in 2020. Counseling sessions increased from 595 to 758 sessions in 2020 and the number of new patients increased from 325 to 364 in 2020. Identified challenges included specimen collection remotely and problems with technology. There was a decrease in no show appointments from 32 in 2019 to 5 in same 2020 timeframe. Submission of a saliva sample proved challenging. Patients are encouraged to call when the kit arrives for a follow up phone call to help the patient with collection procedures and offer any other clarification about the testing process. This has reduced then number of unacceptable samples from 14 (March through May 2020) to 4 (June through August 2020). Tracking which patients have submitted samples requires contacting patients and reminding them to submit samples or determine if there are reasons why samples have not been submitted which need to be addressed. Counseling has been done primarily by phone to increase availability and decrease anxiety associated with technology. At the time a counseling session is scheduled patients are encouraged to have supportive family members on the call to facilitate understanding and ask questions. Asking patients to summarize information helps assure informed consent. Telehealth has allowed patients in rural areas to access testing without taking an entire day to drive for an appointment. There is no need to cancel when driving is difficult due to weather. Germline genetic testing provides information that promotes the prevention of cancer. Experiences during the pandemic has provided valuable insight to increase accessibility to this service.

ROLE OF ONCOLOGY NURSE NAVIGATORS IN THE GENOMIC ERA

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With advances in next generation sequencing (NGS) technology and the reduced cost of sequencing, bringing the benefit of precision medicine into the clinical practice is critical. Nurses, in particular, as the most influential group of healthcare professionals, have a new essential role in the genomic era. This role includes observation, communication, and collaboration that leads to improved care for patients with cancer. The Breast & Gynecologic Oncology Nurse Navigators are deeply integrated into the care team. They attend every tumor board and coordinate care of patients whose cases have been presented. We retrospectively reviewed female oncology patients' molecular tumor profiling results and germline genetic testing from January 1, 2019–August 24, 2020. We analyzed the cases that were facilitated by oncology nurse navigators for multidisciplinary female specialty tumor boards. We identified those patients whose results had at least one actionable variant that could impact the patient's care. A total of 128 cases were presented at female cancer specialty tumor boards. 21% (27/128) had full presentations with molecular tumor profiling results in which 85% (23/27) of those had at least one actionable somatic variant to guide treatment. The actionable variant is defined as FDA approval treatment, the standard of care, clinical evidence, or compelling biological evidence. Also, 37% (47/128) of cases had germline genetic testing results. Of those, 25% (12/47) had inherited pathogenic mutations. Our data shows how important the role of oncology nurse navigators is in oncology clinical care. The patients whose care was facilitated by arranging for testing and presentation at multidisciplinary tumor boards benefited from more precise treatment. As technology advances and precision medicine becomes part of routine clinical care, oncology nurse navigation can play a pivotal role in the implementation of precision medicine.

MAKING THE CALL: USING THE PHONE TO PROMOTE ADHERENCE TO ORAL ANTINEOPLASTIC AGENTS

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[Symptom Management and Palliative Care](#)

The use of oral antineoplastic agents has continued to increase as more cancer patients are prescribed these drugs as part of their treatment plan. This shift has created many new challenges for oncology nurses who take care of and manage patients taking these agents in their homes. Barriers to oral antineoplastic drugs can lead to decreased oral adherence, which can affect overall survival and lead to poorer patient outcomes. The purpose of this project was to determine if a nurse-led telephone intervention leads to a high level of self-reported adherence in adult patients taking oral antineoplastic agents. Ten adult cancer patients starting a new oral antineoplastic agent received six weekly phone calls from an oncology nurse, beginning the first week they started their medication. Using a standardized telephone script, the nurse asked each patient to report how they were taking their medications each day, had they missed any doses, and if they did, what were the reasons for the missed doses. The nurses provided symptom management, answered any questions and concerns, and developed an individualized plan with the patient. The patients who received the phone call intervention self-reported a high level of adherence to their antineoplastic agents during the interview with the clinic nurse. The nurse was able to provide timely symptom management, as well as additional education and support to several of the patients who verbalized barriers to taking their medications. Nurses play an important role by decreasing barriers which may influence adherence for cancer patients taking oral antineoplastic agents. Nurse-led supportive telephone interventions are a simple and effective way to evaluate a patient's adherence, and provide strategies for patients to self-manage their care.

MEASURING ADHERENCE AND TOXICITY TO ORAL CHEMOTHERAPY AND IMMUNOTHERAPY AGENTS BY IMPLEMENTING AN ASSESSMENT TOOL IN THE AMBULATORY ONCOLOGY SETTING

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Evidence-based research has shown that nonadherence to cancer related oral therapies attribute to increased hospitalizations for toxicities and side effects of therapy, as well as increasing the possibility for poor response to treatment or relapse. The Quality Oncol-

ogy Practice Initiative (QOPI) has recognized the importance of oral therapy adherence and provides guidance for best practice. In 2016, QOPI added oral therapy components to their oncology practice standards. Levine Cancer Institute (LCI) has maintained QOPI designation since 2012. In 2016, in response to the new QOPI oral therapy standards, a taskforce was developed to improve processes for managing the care of patients prescribed oral chemotherapy and/or immunotherapy. The taskforce created an oral therapy adherence and toxicity tool to be used in the ambulatory oncology setting. The tool was written at a sixth-grade reading level and deemed health literate by the LCI Health Literacy Committee. The tool was made available in both English and Spanish. Patients were provided a paper copy of the tool to complete while waiting to be seen by their oncology provider at each clinic visit. Using this tool helped ensure that providers and nurses were assessing adherence and toxicity to oral therapies at routine intervals. Secondly, it helped to bring awareness to adherence barriers and toxicities that required dose reductions, treatment holds, or even changes in treatment regimens if necessary. The tool's utilization continues to be measured via chart audits. The audits are performed monthly and the electronic reports are shared with LCI leaders and teammates. Based on these reports, the LCI taskforce continued to meet to address observed compliance barriers in using the tool. Several edits to the tool were implemented based on provider, nursing, and patient feedback. In 2019, the taskforce collaborated with an information and analytics services team to evolve the paper tool into an electronic form that is integrated within the electronic medical record. The tool's proven success for assessing adherence and toxicity to oral regimens has also been deemed as a satisfactory process per LCI's 2020 QOPI Re-Designation Survey report.

IMPROVING PATIENT CARE THROUGH CREATIVE CHAIR UTILIZATION: SETTING UP AN INJECTION ROOM

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[Coordination of Care](#)

Oncology patient's lives are consumed with ongoing treatments, provider visits and countless hours in waiting rooms. Nurses have a duty to provide both safe and efficient care, but also to provide a positive patient experience. Varying treatment lengths and limited staffing resources in a free-standing outpa-

tient clinic can create challenges for nurses to accommodate each patient in a timely manner. Despite all efforts, patients are sometimes left waiting for their treatment whether it is a six-hour infusion or a five-minute injection. A review of clinic workflows, patient wait times and feedback from nursing staff revealed an opportunity for improvement related to chair utilization. Tennessee Oncology has successfully implemented the use of injection rooms into practice to optimize chair utilization and minimize wait times. To achieve this outcome, the clinic first designed a designated room to accommodate patients receiving injections and short therapeutic infusions. The space was created to be self-sustaining with its own drug cabinet, treatment chairs and supplies. An existing staffing matrix based on treatment acuity points was used to determine acceptable patient volumes per nurse. At our Memorial clinic location, the injection room is typically staffed by an LPN. Nursing staff was then trained on the responsibilities of managing the injection room. Finally, collaboration with the scheduling team resulted in updated scheduling procedures and enhanced chair utilization templates. Integration of an injection room allows nursing staff to evenly divide assignments and function at the highest level within their scope of practice. Focused chair utilization helps assure exceptional and timely care for more patients. Since the initiation of this practice at Tennessee Oncology's Memorial Clinic, both patients and staff have noted improvement in quality of care as well as decreased wait times.

TRAINING FOR TELEPHONE TRIAGE

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[Oncology Nursing Practice](#)

Telephone triage is a vital component of patient care at a large National Comprehensive Cancer Network (NCCN) Oncology Ambulatory Clinic. Skilled patient assessments are mandatory during the trajectory of oncologic treatment. Telephone triage is an essential skill for the oncology nurse assessment of symptoms, identification of oncologic emergencies, and to advise appropriate disposition of care. As healthcare trends towards outpatient settings, oncology nurses are par-

ticularly challenged to maintain skills and knowledge foundational to telephone triage. Providing evidenced based education and training is an essential component for telephone triage to ensure quality patient outcomes. In a phased project, a group of multidisciplinary nurses developed oncology triage decision-support tools and then designed a class to promote standardized foundational content and to cultivate telephone triage skills for nurses. Unit based nurse educators, Advance practice Nurse educators, front-line staff, and clinical leadership, developed a curriculum for a two-hour class. A formal presentation integrating nursing process as the framework to perform telephone triage incorporated strategies, best practices, and recognition of common barriers to effective telephone assessments and appropriate care disposition. Case studies were created to represent patient calls common to the ambulatory oncology setting and were used framework in an interactive role-play at conclusion of the class. This interactive pedagogical tool provided participants an opportunity to practice the application of the standardized decision-support tools and solidify telephone triage competencies. Following the class, all participants (n= 48) were sent an anonymous survey (Likert Scale 1-5) with a completion rate 76%. Most of the respondents (81%) reported increased awareness and knowledge of telephone triage best practices. Participants also reported the class had increased their telephone triage knowledge and comfort in personal competency and that they would integrate the content and skills to their daily practice. Interactive role-playing was rated the most valuable segment of the course. Subsequent course curriculum will increase class participation through active role-play. The new standardized telephone triage tools and course will be integrated into the oncology ambulatory clinic nurse orientation curriculum with the goal of promoting best patient outcomes.

IMPROVING CHEMOTHERAPY PATIENT EDUCATION THROUGH STANDARDIZATION: DOES A POLICY HELP?

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Patient Education and Safety

Safety standards from Oncology Nursing Society/American Society of Clinical Oncologists state pa-

tients should be educated on their cancer treatment prior to their first therapy administration. Educating patients prior to their first treatment results in increases in understanding and decreases patient anxiety. At a National Comprehensive Cancer Network (NCCN)-designated, ambulatory oncology center, patients are educated about their treatment by nurses and pharmacists, however, a lack of consistency exists in education delivery, tools used, educational materials provided and timing of education to patients. Patients often received a less-than-ideal, treatment education on the day of their first dose (also known as a “same day chemo teach”). The improvement project was developed to standardize the pretreatment chemotherapy education process to improve the patient experience. A Chemotherapy Education committee comprised of providers, pharmacists, nurses, supportive care and patient education services, developed a policy to standardize the chemotherapy education process for patients. Benchmarks for educational information were defined. Elements of Process Change Included: A. Identification of source for standard educational materials. B. Standardized content defined (e.g. common side effects, treatment schedule, supportive care, when to contact care team) C. Standardized documentation D. Scheduling pre-treatment education session and a 3-day post-treatment follow up call from the clinic nurse were added to the electronic chemotherapy order sets. Standards were then outlined in a center wide Chemotherapy Education Policy and all staff training on new standards was provided. The innovation resulting from this process improvement was a Chemotherapy Education Policy mandating pre-treatment patient education and defining standards for the process. Nursing and Pharmacy staff providing chemotherapy education responded positively to the changes. Staff were concerned about the inconvenience to some patients as an additional trip to the clinic for this education session was necessary. Primary project goals to increase the incidence and quality of chemotherapy education and decrease the incidence of “same day chemo teaches” were realized. In immediate evaluation post intervention, “same day chemo” teaches dropped from 33% to 28%. Next steps are to evaluate implementation of the process of nursing staff’s contacting patients within 3 days of first treatment and obtaining patient feedback on the education experience and materials. The ultimate objective is to assure highest quality patient experience with chemotherapy education.

COLLABORATIVE PROCESS CHANGE TO PROPERLY SCREEN FOR COVID-19 ON DIRECT ADMIT PATIENTS

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COVID-19

An inpatient oncology unit at a comprehensive cancer center has direct admissions for patients receiving scheduled chemotherapy. The admission process for these patients was impacted by the onset of the COVID-19 pandemic. Before COVID-19, the majority of these patients would go directly to the oncology unit. The unit secretary or nurse would inform the admissions department, which would then admit the patient. With COVID-19, every admitted patient needed to be screened prior to their arrival on the unit, per CDC guidelines. We had to make changes to our admissions process to ensure that every patient was screened. The purpose of this project was to develop a process that would allow every patient scheduled for a direct admit to be screened for COVID-19 prior to arrival on the inpatient unit. Worked collaboratively with the physician lead, oncology schedulers, admission representatives and inpatient team to identify workflows, and develop a process that would improve screening. Patients were to be screened and registered by admissions. Any patient who arrived on the unit without being screened was directed back to admissions for screening. Schedulers called patients 2-3 days prior to admission to confirm dates and educate them on the process for registration and screening. The health system created a COVID-19 screening tool in the electronic health record, where this screen was documented. Admissions notified the unit after patient registration and screening was complete. Education was provided to the all the frontline staff on the process and expectations. Between April and July, there were 47 direct admissions. All patients were instructed to stop at the admissions department for COVID-19 screening. There were four patients that did not follow the process and upon arrival to the unit, they were referred back to admissions. None of the 47 patients screened positive for COVID-19. COVID-19 pandemic has made a tremendous impact in healthcare, especially in the inpatient oncology setting because of the high number of immunocompromised patients. With new screening guidelines in

place that healthcare systems have to adhere to, our institution had to create a process, in order to maintain the safety of patients and staff. Creating a new admitting process initially caused some confusion with patients but they understood the need and recognized why the changes had to be made.

DEVELOPMENT OF A STANDARDIZED APPROACH TO MEDICAL EMERGENCY RESPONSE MANAGEMENT IN THE AMBULATORY ONCOLOGY SETTING

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Patient Education and Safety

Ambulatory oncology infusion centers frequently encounter urgent medical situations due to increasing complexity of disease state and corresponding treatments. With an ever growing number of novel therapies that include monoclonal antibodies and continued use of medications such as paclitaxel and carboplatin, it is important that clinical teams have an organized approach to the management of medical emergencies. For the purposes of our project medical emergencies were defined, but not limited to, chest pain, respiratory distress, symptomatic hypotension, bradycardia or tachycardia, drug reaction requiring epinephrine, and persistent hypoxia with an oxygen saturation less than 90%. The purpose of this project was to determine if there was an increase in patients requiring medical emergency response in our new building, evaluate appropriateness of response and map out a standardized approach to the management of medical emergency response. A multidisciplinary team comprised of physicians, fellows, APPs, nursing, social work, and administration was convened to review the MERT (medical emergency response team) process within CA Building. Through observation and process mapping of MERTs, it was revealed that there were inconsistencies in response. The team developed distinct roles and responsibilities for members of the response team, implemented the utilization of BRAID handoff (background, reason, assessment, interventions, disposition) when communicating with the health system emergency response team, appropriate mechanisms for paging out the emergency, formal documentation requirements and monthly MERT reviews for quality purposes. Standard operating procedures were finalized in June 2020 and formal

education occurred from June through September 2020. Future implications include an evaluation of data to identify trends in MERTs; determine if predictive modeling can help teams prepare for patients that might meet risk criteria for a medical emergency, evaluate areas of improvement, and improve patient outcomes.

INTEGRATING PATIENT'S GOALS OF CARE AT THE BEGINNING OF THEIR CANCER JOURNEY-RATHER THAN AT THE END

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NCCN guidelines suggest that all cancer patients should be screened for Palliative/Supportive care needs at their initial visit. As Oncology Nurses, we are the foundation to this care. A nurse led initiative at our facility was established to advance the role of Supportive Care to the beginning of a patient's cancer journey and throughout-not just at the end. The Oncology Nurse ensures that the patient and their family understand their illness and the treatment as well as conduct a Personal Values Assessment. This Assessment is documented in the electronic medical record and can be referred to in future settings to help guide care and treatment decisions, especially during a crisis situation or end of life discussions. The concept is introduced at the initial visit with all new Metastatic Cancer patients, as well as with existing patients that had recently experienced progression of their disease. At that time, The patient is provided with a card with two questions for them to reflect upon: 1. "What should we know about you, as a person, in order to take the best care of you?" and 2. "Facing Cancer, what gives you strength?" The nurse continues the discussion at the teaching session, which occurs on another day, thus allowing the patient time to reflect on the values questions. Documentation is completed in the Advanced Care Planning section of chart which can be viewed and referenced by all members of the patient's care team. In the early phases of the initiative, a pilot study was conducted with one physician/nurse team. The team found that the addition of the values discussion early in the therapeutic relationship improved exchange of information, enhanced continuity, allowed for a more personalized plan of care, supported the caregivers, and thus relieved distress that comes with dealing with an advanced illness. The Oncology Nurse's use of therapeutic responses to emotions lay the groundwork for ongoing discussions

as an open exchange of information is established early and will continue throughout the patient's cancer journey-thus allowing the physician to treat the person, and not just the disease.

TREATMENT OF PROSTATE CANCER WITH CYBERKNIFE RADIATION DURING COVID-19 PANDEMIC

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COVID-19

Stereotactic Body Radiation Therapy (SBRT) is computer controlled robotic technology that delivers precisely targeted beams of radiation to tumors. SBRT remains an emerging method of radiation therapy for men with prostate adenocarcinoma. During the COVID-19 pandemic, our institution remained committed to provide optimal treatment while ensuring the health and safety of our patients. In order to deliver care safely, practice changes were implemented. Throughout the COVID-19 pandemic, there has been considerable measures our practice has taken in order to treat the highest possible number of patients safely while protecting the health of our patients and staff. Numerous operational meetings between administration, physicians and nurses were conducted. The MD/RN analyzed each case to determine which patients posed the highest risk of contracting COVID-19. Prioritization was based on aggressiveness of disease/need for immediate treatment. An RN in proper PPE evaluated patients/staff at the entrance with screening questions and temperature assessment. MD ordered COVID-19 testing for patients prior to simulation appointments. Patients who refused testing were treated as if COVID-19 positive, scheduled at the end of the day, and staff members wore N-95 masks for precaution. No visitors allowed in the building unless it was medically necessary. Staff was limited to essential personnel with remote working whenever feasible. Consultation/follow up appointments converted to telehealth/telephone. From March 31-May 1, 2020, 26 patients out of 46 scheduled were treated. 20 remaining patients were safely postponed. 32 consultations were converted to telehealth/telephone visits, 17 of these patients had simulation orders placed and 15 were treated after May 1st. 97% of patients had COVID-19 testing prior to simulation, all were negative. 1 staff member tested positive, self-isolated for 14 days, returned to work symptom free. The Nurse was a vital member of the operational meetings and provided input on how to treat patients safely. All 26

treatment patients were successfully treated and the 20 postponed patients received treatment after May 1st with no complications. The RN split workload between direct patient care and telephone consultations while providing emotional support to all patients. RN created a grid with all patients postponed and provided frequent updates and comfort measure as needed. RN maintained safety of staff by screening patients and checking staff temperatures at the door. Effective practice changes were successful during COVID-19 pandemic.

STANDARDIZATION OF CHG WIPE FOR INPATIENTS WITH A CENTRAL LINE OUTSIDE OF AN ICU SETTING

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Daily chlorhexidine (CHG) bathing has been proven to reduce the risk of central line associated blood stream infections (CLABSI) for the inpatient population. The ICU has a standard daily time that CHG baths are completed; however, this is not the standard on other units. During CLABSI prevention audits, the most common element missing was a daily CHG bath. The nurse practice committee was tasked with identifying gaps and discovering interventions to reduce CLABSI. One unit implemented standardized CHG bathing time with the goal of decreasing the CLABSI rate and increasing CHG bathing compliance. The pilot unit completed a survey to decide an opportune time to complete a CHG wiping of the central line and surrounding area. The morning lab draw time was selected to perform CHG wipe, as this causes the least disruption to the patient and allows the RN to perform line assessment at this time. One-on-one education was completed with the staff on the new standard bathing time. Daily audits were performed during implementation to determine compliance of bathing and documentation. Real-time follow up education was provided to staff who were not compliant. After a 30-day pilot, 95% of patients with central lines had a CHG wipe completed at the standardized time. Staff stated this does not add extra time to the lab draws and utilize this time to assess the site. At the time of writing, no CLABSI have been reported since the standard has been implemented. There have been no patient complaints or concerns reported. Patients are still encouraged to bathe daily with CHG in addition to the standardized central line wipe. His-

torically, ICU has had a standardized time to bathe patients. More recently, this standard has changed to include use of CHG. CHG bathing decreases the risk of CLABSI for patient with central lines, but due to a lack of standardization, not all patients receive a CHG bath daily when hospitalized. The standardization of CHG wiping time ensures patients with central lines are receiving CHG line care thus decreasing the risk of CLABSI. Most hospitalized patients with central lines have labs drawn at least once a day and by standardizing the CHG wipe to the blood draw session could help increase the compliance of CHG bathing.

ROLE OF THE ONCOLOGY RESEARCH NURSE IN RECOGNIZING NEUROTOXICITY IN CAR-T TREATED PATIENTS IN THE TIME OF COVID-19

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The COVID 19 pandemic has presented many challenges to Oncology nursing. Limited resources, staffing shortage and lack of patient caregiver access due to COVID-associated restrictions have impacted patient-care logistics significantly. One such factor is the implementation of visitor restrictions which prevents family, friends and other caregivers from actively participating in the education and care of CAR-T treated patients. During these restrictions, Oncology RN clinical research coordinators (RN-CCRCs) have played an extremely critical role, often as the only contact to follow these patients and provide longitudinal continuity of care from pre-CAR-T management, through the hospitalization and post-CAR-T care. CAR-T patients often travel great distances for treatment, and frequently are not familiar with anyone on the clinical team before their first visit when they sign consent for treatment. Although over the next few weeks they are seen for numerous labs, neuro and psychological evaluations, and multiple practitioner visits, the only constant contact they have is the RN-CCRC. This becomes a key factor in the nursing care of the CAR-T patient, as the lack of input from family and caregivers who have known the patient before the CAR-T infusion has the potential to allow missed cues about critical changes in the patient. CARTOX and ICE assessments are used by nursing staff for measuring neurotoxicity common in post-CAR-T therapy. However, they are not able to pick up the more subtle changes that may occur, and may go unnoticed by someone who has not had frequent interaction with

the patient. For example changes could be very subjective: unusual verbalizations, which are out of character for the patient, or changes in speech patterns not present prior to treatment (slurred speech). Because of the RN-CRCs unique position, she is able to recognize those changes sooner than staff not as familiar with the patient and can notify the neurology team to take appropriate interventions. In recent experiences those early captures alerted the team to unusual changes and created a heightened awareness. The RN-CCRC, because of their unique relationship with the patient, is more likely to observe these changes, and therefore, is in the best position to provide more accurate assessments.

“YOU STILL HAVE A VOICE”: IMPROVING COMMUNICATION FOR POST-OPERATIVE HEAD AND NECK CANCER PATIENTS

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[Patient Education and Safety](#)

It was estimated that in 2020, nearly 65,630 or 4% of all new cancer cases in the United States would be of oral cavity, pharyngeal, or laryngeal origin. The majority of these patients are older than sixty years of age, resistant to use of modern technology and many don't have smart phones. The patients often require extensive surgical resections which dramatically impair their ability to communicate. The impaired communication can result in delays in care, frustration for the patient and care team, ultimately impacting patient safety. Therefore, it would benefit patients and nurses to provide a means for effective communications of their concerns and needs in a timely manner. The purpose of this project was to develop and implement an effective communication tool for head and neck cancer patients to use post-operatively to improve patient care and patient satisfaction. Patients are given information and education regarding virtual smart phone applications and this new simple communication tool is designed as an alternative. This tool is a 5x7 laminated card affixed to a 5x7 clipboard. The card contains multiple short phrases that identifies common needs and concerns of this patient population. The reverse side of the clipboard includes a dry erase board allowing the patient to write additional messages. The tool is discussed with the patient and family during the pre-surgical visit and is provided to them postoperatively for the duration of their hospitalization. Interviews conducted with patients, family members, surgical team, and inpatient care team pri-

or to implementation have guided the tool development and increased our understanding of the issues and frustrations experienced by the patient. Post-use interviews will be conducted with patients, family members, and care team to evaluate success of tool. Facilitating patient to find their voice through use of this tool has been highly received by patients, families, and staff. This can be easily implemented in other settings, including in patients with tracheostomy or dysphasia syndromes.

EXTRAMAMMARY PAGET DISEASE—DETECTION, TREATMENT, SURVEILLANCE

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Extramammary Paget disease is characterized by a chronic eczema like rash of the skin around the genital regions of males and females. When looked at under a microscope it looks very similar to a condition that occurs on the breast called Mammary Paget disease. It most often occurs in women age 50 to 60. 25% of Extramammary Paget disease is associated with an underlying cancer. The purpose of this presentation is to outline and guide the diagnosis, treatment, and surveillance of this rare disease in the clinical oncology setting. Treatment typically includes surgery as the standard approach. Symptoms include intense itching of a lesion found around the genital or anal area. Pain and bleeding may result from the lesion itself or scratching. The lesion can become thick, red, scaly, and crusty. 25–35% of Extramammary Paget disease around the anal region is associated with an underlying cancer. This is why awareness and consideration of this disease as a differential diagnosis is imperative when assessing rashes around these regions. The cornerstone of treatment for this disease is surgery. Alternative treatments include topical 5-fluorouracil, imiquimod, photodynamic therapy, laser vaporization, chemotherapy, and radiation therapy, all of which are being researched further and on the horizon for care options.

BUILDING ONCOLOGY NURSES CONFIDENCE DURING EMERGENCY EVENTS

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As more cancer care shifts to the ambulatory environment, complex treatments are being administered to oncology patients with multiple comorbidities. As a re-

sult, more unexpected events (e.g., infusion reactions or sepsis) requiring urgent lifesaving care occur daily within the Froedtert & the Medical College of Wisconsin Cancer Center making the need for additional medical emergency training critical. The first five minutes of a medical emergency are crucial to patient outcomes. Nursing staff in the Cancer Center need to be prepared to treat medical emergencies confidently and quickly prior to supportive teams arriving. A needs assessment highlighted nursing staffs' negative perceptions regarding readiness for and concerns managing medical emergencies in the Cancer Center. The purpose of this project was to develop a Life Support Champion (LSC) program within the Froedtert Cancer Center Network. LSCs are department champions who act as resources to increase confidence and preparedness with medical emergencies. LSCs support nursing staff by holding Resuscitation Review for BLS Provider classes (BLS drills) with clinical staff in the Cancer Center Network. The LSC reviews basic life support information and conducts small group medical emergency drills in realistic settings, such as an infusion treatment room or clinic room including hands on defibrillator practice while working as a team. Repetitive practice of cardiopulmonary resuscitation during BLS drills creates muscle memory so staff can feel more confident and provide high-quality compression and respirations, which improve patient outcomes during a cardiac arrest. Fifty-three LSCs have run a total of 61 BLS drills from November 2019 to September 2020. Feedback from 167 participating staff members has been positive, asking for more frequent drills. Our goal is to have all staff within the Cancer Center Network attend one BLS drill per year. A barrier to achieving this goal has been the lack of training equipment available, as it is shared throughout the hospital system. Other oncology centers should consider implementing a LSC program to increase staff confidence and improve patient outcomes for oncology patients due to their higher risk and complexity of treatments.

PREPAREDNESS—MAXIMIZING OUTCOMES OF RAPID RESPONSE TEAM

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Literature suggests that conducting mock drills can help develop staff confidence, improve competency, diminish staff stress/ anxiety, and improve patient safety. In this large out-patient, hospital based, cancer center, the Rapid Response Team responds to emergencies such as chest pain, cardiac events, stroke symptoms, falls, seizures, vasovagal events, sepsis, hypersensitiv-

ity reactions, infection, respiratory distress, hypotension, etc. Following a recent RRT call, some clinic staff members verbalized feeling unsure of what their role should be during an emergency. This prompted the decision to expand our current mock emergency drills to all staff, including ancillary staff. Reached out to the High Reliability Team from the hospital to assist RRT in setting up mock code simulations. Implemented the Resuscitation Quality Improvement (RQI) system. Requested to increase number of rapid response carts in the clinic. Reached out to clinic nurse educator. Plan to expand mock drills to all staff. Three mock drills have been performed this year with the Rapid Response Team members and infusion staff. Staff members have verbalized the benefit from mock drills that they have attended. The plan is to expand the education and mock drills to all the clinic staff, to continue to provide the best patient care during an emergency and provide optimal support for all staff members during an emergency. Expanding Rapid Response Team mock drills will give staff the opportunity to increase their skill set, become comfortable with location of supplies and use of equipment, improve communication between team members during the call, and reinforce complete documentation. Mock drills allow staff to use trial and error practice method without fear of harm to a patient. This will provide for increased confidence, knowledge, communication and team work. It will also decrease staff anxiety, stress and confusion during patient emergencies. Debriefing after mock drills provides opportunity for review of actions, questions and discussion for improvement. Practice of skills increases competency and decreases panic in an emergent situation. Confidence can increase staffs ability to execute their duties during emergent care, which translates into improved patient safety and maximizing outcomes of the Rapid Response Team.

VENOUS IRRITATION RESULTING FROM IV FOSAPREPITANT: A SYSTEMATIC REVIEW OF EVIDENCE

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Fosaprepitant (Emend) is a commonly used antiemetic for chemotherapy patients. Fosaprepitant-induced peripheral venous irritation (PVI) among

patients receiving certain chemotherapy regimens, particularly Adriamycin, leads to delays in treatment, wasted resources, additional medical intervention, and patient dissatisfaction. Despite this, practice environments are limited in guidance on prevention. National Comprehensive Cancer Network (NCCN) guidelines recommend fosaprepitant for patients having chemotherapy regimens with moderate to high emetic risk, but lack guidance for preventing PVI and other adverse events. The purpose of this systematic review was to identify and evaluate evidence on interventions to prevent PVI when fosaprepitant is administered to reduce nausea. Databases searched included Medline, CINAHL, Embase, NICE, CADTH and ECRI. Search strategies incorporated indexing terms plus keywords. Inclusion criteria were all interventions to reduce PVI. Standard tools were used to appraise quality of each type of evidence and perform a quantitative synthesis on combinable studies. Conclusions were evaluated using the GRADE system. Of the 1136 references found, 122 were retrieved, and 57 met inclusion criteria. No interventions to reduce fosaprepitant-related PVI were evaluated in published clinical trials. Commentary and tutorial articles suggest switching to oral aprepitant or administration via a central line, but do not cite clinical evidence to support these recommendations. Published clinical guidelines lack recommendations to prevent PVI. Data demonstrate the increased risk of developing PVI with certain chemotherapy regimens. NCCN guidelines recommend the use of anti-emetics. Recommended agents include fosaprepitant, oral aprepitant, and an intravenous formulation of aprepitant without polysorbate-80; NCCN does not express a preference for one formulation over the other. Evidence from a phase 1 trial suggests that the polysorbate-free formulation may decrease the incidence of infusion site reactions when compared to fosaprepitant. Little clinical evidence explicates interventions to combat fosaprepitant-associated PVI. Phase 1 evidence suggests that a polysorbate-free aprepitant formulation reduces PVI, but these findings must be confirmed in chemotherapy patients. Despite this, current guidelines do recommend polysorbate-free aprepitant or oral aprepitant to reduce PVI. However, the guidelines express no preference for one formulation over the others. Overall, the evidence to guide clinical practice regarding the prevention of PVI is weak. Clinical trials are needed to determine the comparative effectiveness. When the results of those trials are available, guidelines should be updated to guide practice.

HOW DO ONCOLOGY FALL RISK SCORING SYSTEMS PERFORM? A SYSTEMATIC REVIEW

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Oncology Nursing Practice

Patient falls are a serious adverse hospital event. Consequences of falls include unintended injury, additional unnecessary treatment, and increased costs. Fall risk assessment is a mainstay of nursing practice. Despite this, oncology patients experience falls at higher than desirable rates. Several fall risk scales exist such as Morse Fall Scale (MFS) and Hendrick II Fall Risk Model (HFRM II). Studies of oncology patients suggest that a cancer diagnosis alone increases fall risk compared to other hospitalized patients. Among oncology patients, receiving chemotherapy poses an even higher risk for falls. Standard risk factor assessments do not account for these oncology-specific characteristics and therefore may not accurately reflect an oncology patients' risk of falling. The purpose of this systematic review was to evaluate existing evidence on oncology fall risk scales for use in clinical practice. A systematic review of the literature was completed. Databases searched included Medline, CINAHL, Embase, and NICE. Index terms and key words were cancer, oncology, fall*, accident*, risk, predict*, scale*, tool* and screen*. Standard scales were used to appraise the quality of each type of evidence and perform a quantitative synthesis. Conclusions were evaluated using the GRADE system. Of the 1147 references found, 42 were retrieved, and eight met inclusion criteria. References on pre-cancer, outpatient/community care, and survivorship were excluded. Reports on five different fall risk assessment scales were found; three were oncology specific. Oncology specific scales included cancer diagnosis, blood transfusion, and metastatic disease. All scales included gait or use of a mobility device as a falls risk factor. Results from several studies could not be included in the analysis because they used multifactorial assessments, precluding isolation of the fall risk component. In the singular study comparing an oncology specific scale to a standard scale, the oncology specific scale had higher discriminate ability to predict falls. The six guidelines reviewed lacked reference to oncology specific

fall scales. Heterogeneity of the study comparisons prevented full quantitative data synthesis. Limited evidence exists regarding oncology-specific fall risk assessments, and these assessments lack agreement regarding the risk factors they evaluate. Despite this, an oncology specific assessment may improve risk identification in this population. More evidence is needed to determine the factors that contribute to fall risk for oncology patients specifically.

ONCOLOGY NURSING REFERENCE TOOL: IMPLEMENTATION OF SAFE PRACTICE WITH HEPATIC ARTERY INFUSION PUMP

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Oncology Nursing Practice

Hepatic Artery Infusion (HAI) is one of the modalities developed to target unresectable liver metastatic sites and has been in practice for decades. Introduction of various infusion pumps and unique methods to access HAI pumps has required nurses to be abreast of up to date best practices. Adoption of the new HAI pump required further education for oncology infusion nurses. To deliver chemotherapy or heparin safely through HAI pumps, oncology nurses welcomed the challenge to formulate a reference tool. Surgeons and nurses collaboratively identified the need for oncology nurses to be better educated on how to access and program the electronic device safely with the new adapted HAI. Eight nurses were selected to meet with the HAI pump manufacturer to better understand the specificities of the pump, how to access and program the electronic device for delivery of chemotherapy or heparin. Due to the lack of available data in literature regarding accessing and programming the electronic device for safe delivery dosage, four of the nurses initiated a search of practices at different institutions. Nurses and pharmacists explored internal policies for chemotherapy as well as formulated safe processes. Ultimately a reference sheet and updated administration guidelines were created to train and educate team members. The core content of the reference sheet emphasized reviewing the patient's treatment plan (dosage of chemotherapy or heparin), double verification of chemotherapy or heparin per ONS standards, selecting the appropriate insertion kit, preparing the access site, entering appropriate dosage into the electronic device and documentation. The reference tool serves as a checklist for nurses to follow prior and during HAI procedure. Additionally,

pharmacists also utilize this tool to familiarize themselves with the process of accessing the HAI pump. The next phase is to develop an annual competency checklist. Even though HIA pumps have been in practice to target tumor sites for more than 20 years, paucity in literature is noted for access and programming the device. Oncology nurses in the ambulatory setting were challenged to create a reference teaching tool for educational purposes. Oncology nurses in ambulatory settings are continuously reviewing, reinforcing and evaluating practices to provide optimal care to their patients. The reference tool checklist will be used as the base of creating competency checklist.

FACING THE UNKNOWN WITH DATA: STRATEGIES TO MAXIMIZE CARE CAPACITY FOR POTENTIAL RESURGENCE OF COVID-19

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COVID-19

Hematology/Oncology Respiratory Emergency Evaluation Extension Site (HO-REEES) was established in March 2020 for oncology patients with respiratory or other COVID-19 symptoms. Our goal was to isolate symptomatic patients from other immunocompromised patients in the main oncology units, to provide specialized care to patients with known or suspected COVID-19, and to minimize unnecessary patient transfer to the Emergency Department. As we are approaching the respiratory virus season, the prevalence of COVID-19 is expected to increase. With an influx of patients expected at HO-REEES, there is an urgent need to understand our practice patterns and identify improvement strategies to maximize our care capacity. The unit log from April 2020 was reviewed. The incidence of COVID-19 was the highest in April in our state. Therefore, the data is likely to represent our practice patterns during high clinical acuity. Billing data was reviewed for nursing interventions given to each patient. Appointment bookings and duration on selected days were further analyzed. One-hundred-fourteen clinic encounters were reviewed. Common nursing interventions were nasopharyngeal specimen collection (n=100 or 88% of all clinical encounters), lab evaluation (n=52, 46%), and intravenous hydration (n=16, 14%). Other interventions included EKGs (n=6), transfusions (n=2),

chemotherapy administration (n=1), and glucose monitoring (n=1). On average, patients spent 2 hours, 32 minutes at HO-REEES. Most visits were booked on the same day, indicating that most patients had acute clinical needs and required same-day interventions. Our data indicated that the same-day add-on appointments are common and that patients spent a greater-than-expected amount of time at HO-REEES. Therefore, clinical care at HO-REEES is highly unpredictable. Physical, material, and human resources should be readily available to allow unplanned daily visits. Sample strategies to maximize care capacity may include identifying visits that can be moved to an alternative location, e.g., pre-procedure screening for asymptomatic patients, and revising nursing orientation to provide targeted education about common procedures and relevant institutional policies. Strategies to improve efficiency in interdepartmental care coordination may include daily huddles between an HO-REEES representative and nurse leaders from various units. Finally, further interventions should be explored with frontline nursing staff to enhance nursing processes and the unit's operational efficiency.

ONCOLOGY NURSE RESIDENCY PROGRAM: BUILDING A SOLID FOUNDATION FOR NEW ONCOLOGY NURSES

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[Oncology Nursing Practice](#)

Upon evaluation of the onboarding process of new nurses to the Inpatient Oncology Unit at Sentara Norfolk General (SNGH) several educational opportunities presented themselves. These educational opportunities included but were not limited to general knowledge of Oncology Care (key terminology), Symptom Management, familiarity with common chemotherapy regimens administered on the unit, and the purpose of palliative care. To address these identified gaps the Oncology Nurse Residency Program was developed and implemented at SNGH. The purpose of this Residency Program is to lay a solid Oncology Nursing Foundation by providing a learning environment that focuses on assessment and interpretation of labs, doctors notes, and clinical presentations through the utilization of lecture, computer based learning, simulation, and case studies. The Residency program is evaluated based on the feedback of the participants in addition to their individual performance on the unit. The Residency consists of eight sessions that are completed over the course of ten weeks. Staff members enroll in the Residency once

they have been on the unit for six months. The culmination of the knowledge gained in the residency program is evidenced by their Case Study Presentations. Since the implementation of the Residency at SNGH the nurses have a solid foundation which has resulted in them being able to assess their patients effectively through the lens of an oncology nurse, provide the verbiage to have dialogue with the physicians specifically around oncology treatments and interventions, and increase their confidence as new nurses.

A NURSING EDUCATION INITIATIVE: ADMINISTERING INTRAVENOUS HIGH DOSE METHOTREXATE IN THE OUTPATIENT SETTING

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[Oncology Nursing Practice](#)

High dose methotrexate (HD methotrexate) is an antineoplastic agent widely used as treatment for a variety of malignant conditions. Historically, at our NCI-designated Comprehensive Cancer Center (CCC), HD methotrexate requires a hospital admission for close monitoring and supportive measures due to the potential for significant toxicities. Within the past year, the administration of HD methotrexate has begun to migrate to the outpatient setting and the number of cases continue to increase. Treatment in the outpatient setting increases patient satisfaction, and it offers quality, safe, cost-effective delivery of care. As this is new at our CCC, the need for nurse education and guidelines regarding the administration of HD methotrexate has been identified. An on-line pre-test was provided to nurses on three separate CCC units to assess knowledge about HD methotrexate. In collaboration with providers, current evidence was used to create an educational presentation regarding nursing management and administration of HD methotrexate in the outpatient setting. In-person education sessions were performed and this information was also printed into binders that remain on

each unit. An online post-test was given to nurses to evaluate education outcomes. Given the novelty of administering HD methotrexate outpatient, there remains new evidence-based standards to be developed and published. The opportunity to continue to shape nursing practice on administering HD methotrexate outpatient remains and will continue as needed moving forward. The educational presentation will also be placed on OneDrive, our CCC's nursing education website, for any nurse to access when the need arises. The development of a nursing standard of practice that addresses the administration of HD methotrexate is in progress. Once complete, it will be reviewed by our Oncology Nursing Practice & Quality Council, nursing leadership, and clinical services to be published on our institution's intranet site. The administration of HD methotrexate in the outpatient setting requires close monitoring and clinical management by the providers as well as comprehensive education for the patient to be able to effectively manage themselves at home. A patient education packet is in development and will be available to all healthcare providers in the electronic medical record and the intranet library of patient education materials.

DEVELOPING THE NURSE NAVIGATOR ROLE IN THE PRIVATE PRACTICE SETTING

Carol Blecher, MS, RN, APN-C, AOCN®, CBCN®, Alliance Cancer Specialists, Philadelphia, PA; Rebecca Bowers, RN, BSN, OCN®, Alliance Cancer Specialists, Philadelphia, PA

Coordination of Care

The role of Nurse Navigator is diverse, and the role is most often seen in large cancer centers, as it is not a billable service. The Navigator role is underutilized in private oncology practices, due to cost, even though the role has been shown to improve patient satisfaction, knowledge regarding disease and treatment and adherence to protocol. The need for the specific role was identified, as increasing demands for support for high risk patients, patients on oral regimens as well as patient education prior to treatment placed greater demands on nursing time and resources. Developing the role in a private practice required coordination and the support of nursing administration, the providers, the pharmacy staff and the nurses. Administrative support was the easiest, as they saw the value and need for the role. The providers saw the importance of the role, but changing practice patterns was an obstacle that had to be overcome. Two of the physicians assumed the role of advocates and worked with the other providers to create change and a referral process, through task noti-

fications. COVID also presented a barrier in that much of the work had to be done either when the patient had an appointment with the provider or via phone and internet. A system for oral chemotherapy education had to be coordinated with the providers and the pharmacy staff, with the institution of some hard stops in the current practice to allow for Navigator Intervention. Evaluation of the role is ongoing, through assessment of patient satisfaction scores. Increasing numbers of Navigator interventions via phone or face to face contacts. An increased adherence to protocols with fewer hospitalizations needed due to patient ability to easily contact an individual. Despite the fact that the Navigator role is not a billable service it provides a valuable addition to care and patient support in private oncology practice. Through the use of navigation barriers to care can be overcome, there is provision of greater support for both the patient and family and an increase in patient satisfaction can be demonstrated. The Nurse Navigator role in private practice is a novel and innovative approach to patient care, as this role is usually not seen in this area.

CAPS4CANCERS: CARE THROUGH CREATIVITY

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Professional Development

For busy inpatient, oncology staff nurses at an academic medical center, finding additional ways to support cancer patients other than daily nursing care can be challenging. The idea to make fun, creative, retractable badge holders and donate the proceeds was an idea generated by a staff nurse who wanted to go the extra step to support patients and improve staff satisfaction and resiliency. The goal of this project was to raise money for nonprofits that support people with cancer and improve job satisfaction and staff resiliency. Medicine vial flip-off caps from the Hematology/Oncology unit were collected. The caps were used to create different designs for badge holders. Ideas for these unique badges included colorful flowers, animals, movie characters, princesses, etc. Badges would then be sold for \$10. Badges are sold physically on the unit and an online vendor for availability of off-shift staff and staff on other units. As the demand for badges grew, other units were asked to collect more caps. After deducting small production costs, the proceeds of these sales are being donated to different nonprofits every month that help patients with cancer. Previous nonprofits include Be The Match, St. Jude,

Children's Cancer Research Fund, etc. In 16 months of operation, "Caps4Cancers" has sold over 1,200 badges, donated over \$10,000 to nonprofit cancer charities, and saved over 70 pounds of medicine vial caps from going into landfills. Staff that purchased the badges were surveyed post purchase and over 80% of staff reported increased job satisfaction and increased sense of resiliency after implementation of the Caps4Cancer project. The demand and excitement for this project was so high on the oncology units that words spread to other units whose staff also started purchasing badges. Caps4Cancers is impactful for the oncology patient in a variety of ways. It reduces waste and repurposes would-be trash, raises essential funds for cancer nonprofits, improves staff resilience and job satisfaction, and overall brings joy to patients and contributes to their appreciation of staff contribution to the oncology community. Recycling medicine vial flip off caps into badges is a fun project any oncology unit can implement that has a positive impact on staff and patients.

INCORPORATION A "CAN YOU USE" ELECTRONIC PLATFORM ACROSS MULTIPLE CLINIC LOCATIONS

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Coordination of Care

The cost of cancer care is an ongoing challenge in healthcare. Drug cost in the most rapidly increasing components. Managing drug waste in large community-based practice is critical. A new process for using an electronic spreadsheet was implemented to share drugs between clinic locations that are not needed thereby preventing waste due to drugs expiring. Prior to the introduction of this new data base, email chains were used for communicating drug need or availability. This was causing an excessive number of emails for staff to review, as well as miscommunication, which led to an increase in drug waste and poor use of drug inventory. The incorporation of "Can You Use" electronic spreadsheet into our daily practice has been beneficial in several ways, including decreasing the number of emails about drug inventory, decreasing days of inventory on hand and reducing drug waste by more effectively sharing drugs in between clinics. Tennessee Oncology has successfully integrated "Can You Use" into our daily work flow. Each clinic loads onto their page drug that is available for use by others.

Prior to ordering drugs, the Chemo Prep Tech or RN checks the shared spreadsheet to see if there is drug available they need. The application also allows the user to search for a specific drug instead of viewing each clinics page. If that drug is available for use; it is requested and transferred between locations via courier. Since the initiation of this application, staff response, indicates this system has led to a tighter chain of communication and a steady flow of usage of the application. This process has been in effect for a short time, but early outcomes project a positive trend in successfully managing future waste and drug inventory data.

LOOKING AT THE WHOLE PICTURE, A PALLIATIVE CARE SCREENING TOOL FOR POTENTIAL CONSULTATION FOR ONCOLOGY PATIENTS

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[End of Life](#)

Our community-based oncology inpatient unit serves a diversity of oncology patients requiring post-surgical care, chemotherapy, symptom management, palliative care, and end-of-life care. There has been an increasing number patients identified who had unmet needs resulting in clinical deterioration; we identified they could have benefited from a palliative care consult. These events highlight the need to implement a palliative care screening tool to identify patients requiring a palliative care consultation. The purpose of this project was to implement a palliative care screening tool and consultation process as a means to improve symptom management and quality-of-life for oncology inpatients. An initial inpatient staff survey was conducted to discover staff knowledge on when a palliative care consults should be requested. Due to ineffective use of the resources of the palliative care team, it was necessary to determine the inpatient staff knowledge level. A multidisciplinary team benchmarked best practices of other hospitals. Based on survey results and benchmarking, there was room for improvement to effectively use the palliative care team for our oncology patients. The survey indicated a lack of knowledge on the indicators that would result in the need for a palliative care consult. Some examples of issues in which the palliative care team needs to be consulted include: effective pain management, decline in nutrition, goals of care, and home supportive measures. Many new nurses are unaware

of the palliative team mission and supportive measures they provide, as well as, issues and changes that oncology patients have when managing this chronic condition throughout the cancer trajectory. Our unit provides care to patient throughout many phases of their cancer journey; many of whom may benefit from palliative care services to improve symptom management. Our next steps include educating staff and providers on the benefits of palliative care and usefulness of a palliative care screening checklist, followed by implementing the checklist to trigger consultation automatically.

SUCCESSFUL CONTINUATION OF ENROLLMENT AND PROMPT TREATMENT DURING COVID-19 IN A CONCURRENT RADIATION AND CHEMOTHERAPY HEAD AND NECK PROTOCOL

Roberta Sales, MPH, BSN, RN, OCN[®], Memorial Sloan Kettering Cancer Center, New York, NY

COVID-19

A two cohort, non-randomized study to treat patients with oropharyngeal carcinoma began accruing patients in 2017. Patients are treated with reduced doses of radiation and chemotherapy. Cohort A requires patients to have a surgical resection of the carcinoma prior to concurrent photon radiation and chemotherapy. Cohort B patients receive the same reduced chemotherapy dose but are not required to have surgery, and proton radiation is also allowed. Enrollment for this cohort could not begin until accrual for cohort A was completed. When the COVID-19 pandemic emerged in March, surgeries at our hospital were restricted. An institutional review board amendment approved accrual into cohort B. For the benefit of our patients, the oncology nurse navigator (ONN) and oncology nurses, working collaboratively across two institutions, ensured continued accrual without delays in time to treatment initiation (TTI). We know that prolonged TTI affects recurrence and survival. The ONN and oncology nurses understood that once the patient consented, treatment had to start quickly and safely regardless of unexpected barriers due to COVID-19. Eight patients were enrolled into cohort B from April to June. Patient education now included daily COVID-19 updates and telehealth guidelines. Decreased staffing at many organizations required the ONN and oncology nurses to learn about new community resources and go beyond their traditional roles. This included finding “COVID-19 safe” affordable housing, and transportation, which were very limited during the pandemic. Vigilant care coordination

ensured that appointments, including those at an outside proton therapy facility, were scheduled safely and promptly to keep the TTI to a minimum. The median TTIs for these patients were well within an acceptable range (from consent, 12 days; from histopathological diagnosis, 25 days; from first physician visit, 32 days). The nurses’ collaboration and commitment ensured that the patients’ care did not deviate from the pre-COVID-19 period. Nationwide, a significant number of trials stopped during the pandemic. Our patients were able to participate in a protocol that can have a tremendous, positive impact on their lives. The added complexities from COVID-19 did not adversely affect the enrollment or TTI, an important objective for our patients. COVID-19 presents significant challenges to patients and caregivers. Despite the pandemic, the ONN and oncology nurses found new resources and innovative ways to deliver optimum care across organizations.

WHEN LYMPHOMA CROSSES THE LINE: NURSING CARE OF PATIENTS WITH CENTRAL NERVOUS SYSTEM LYMPHOMA

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Oncology Nursing Practice

Central nervous system lymphomas (CNSL), both primary and secondary, are rare diseases with poor prognoses and challenging symptoms. The median lifespan of patients with untreated primary CNSL is 1.5 months, while the life expectancy for secondary CNSL in the setting of aggressive systemic lymphoma is just 2.2 months. At a research hospital dedicated to clinical trials, novel treatment protocols for CNSL are in their implementation phase. Patients with CNSL present with complex symptoms: sensory deficits, memory impairment, cognitive deficits, and weakness of the extremities. To attend to their needs effectively, nurses must be skilled in recognizing neurological emergencies, managing fluid imbalances, maintaining of a safe environment of care, and therapeutic communication. Nurses on these teams must also be proficient in safely using Ommaya catheters to collect cerebrospinal fluid (CSF) specimens and to administer chemotherapy directly into the brain. We hope to share nursing principles learned as we have cared for a high volume of patients with CNSL on these protocols. Our nursing care has five elements. First, we do a neurological assessment every four hours. Second, we perform Ommaya reservoir access following ster-

ile techniques. Third, we monitor fluid balances and patients daily weights, as CNSL patients frequently develop endocrine dysfunctions. Fourth, the diverse clinical presentations of CNSL put our patients at risk for falls requiring creative fall prevention strategies. Lastly, the intricacy of the protocol requirements, the lengthy hospital stay, and the feeling of isolation imposed by COVID-19 visit restrictions make patient and family education more crucial than ever. Thorough neurological and fluid balance assessments as well as hourly rounding have improved early recognition of deteriorating status allowing for prompt intervention. Frequent interaction with patients also aids in preventing falls and improves education as well as psychosocial support for this at risk population. Our organization monitors performance data around falls, and we have seen downward trends in fall indicators. Nurses' adherence to sterile technique has been effective in preventing Ommaya reservoir infections. Treatment of patients with CNSL is challenging. At our institution, adequate staffing, support from nurse educators, and a strategic care model have allowed us to monitor and alleviate the symptoms of CNSL and treatment side effects in our patients.

PATIENT EDUCATION AND MANAGEMENT OF ADVERSE REACTIONS IN PATIENTS WITH UNRESECTABLE HEPATOCELLULAR CARCINOMA (UHCC) TREATED WITH LENVATINIB: NURSE PRACTITIONERS' PERSPECTIVE

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Oncology Nursing Practice

Lenvatinib is a multikinase inhibitor approved in multiple countries as a first-line therapy for uHCC. The phase 3 REFLECT trial showed that median overall survival with lenvatinib was noninferior versus sorafenib (HR=0.92, 95% CI: 0.79-1.06). Although treatment-emergent adverse events (TEAEs) were observed in most patients treated with lenvatinib in REFLECT, these events were largely manageable with standard medical therapy and/or lenvatinib dose modifications (reduction or interruption). TEAEs resulted in lenvatinib interruption in 40%, dose reduction in 37%, and drug withdrawal in 9% of patients. The most

common TEAEs were hypertension (42%), diarrhea (39%) and decreased appetite (34%). In general, HCC often develops against a background of cirrhosis with associated systemic manifestations, which can pose challenges in the diagnosis and management of AEs. Signs and symptoms of progressive liver disease and hepatic decompensation may overlap with AEs or increase their severity. Importantly, studies have shown a correlation between symptom management and oral therapy adherence. As part of a multidisciplinary team, nurse practitioners (NPs) are often one of the primary points of contact for patient education regarding expectations for lenvatinib treatment, means of administration, expected side-effects, and AE management. By providing education, NPs frequently alleviate patient concerns about initiating and maintaining treatment. Moreover, identification by NPs of potentially problematic comorbidities, combined with frequent routine check-ins, help ensure that patients do not discontinue lenvatinib prematurely and maximize treatment potential. In our experience, some of the most challenging treatment-related AEs to manage include fatigue, diarrhea, arthralgia, myalgia, hypertension, nausea, weight loss, and palmar-plantar dysesthesia. When managing these AEs, it is important to consider confounding factors. For example, weight loss may be the result of the disease process as well as additional lenvatinib side effects (ie, diarrhea causes malabsorption of nutrients, fatigue contributes to loss of appetite, and arthralgia leads to immobility and loss of muscle mass). Interventions including medications, referral to a multidisciplinary team, dietary modifications, exercise, and lenvatinib dose modifications often help to manage or resolve these AEs. Additionally, monitoring for liver-disease progression, in combination with AE management, is critical in terms of patient safety, lenvatinib adherence, and quality of life. We report the critical role of NPs in educating patients regarding AEs associated with lenvatinib and provide our strategies for managing challenging AEs to maximize patient benefit.

BACK TO BASICS: CREATING CARE PLANS FOR CELLULAR THERAPY PATIENTS

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Coordination of Care

With the increase of chimeric antigen receptor T-Cell (CAR-T) therapies being studied and subsequently ap-

proved by the Food and Drug Administration (FDA) for certain malignancies, the communication between staff nurses, research staff, and providers is essential. Each cellular product has differing needs for monitoring for cytokine release syndrome (CRS) and immune effector cell associated neurotoxicity syndrome (ICANS) requiring an individualized care plan. Having a personalized plan for each patient will improve communication and assist in closing the dichotomy between commercial CAR-T and research CAR-T plans of care. The purpose of this project was to implement a standard document indicating the projected care plan for the patient throughout their initial 30 days post infusion to assist in the communication and expectations between the medical providers and the nurses who are performing the essential tasks for a successful treatment course. The interventions were to: (a) Develop a standard document that providers will fill out prior to the patient's CAR-T infusion which will be used for all patients, research and commercial, (b) the care plan will include admission details, CRS/ICANS monitoring guidelines, need for telehealth monitoring, etc., and (c) if the care plan is amended after the original care plan is implemented, the provider must fill out and sign a separate form for the revision. Having a streamlined process for implementation of a care plan will be essential for ensuring a safe and effective CAR-T treatment course. By allowing clinical staff, research staff, and providers to be involved in this care plan, the interdisciplinary communication will be greatly improved. The nursing intervention on these patients will assist in the planning of the patient's treatment course and allow for the appropriate education for the patient and caregiver. A document for a CAR-T patient's care plan is currently under development. Having an easy-to-follow and easily accessible document in the EMR will ensure all staff have access to the care plan. The integrated approach to the care of CAR-T patients allows all aspects of the care team to have input on the care of these complex patients. The care plan document will be easily accessible and adaptable with newly commercially available CAR-T products to ensure the safe care of this patient population.

STANDARDIZING A SYMPTOM ASSESSMENT FLOWSHEET ACROSS OUTPATIENT ONCOLOGY INFUSION SETTINGS

Anna Cunningham, MSN, RN, City of Hope Medical Center, Duarte, CA

[Oncology Nursing Practice](#)

According to the Oncology Nursing Society, thorough documentation is essential to avoiding legal, financial,

and regulatory ramifications. Accurate documentation promotes interdisciplinary communication and reflects quality nursing care and nursing's contributions to patient care. Currently, patients receiving outpatient infusions, are assessed according to an inpatient driven review of systems not specific to symptom management. This can lead to inconsistent assessment and documentation of patient reported symptoms. Symptoms experienced by cancer patients related to past or current treatment must be routinely assessed. The use of an electronic flowsheet to direct and capture this data facilitates early recognition of onset and resolution of symptoms that may have clinical significance and impact patient outcomes. The purpose of this project is to disseminate a focused nursing symptom assessment, initially created for a Clinical Trials Unit, to increase documentation accuracy and improve continuity of care for all outpatient oncology patients across the healthcare system. A workgroup was established comprised of 1-2 nursing representatives from each of the five outpatient infusion centers (pediatric oncology, medical oncology, hematology, stem cell transplant, and research). The workgroup collaborated in revising the focused symptom assessment to include essential symptoms and information pertinent to their respective specialties. The symptom assessment was presented to unit nurses, managerial staff, and the appropriate committees for review. Informatics Specialists were instrumental in revising and finalizing the electronic focused symptom assessment flowsheet. In order to evaluate the efficacy of the new symptom assessment flowsheet, a pre and post survey will be conducted October 2020. A directed assessment increases charting congruency, informs nursing practice to provide continuity of care, directs symptom management, and drives patient education. Utilizing standardized documentation across the outpatient setting improves consistency and efficiency in workflow for nursing while providing patients with increased continuity of care. A standardized focused assessment promotes interdisciplinary care, accurate identification and tracking of pertinent symptoms. The electronic flowsheet more accurately reflects unit practices and allows for ongoing evaluation and revisions with the help from information specialists. Collaborating across oncology outpatient settings to develop a standardized assessment to improve patient care, coordination, and symptom management creates new pathways for improved patient outcomes. This process empowers nurses to be decision makers and problem solvers when a need is identified.

BREAST CANCER REHABILITATION PROGRAM: HEALING MIND, BODY AND SOUL

Laura Kaminski, BSN, RN, OCN®, INOVA Life with Cancer, Fairfax, VA

Survivorship

The Breast Cancer Rehabilitation Program was created to provide support and guidance to breast cancer patients as they transition from active treatment to survivorship. Patients speaking with physicians, nurse navigators, and therapists expressed frustration with their lack of knowledge and support as they prepared to enter the survivorship stage. This often left patients feeling anxious, overwhelmed, and isolated after completing treatment. After repeatedly hearing these concerns, the breast team supported this initiative to improve breast cancer survivors' quality of life. The Breast Cancer Rehabilitation Program's structured, multidisciplinary sessions provide support and specialized education regarding important survivorship issues, including nutrition, exercise, and emotional wellness. In addition, the program creates a space for breast cancer survivors to connect with one another. The program is designed to decrease breast cancer survivors' anxiety and to empower them to take an active role in their survivorship plans. Patients receive information regarding the program during their clinic survivorship appointments. Led by a specialist team composed of an oncology nurse navigator, physical therapist, oncology dietician, fitness instructor, and oncology clinical therapist, the six-week Breast Cancer Rehabilitation Program provides comprehensive care. Each specialist leads sessions concerning survivorship and surveillance; physical therapy, occupational therapy, and speech-language pathology's roles in survivorship; brain fog; coping with survivorship's emotional impact; exercise guidelines for survivors; and nutrition in survivorship. Our facility, which piloted the program on January 14, 2020, now offers it quarterly. Although January events were held at the facility, remaining series have been virtualized using the Zoom platform. After completing the series, patients were surveyed regarding its effectiveness. Upon reviewing responses, it was evident that participants both had gained knowledge about addressed survivorship topics and become more confident about navigating survivorship. Feedback received during each series guides adaptation of subsequent offerings to meet patient needs. For instance, supplemental sessions regarding other topics, such as sexual health or insomnia might be added.

PILOT STUDY OF AN ONCOLOGY PATIENT FINANCIAL NAVIGATOR PROGRAM IN A

HOSPITAL BASED OUTPATIENT INFUSION CENTER

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Coordination of Care

Sutter Health serves more than 13,000 new cancer patients each year across the integrated network. National studies demonstrate many personal bankruptcies originate from the financial burden associated with the large out of pocket (OOP) costs that come with cancer treatment. The Sutter Roseville Medical Center outpatient infusion center treats approximately 30,000 patients annually, and aimed to meet our patients with compassion in a crucial moment in their lives by addressing this burden near time of diagnosis through a financial navigation program. This pilot program aimed to demonstrate to hospital leadership the value of adding a patient financial navigator (PFN) to consult on infusion center patients as a permanent part of the multidisciplinary care team. We assessed our current state processes in identifying which patients would benefit from meeting with the PFN, to build our business case to hospital leadership for pilot approval. Patients diagnosed with cancer meet with their medical oncologist and a treatment plan is generated for authorization, at which time the patient's insurance, co-pays and OOP expenses are reviewed. The pilot implemented generating a referral to the PFN once the authorization team determined a financial need. The PFN then performed an intake phone call to describe potential services. During the consultation the PFN screens for financial distress, initiates/completes appropriate interventions, and schedules follow-up visits until active treatment is completed. In the initial 6-month pilot, the PFN navigated 271 patients with an average of \$350 in financial assistance from pharmaceutical co-pay programs, external foundation grants, and insurance optimization. This is projected to annualize net revenue of \$227,088 back to the organization. We project a \$15 in revenue secured each month from the financial navigation program. In a post-intervention survey, 84% of patients found the PFN to be a positive improvement in their treatment experience. As many as 1 in 5 cancer patients cannot afford their prescribed treatment, the direct and indirect costs of cancer continue to escalate. Early patient financial navigation is required to mitigate this financial toxicity. These positive outcomes will assist other hospital based outpatient infusion centers in addressing financial toxicity to improve the patient's experience and outcomes.

THE IMPACT OF CORTICOSTEROIDS ON PATIENTS WITH DIABETES UNDER ANTINEOPLASTI

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Oncology Nursing Practice

Cancer and diabetes mellitus are characterized as one of the diseases that most affect people in the world. And they present growth estimates in the coming years, mainly in developing countries. The incidence of these diseases is associated with factors such as lifestyle changes, eating habits, life expectancy, among others. Despite the growing numbers, there are few studies that assess the impact of these two diseases on the individual. When assessed for severity, cancer ends up being considered to be at higher risk by patients, largely because of its high lethality. However, diabetes mellitus, when undertreated, can also lead to increased morbidity, reduced quality of life and increased mortality rate. In diabetic patients, there are factors that can lead to hyperglycemic conditions, such as food, medication and lifestyle. In cancer patients, the use of corticosteroids during treatment is a regular practice due to its benefits in antiemetic and desensitizing therapies. For this reason, this study aimed to assess the glycemic profile of cancer and diabetic patients during cancer therapy using corticosteroids. Patients were identified using a glycemic device management system and selected according to inclusion and exclusion criteria. The findings were presented through a historical line of glycemic values presented by each patient during the treatment cycles and laboratory tests. Through empirical findings, it is possible to identify glycemic changes in diabetic patients during chemotherapy cycles, when they need to use corticosteroids. In view of this scenario, the oncology nurse must be able to develop nursing care for prevention, treatment and minimization of side effects in clients undergoing antineoplastic chemotherapy using corticosteroids. In this period, the care provided to the patient needs to be redoubled, requiring awareness of the patient and the multidisciplinary team.

SUCCESSFUL MANAGEMENT OF HPV-RELATED OROPHARYNGEAL CANCERS

(OPC) TAKES AN INTERPROFESSIONAL TEAM!

Erin Hartnett, DNP, PPCNP-BC, CPNP, NYU Rory Meyers College of Nursing, Spring Lake Heights, NJ; Judith Haber, PhD, APRN, BC, FAAN, NYU Rory Meyers College of Nursing, New York, NY; Lauren Feldman, DDS, NYU College of Dentistry, New York, NY

Oncology Nursing Practice

Demographics of the population diagnosed with oropharyngeal cancers (OPC) reveal a new at-risk population, HPV is occurring in younger populations. Nurses need to be aware of new population and associated risk factors. The purpose of this presentation is to educate oncology nurses on relationship between HPV and the new population diagnosed with oropharyngeal cancers (OPC). The oral-systemic health issues related to the sequelae of HPV-related OPC surgical and adjuvant therapy will be explored. Prevention, assessment and treatment of demineralization of teeth, osteonecrosis, dysphagia, malnutrition, xerostomia, trismus, and lymphedema will be discussed. You will collaborate to discuss HPV-related OPC as a clinical exemplar that illustrates benefits of interprofessional management for providing effective whole-person care, including strategies for health promotion, symptom management, and self-management. You will describe how you can implement these strategies into your oncology practice.

SEXUAL HEALTH AND INTIMACY IN THE CONTEXT OF CANCER AND COVID-19

Rebecca DiPatri, BSN, RN, OCN®, Life with Cancer, Inova Schar Cancer Institute, Falls Church, VA; Lauren Broschak, MSW, LCSW, OSW-C, Life with Cancer, Inova Schar Cancer Institute, Fairfax, VA; Jennifer Bires, MSW, LCSW, OSW-C, Life with Cancer, Inova Schar Cancer Institute, Fairfax, VA

Patient Education and Safety

Intimacy and sexual health are important components of cancer patients' quality of life, but are often not prioritized within their treatment plan. Patients' sexual desires, physical sexual function, and sexual self-schemas can be impacted by the emotional strain of a cancer diagnosis as well as treatment regimens. In one survey of over 800 cancer patients and survivors, 83% of men and 59% of women reported that it was important to talk with providers about sexual problems, yet only 49% of men and 23% of women reported receiving information about sexual health from an oncology provider. In another study, oncology providers for lung cancer patients reported that communication about sexuality was "limited, insufficient, or poor" de-

spite believing that their patients wanted to discuss the topic. Sexual health continues to be an important part of quality of life, even in the context of cancer and COVID-19. The international pandemic added a layer of complexity for sexual interactions, especially for those most immunocompromised. Given the important role of sexuality in most people's lives, health care providers should consider counseling patients on this topic whenever possible. Telehealth has added an additional complication to having these sensitive conversations, but also provides opportunities to address the importance of sexual health in cancer care. Multiple risk-reduction strategies can be used to continue a healthy sexual life while keeping patients and potential partners safe. We will provide guidance for how to effectively assess sexual health needs, facilitate sexuality conversations, and educate cancer patients and partners about risk-reduction techniques to use during sexual interactions. Effective sexual health education is necessary to provide the information and tools needed to keep cancer patients and prospective partners safe, particularly in the context of COVID-19. Sexual health conversations may be more important than ever before, addressing the emotional and sexual well-being of patients and partners as well as the physical safety of sexual health and risk reduction of COVID-19 transmission.

CONQUERING COVID IN A COMMUNITY CANCER CENTER

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COVID-19

Our community cancer center was engulfed in the Coronavirus Pandemic and developed policies and procedures that could fast track our oncology care to be compliant with safety measures and continue to provide quality care. As every health care facility was challenged to meet the infection prevention demands of this ever-changing uncertain environment, providing guidance and assurance to our staff was critically important. Our center remained open to provide care to our patients who were feeling frightened and abandoned by many providers. A clinical pathway was developed for both radiation and medical oncology that outlined each step of the patient care process in the outpatient oncology arena. The pathway was approved by our team with input by our infection prevention specialists. At onset, all staff with patient facing roles were FIT tested with respirator masks to

ensure they would have the protection in caring for our oncology patients. PPE equipment carts were ready for any suspect or positive patient interaction. An exam room was identified as a staging area for any patients that would screen positive upon entry to the center. The pathway outlined the measures for provider and nurse driven care. Communication with our COVID Command Center was key in ensuring the appropriate care was being provided as daily changes occurred. Education sheets allowed the nursing staff to educate patients on self-monitoring, FAQs and when to call. Patient monitoring was initiated with a pre-screening call to identify any symptoms, phone calls were noted in EPIC for a negative screen and positive screens were triaged to nursing leadership. On treatment days, patients were screened upon arrival and provided an isolation mask. A critical element of our patient centered care was the allowance of one support person to provide the psychosocial support so needed during a cancer diagnosis. Treatment bays were spaced safely with curtains pulled. Staff self-care was so important to maintain physical and emotional health. Staff self-monitored for any temperature or symptoms and to contact their supervisor. Spirit days and fun events were planned to keep morale and spirits high. In evaluation of our efforts to date, we have kept our staff safe and our patients well monitored. We will continue to rise to the challenges each day brings.

THRIVING THROUGH OUR NEW NORMAL COVID-19

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Professional Development

Sylvester Comprehensive Cancer Treatment Center is a newly designated NCI facility in South Florida. We have recently harmonized as we are all under University of Miami Hospitals and Clinics. The purpose of this abstract / project is that similar to our colleagues in oncology we were all challenged to a new normal when Covid 19 hit our community. We strive to give exemplar care to a vulnerable community and we accomplished this in different ways through the pandemic. Some interventions that we implemented not only improved safety also professionally developed our staff to thrive and grow together. Nurses quickly evolved to varying roles, some increased their skill set and became more adaptable to the environment. Throughout the uncertainty our unit maintained and

increased volume over 5 months. This represents the safe care that the oncology population was able to have during a pandemic. This population is the most vulnerable to this virus, and they were able to continue care throughout. Another interesting outcome was that nursing engagement on our unit was increased, through educational offerings and also primary care delivery to their patients without the distraction of visitors. The nurse on our unit stepped up to engage the patients one on one. Though not on a Covid unit, the nurses on our unit stepped up with courage and resilience.

ONCOLOGY NURSE NAVIGATORS UTILIZE PATIENT ENGAGEMENT APP TO MANAGE COVID-19 QUARANTINE AND CLEARANCE IN CANCER PATIENTS

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Coordination of Care

Early evidence indicates that cancer patients may be especially vulnerable to severe COVID-19 illness and negatively impacted by delays in diagnosis, treatment and access to healthcare resources. Oncology clinicians must balance risks of exposure versus oncologic progression. Oncology nurse navigators apply their care coordination and population health expertise to support to persons under investigation for COVID-19 with cancer (PUIs + C). At Miami Cancer Institute, members of the oncology nurse navigation team used a patient engagement mobile app to remotely monitor and manage large populations of PUIs + C over a 5-month period. The purpose of this project was to describe use of a patient engagement mobile app by oncology nurse navigators to help manage COVID-19 clearance in cancer patients. A total of adult 885 patients were enrolled in TapCloud[®] mobile app; enrollees received individualized support from ONNs, including test results (via secure text message), daily symptom monitoring, care planning, and guidance on return to treatment. Using the app, ONNs collaborated with a multidisciplinary Command Center (which included Infection Control and advanced practice providers, as well as

triage nurses) to support timely return to treatment. Review of internal data from TapCloud program revealed that PUIs+C received a total of 2,255 lab results and follow-up guidance for nurse navigators. 187 patients were managed for possible symptoms of COVID-19; 52 patients received post-exposure support, and 646 patients received pre-treatment testing and guidance. Overall, 80% of enrolled patients were highly active in the app, demonstrating engagement with ONNs while completing their care plan. Oncology nurse navigators are well-positioned to manage PUI+Cs during long periods of quarantine, and can use existing skills to triage population-level needs. Mobile apps may offer a dynamic approach to managing large caseloads during public health crises. ONNs can effectively address the needs of PUIs + C, particularly in complex cases (e.g. rapidly progressing disease, persistent positive COVID-19 status). This project featured 2 unique innovations: (1) the use of ONNs existing skillsets including care coordination, oncology expertise and population health approaches to manage care of PUIs + C and (2) the application of a patient engagement mobile app to support real-time communication between patients and ONNs over prolonged period of quarantine.

TELEHEALTH DURING THE PANDEMIC OPENS NEW OPTIONS FOR ONCOLOGY NURSING IN ONCOLOGY PHYSICIAN PRACTICE

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COVID-19

Overnight, oncology nurses in a private practice setting began working remotely due to the pandemic—COVID-19. The need for social-distancing and limiting patient exposure was real and we needed to respond quickly. The purpose of this project was to provide quality patient care to patients with cancer but limit their exposure to the practice setting and health care providers. Interventions: 6 RNs for a 6 Physician oncology office practice. We reduced the workforce of the front-line to 2 RNs on-site and 4 RNs working remotely. The physicians also decreased to 2 physicians on-site and the remainder worked remotely. Virtual visits became reality. The Hospital Network's IT department, quickly had the physicians capable to complete Video-visits and phone visits. They also assisted the nursing staff with laptop computers and connectivity capability to work from home. Patients that needed face to face visits remained on the schedule and were seen by the physicians and nurses on-site. As the months passed, the nursing staff found

that working remotely was working well and they actually liked it from the traditional way of practicing nursing. Job satisfaction and flexibility was increased. By May 2020, we increased to 4 RNs on-site and 2 RNs remained working remotely. As cases of COVID-19 decreased, our Network lifted who needed to continue working remotely. At that point, we gave the RNs the option of continuing to work remotely on a rotational basis if they wished to do so. This option was a management decision to increase job satisfaction and flexibility. A schedule was developed and guidelines established. Patient care was not compromised and it allowed for greater flexibility for the staff. Our patient satisfaction scores remained consistent during the Pre-COVID period compared to the Post-COVID scores. The number of employed workers who had the ability to work from home has increased nation-wide. We, as a Nursing department at our Cancer Institute wanted and needed to respond as to not lose valued RNs. This new model would allow us to not have our current staff look for job opportunities that would allow them to work remotely and have greater flexibility, without compromising patient care.

45TH ONS ANNUAL CONGRESS CANCELED? WHAT TO DO WITH OUR ACCEPTED ABSTRACTS AND DEVELOPED POSTERS?

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[Oncology Nursing Practice](#)

Novel Coronavirus-19 took the nation by storm early 2020 leading to various changes in everyone's normal routines. Oncology Nursing Society (ONS) was no different and made the decision to cancel their annually recurring congress for April/May 2020. NYU Langone Perlmutter Cancer Center, an NCI-designated Comprehensive Cancer Center, had eleven posters accepted for this annual conference and the posters had been developed prior to the cancellation. The question then became how can we recognize our staff for their hard work? Nurses who led these initiatives were eager to share their work with colleagues. Due to the circumstances along with the ongoing uncertainty of how things would be in the coming months, including if there would be an ONS conference, per-

mission was obtained from ONS for our proposal of a virtual conference where only employees at NYU Langone Health would be invited to attend. A taskforce was formed to brainstorm the best way to share all of our accomplishments and it was decided that a conference would be held through our virtual meeting platform, Webex. This would then require each individual poster have a recording with one of the authors discussing the project the poster focused on. We then arranged individual recording sessions with each author and made a calendar of when each was available. Unfortunately, this would not work for everyone as one was on maternity leave, and others had work/family conflicts with their scheduled times. An online application was brought to our attention by one of the authors as she used it for school presentations. This program was shared with those who were unable to record live. These videos were all placed in a PowerPoint presentation; we also wanted the audience to have time to read the actual poster. After the recordings completed, we then presented the poster alone for an additional 30 seconds for participants to finish reading. This virtual "ONS Congress Posters at NYU Langone Health" conference is scheduled to take place August 2020. The virtual conference will be available on our internal education site for anyone who missed the "live" presentation. The oncology nurses, with the support of their leadership, will be able to present their hard work even in the most challenging times.

STANDARDIZATION OF MANAGEMENT OF CARDIOVASCULAR IMPLANTABLE ELECTRONIC DEVICES IN RADIATION THERAPY

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[Treatment Modalities](#)

Cardiovascular Implantable Electronic Devices (CIEDs) have become a standard of care for treatment of a variety of cardiac arrhythmias. As such, the number of CIEDs in use has continued to rise. The result has been an increase in the frequency in which oncology patients undergoing radiation therapy also have a CIED. Radiation can result in damage to the device, oversensing of electromagnetic signals, changes in pacing thresholds, premature battery depletion, and device failure. There has been a lack of congruency among manufacturer recommendations as well as cardiology and radiation oncology approaches to managing and checking CIEDs during radiation treat-

ment. Radiation Oncology nurses are responsible for coordinating the care between the radiation oncology clinic and the device clinic and find themselves having to help work through these incongruencies. The American Association of Physicists in Medicine (AAPM) recently released guidelines on the management of patients who are under radiation therapy with implanted cardiac devices. The purpose of this project was to standardize the management of radiation therapy patients with CIEDs based on AAPM guidelines. Interventions included updating the EMR to align with the guidelines, improving the intake process to identify patient with CIEDs and developing a workflow and standardized communication with the device clinics to improve clarity and efficiency. A baseline assessment of nursing knowledge and perceptions around the communication process was performed as well as tracking of safety events related to CIEDs. Post implementation, nursing knowledge increased and the perception of the communication with the device clinics was improved. Additionally, there were no safety events related to CIEDs. An evidence-based standardized approach improves patient safety and eases the burden of coordination of care for the oncology nurses. Modernizing the approach also enables the team to utilize the capabilities of the new devices to be checked and monitored remotely, further reducing the workload of the nursing staff in coordinating device checks.

UTILIZING DESIGNATED ICU NURSES TO UPTRAIN ONCOLOGY STEPDOWN NURSES IN CARING FOR CRITICALLY ILL PATIENTS DURING THE COVID-19 PANDEMIC

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COVID-19

During the COVID-19 pandemic, this 514-bed Magnet recognized Comprehensive Cancer Center needed to prepare the Intensive Care Unit (ICU) for a surge. ICU capacity was increased 150% by converting 2 dialysis rooms and 28 Stepdown beds to ICU rooms. With the rapid increase in ICU-capable rooms, there was a greater need for critical care Registered Nurses (RNs). The ICU “Support RN” role was created by nursing leadership to help transition Stepdown nurses to critical care nursing. A group of 15 “Support RNs” trained and worked alongside the 80 Stepdown RNs caring for critically ill patients. “Support RNs” creatively devel-

oped effective teaching methods with assistance from the Nursing Professional Development Department. Through the use of hands-on activities at the bedside, mock codes, ICU shadow days, online telemetry modules, and the development of an “ICU 101” handbook, these RNs were able to expand their critical care knowledge, in order to competently care for ICU patients with supervision. “Support RNs” utilized the teach-back method, a research-based tool that has proven to be effective in patient education. COVID-19 ICU patients provided many challenges to these seasoned oncology Stepdown nurses. While proficient in caring for patients on long-term ventilators, they lacked experience with Acute Respiratory Distress Syndrome (ARDS). Preliminary research had identified that mechanically ventilated COVID-19 patients required higher sedation and analgesia to obtain ventilator synchrony. Along with sedation and advanced ventilator settings, these nurses required education and supervision regarding endotracheal intubation, paralytics, sedatives, vasopressors, and hemodynamic monitoring. “Support RNs” worked hand-in-hand with Stepdown RNs when caring for these challenging cases. On March 29, 2020, the first COVID-19 ICU patient was admitted to Stepdown and the staff were ready. The ICU RN to Stepdown RN ratios were small: 1 ICU RN to 2–3 Stepdown RNs. As the weeks continued, ratios were increased as a result of increased competency among nursing staff, with the ICU “Rapid Response Nurse” remaining as an available resource. Eventually, ICU RNs were removed from the Stepdown unit on July 8th, 2020, after treating over 100 critically ill patients across the platform. Due to the educational efforts of ICU “Support RNs”, these Stepdown nurses are capable of caring for ICU patients in the event of another COVID-19 surge.

ASSESSMENT OF FRAILTY IN ELDERLY CANCER PATIENTS: AN INTEGRATIVE REVIEW

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With the epidemiological transition of the last years, an increase in the elderly population is observed in Brazil, with a consequent increase in the incidence of chronic diseases, especially cancer. There are few clinical trials that investigate the specificities of cancer therapies for the elderly, often performed based on chronological age, which does not reflect the het-

erogeneity of this population and provides low tolerance to treatment. The decision-making process must consider evidence that favors the choice of the appropriate cancer treatment, including frailty, a multisystemic framework of slow installation and consequent vulnerability of homeostatic regulation. Thus, the International Society of Geriatrics and Oncology (SIOG) recommends geriatric assessment for all elderly people over 70 years of age. The Comprehensive Geriatric Assessment is the most used strategy to assess frailty in the elderly. However, its application is extensive and must be made by a geriatric specialist, making it difficult for health services to use it. It is necessary that there are instruments of rapid application, validated, that can be used by nurses to optimize the assessment of frailty in the elderly with cancer. Thus, the objective was to identify in the international literature the instruments validated for assessing frailty in elderly people with cancer. It is an integrative review, with articles selected from searches in the databases, Medline, Scopus, Embase and Lilacs, with search outlined from the PICOT strategy, using the descriptors: “frail”, “frail elderly”, “Aged”, “neoplasms” and “validation studies”. The sample of this review, after selection by inclusion and exclusion criteria, was 11 articles. The results showed that the frailty assessment instruments validated for use in elderly people with cancer are: Frail Discriminant Score, Oncogeriatric Screen, Vulnerable Elders Survey, G8 Screening Test–Alternative test and G8 Screening Test–Optimized. All instruments assess frailty based on the theoretical framework of the frailty phenotype defined by Fried, and were classified as screening instruments, applied by nurses, for the initial identification of frail elderly people. So far, only the Vulnerable Elders Survey instrument has been translated and adapted to Portuguese spoken in Brazil. None of them has been tested for their validity and reliability for multidimensional measurement of frailty in elderly people with cancer. Psychometric studies are necessary for the use of such instruments in clinical practice.

IS THERE AN APP FOR THAT? AN INTEGRATIVE REVIEW OF THE USE OF SMARTPHONE MOBILE APPS FOR PATIENTS TAKING ORAL CHEMOTHERAPY

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[Patient Education and Safety](#)

The goal of this integrative review was to explore the state of knowledge on the use of smartphone mobile apps for patients taking oral chemotherapy. Specific-

ly, looking at the adherence rates for oral chemotherapy in patients who utilized smartphone mobile apps in research studies and any roadblocks for patients. Cumulative Index to Nursing and Allied Health (CINAHL) and Ovid Medline electronic databases were searched for publications between 2010 and 2020. Search terms included oral chemotherapy, oncology patient, smartphone mobile apps, technology, and adherence. This review provides information about the use of smartphone mobile apps in patients taking oral chemotherapy. Nurses understanding of technology that may be useful for patient adherence while taking oral chemotherapy could help improve patient adherence rates and patient outcomes. Identifying patient characteristics that are more likely to understand and use a smartphone mobile app properly is part of the process to better leveraging technology for patient’s taking oral chemotherapy. Many apps are available for patients to use so choosing the one best for individual patients is a critical step. This review presents various apps that are currently available and delineates between various app features. Through closely working with patients, who are utilizing smartphone mobile apps, the oncology nurse can promote better adherence.

PUMPED UP! INCREASING PATIENT AND STAFF SATISFACTION THROUGH EDUCATION

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Staying on schedule can be a challenge for any infusion nurse in an ambulatory infusion room. Chemotherapy infusions are allotted specific chair times and any deviation can lead to a nightmare. When a nurse is assigned a first time patient with a CADD ambulatory infusion pump the nurse is tasked with providing pump education and guiding the patient through signing various forms required by the pump company. Time spent educating the patient and signing forms can lead the nurse getting behind schedule and leaving the patient dissatisfied and anxious because they did not have time to ask questions and become acquainted with the pump. It was identified that pump teaching added an extra 20 minutes to a patient’s chair time, and over a year various solutions were trialed in order to reduce pump education time. The most efficient method of pump education was assigning an infusion nurse to the patient’s chemotherapy education session, done up to a week before their first scheduled infusion, during a time when the nurse did not have an infusion patient scheduled. This left the nurse free to spend time with the patient in an exam room, away from the treatment

room, where they and the patient were not rushed. Implementing scheduled pump teaching lead to increased patient satisfaction and reduced patient anxiety because there was increased time to ask questions and allowed the patient to formulate questions before they were connected to the pump during their first treatment. This also increased infusion nurse satisfaction because the nurse did not have to worry about getting behind schedule. By implementing ambulatory infusion pump teaching during a patient's initial chemotherapy education session patient and nurse satisfaction were increased, patient anxiety was decreased, and the infusion center maintained an organized workflow.

UTILIZING SUPPLEMENTAL LEARNING MATERIALS TO ENHANCE EDUCATION IN NEWLY DIAGNOSED ONCOLOGY PATIENTS IN THE OUTPATIENT ONCOLOGY CARE SETTING

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Patient Education and Safety

Patients receiving a new cancer diagnosis often experience a flurry of emotions ranging from shock and fear to anger and resentment. Although patients may receive the information necessary to make informed decisions, they can easily become overwhelmed and disoriented by the amount of information presented. Nurses have a vital role in providing quality education for patients, especially those dealing with new, complicated diagnoses, like cancer. Nurses are in a unique position to positively impact both the anxiety and satisfaction felt by patients through supplying adequate education on their plan of care - to the level of their understanding. This analysis aimed to examine the benefit of utilizing supplemental educational materials during one-on-one patient education before chemotherapy/biotherapy treatment. To facilitate learning among newly diagnosed oncology patients, all patients receiving first-time treatment also receive individualized education. Each patient is given an education folder, that includes an easy-to-read illustration, that highlights potential side effects and identifies when to seek treatment (i.e. fever). During this discussion, the nurse reviews the treatment regimen, adverse reactions, identifies potential barriers to therapy, and addresses patient questions and concerns. This reference sheet was implemented in the patient education process in the Outpatient Oncology Clinic in 2017. Since then, each patient receiving initial chemotherapy/biotherapy treatment has received a copy during their education. The material included is discussed in detail with the patient and family and is giv-

en to them prior to discharge from the clinic. An educated patient is an empowered patient; as such, nurses must assume and embrace an active role in oncology patient education, especially regarding treatment-related complications. Ensuring the adequate education of patients in addition to providing supportive documents to bolster patient understanding of complex information can have be major contributing factors to the successful completion of treatment. Oncology is an ever-changing field; each day, new therapies and procedures are employed in the treatment of cancer. Finding meaningful ways to provide education to an already inundated patient population can be challenging; however, with creative thinking and employment of readily available resources, nurses can keep their patients educated and well-informed.

PREVENTING FALLS: IMPLEMENTING CONTINUOUS VIDEO MONITORING (CVM) ON PATIENTS RECEIVING CHIMERIC ANTIGEN RECEPTOR T-CELL (CAR-T) THERAPY

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Oncology Nursing Practice

Falls are a major concern for oncology patients; they have unique risk factors associated with the side effects of treatment. CAR-T patients have a higher fall risk due to symptoms caused by cytokine release syndrome (CRS); a systemic inflammatory response that can lead to organ dysfunction and neurotoxicity. A fall during this period can cause complications, increase length of stay and cost. There were 127 falls in oncology in 2018, 64 related to ambulating without assistance. CAR-T patients enter the hospital with high levels of functioning which are abruptly altered during treatment. Due to these rapid changes in physical well-being, perception of their fall risk is variable. The aim is to decrease the fall rate during CAR-T therapy. Implementation of CVM at the onset of CRS will provide safety monitoring at this vulnerable time. Utilizing the American Society for Transplantation and Cellular Therapy (ASTCT) guidelines for CRS grading, an algorithm was developed. CVM is implemented upon assessment of Grade 1 CRS; fever greater than 100.5F with or without myalgia, arthralgia, and malaise. Pre and post intervention fall data on the pilot units will be compared to assess the impact. There were zero falls reported for patients in the pilot. CVM is an innovative strategy to improve safety and prevent falls in the CAR-T population. The implications of this pilot can translate to other high fall risk patient populations as an additional cost-effective safety measure.

NF1 RELATED GIST. THE IMPORTANCE OF GENETIC DIAGNOSIS FOR TREATMENT OF GIST

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[Screening, Early Detection, and Genetic Risk](#)

Type 1 neurofibromatosis (NF1) occurs in 1 out of 3000 individuals and is known for its variable expressivity of clinical features and risk for tumor formation. The prevalence of gastrointestinal stromal tumor (GIST) is 5-25% in the NF1 population, with higher rates found incidentally on autopsy. GIST has been reported with NF1 to harbor a specific phenotype; typically when present, they are located in the small bowel rather than the stomach, usually do not cause symptoms, are multiple in number, and are KIT and PDGFRA gene negative. They usually show a low mitotic count with the minority found to be in the high risk group to metastasize. A few studies have shown treatment response of NF1 related GISTs to imatinib is poor, which is a first line small molecule tyrosine kinase inhibitor (TKI) used to treat sporadic GIST. Response to other TKIs and other protein kinases (mTOR and MAPK) is largely unstudied. A 43 year old man presented to our surgical team with one month of nausea, vomiting, and abdominal pain. Abdominal CT scan revealed mild small bowel obstruction with multiple hyper-enhancing nodules in the central pelvis with studding appearance along the small bowel suspicious for malignancy. He underwent partial small bowel resection. Pathology revealed multiple T1No gastrointestinal stromal tumors (GISTs) that were KIT and PDGFR gene mutation negative. On physical exam, his surgeon noted numerous cutaneous nodules on his trunk suspicious for neurofibroma. His wife reported a positive family history of NF1 in his niece. Before his genetic evaluation, he was seen by medical oncology and started on imatinib. The patient was referred for genetic counseling; there appeared to be multiple affected family members consistent with autosomal dominant inheritance, although only his niece was formally evaluated. His genetic results revealed a pathogenic splice site mutation in the NF1 gene noted as c.7806+2T>C. Imatinib treatment was discontinued and he is being followed with abdominal CT scan every 6 months, and remains stable. Confirming a genetic diagnosis helps determine management approach compared to a diagnosis of sporadic GIST. In addition, confirming a genetic diagnosis informs the patient and providers of the risk for other malignancies, recommended surveillance

and management for other NF1 comorbidities, and allows for cascade testing of at-risk relatives.

CANCER, COVID AND CHEMO CARE

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[COVID-19](#)

The Covid virus hit the US mid-March bringing with it fear and uncertainty for all of us. The unknown for the cancer patients was increased 10-fold with the addition of the virus and treatment considerations to their Cancer care plan. Working at one of the largest county hospitals in the country we have a large cancer population who are indigent with no health insurance. This already creates an uncomfortable atmosphere in the community, creating treatment delays of new and ongoing Chemotherapy patients. When these patients did show up, it was in more advanced stages of disease. As a comprehensive cancer center, we made a commitment to no delays and to maintain our cancer patients care and treatments. The Covid virus did create environmental issues that created treatment issues. We needed to build pathways to guide us with cancer care and Covid issues. Pathways created to assist us with guidance of when to treat included 1) Newly diagnosed cancer patients with Covid. 2) Patients actively on chemo with Covid. 3) Patients recovering from chemo with Covid. Other issues were patients showing up for chemo treatment with active exposure to Covid, on quarantine for Covid and active Covid symptoms. Key policies, practices, information, and activities on COVID-19 were developed to provide guidance in all these categories. Examples included Covid testing all Chemo Admissions on the day of admission. We did not have the ability to test all the ambulatory chemo patients due to large volume. For this cancer patient population, we developed a phone screening questionnaire, the day before all treatments. When to treat was also another issue. Newly diagnosed patients with advanced disease were the most complicated treatment decisions. For those patients and others in some form of treatment we utilized a variety of recommendations from NCI, ASCO, CDC and our internal Oncology team. Treatment guidelines focusing on the disease process and the patient physical condition were developed. This resulted in pathways for treatment decisions and safer admissions guidelines for the inpatient oncology unit and the infusion clinic. All these pathways resulted in safer transition to treatment with improved guidelines to protect the cancer patient and the employees caring for them.

KEEPING ONCOLOGY PATIENTS SAFE DURING COVID: THE IMPLEMENTATION OF A FEBRILE NEUTROPENIC CLINIC

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COVID-19

2020 and the COVID-19 pandemic changed the world as we knew it. COVID-19 was quickly identified as a global pandemic, and oncology patients were considered one of the highest risk populations for mortality if they became infected. Concerns arose for the safety and care of patients receiving chemotherapy who present with fevers during their expected nadir period. There was a need at the outpatient cancer center to separate febrile patients with potential COVID-19 from other oncology patients. There was also a growing concern for febrile neutropenic patients' potential exposure to COVID-19 in the emergency department (ED). The purpose of this project was to establish a new urgent cancer clinic for febrile neutropenia patients during the COVID-19 pandemic. The goal is to have febrile neutropenia patients avoid the ED, where they could possibly be exposed to COVID-19, but also isolate febrile patients with potential COVID-19 from other oncology patients. A private, confined clinic space was identified with a closed waiting room and converted into a modified infusion clinic. Inpatient oncology and infusion nurses were identified to staff the clinic and the necessary eRecord and COVID-19 training was completed. Workflows and decision trees were created to identify patients who would be evaluated in the clinic, provider coverage, and plans of care. A treatment algorithm and order set was created following febrile neutropenia and COVID-19 guidelines, including blood work, blood cultures, COVID-19 testing, IV access, IV antibiotics, and admission, if indicated. In the first three months, 24 patients were evaluated in the clinic; 11 were treated and discharged home, 6 admitted to a rule out COVID unit outside the cancer center, and 7 were sent to the ED after clinic hours for admission to the cancer center, pending COVID-19 test results. 17 patients were able to avoid the ED. The interdisciplinary collaboration led to the success of the clinic and the delivery of high-quality care to 24 severely immunocompromised patients. The unprecedented pandemic necessitated the rapid establishment of new workflows and clinical care for

vulnerable neutropenic cancer patients. Clear communication and institutional commitment to patient safety led to the clinic's success.

OPTIMAL TREATMENT OPTIONS FOR RADIATION PROCTITIS

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Symptom Management and Palliative Care

Radiation proctitis is a complication to those receiving radiation for diagnoses of: prostate, colon - anal - rectal, cervical or ovarian cancers. Radiation proctitis occurs because healthy tissue can be damaged while targeting the tumor. This side effect can be devastating to patients as the symptoms can be: rectal bleeding, pain and fecal urgency along with intermittent incontinence. This complication can occur during treatment or even years after treatment is complete. I would like to review interventions to help reduce symptoms. Supportive care is the main treatment of acute radiation proctitis. Acute proctitis is when this symptom is during treatment to within 3 months while chronic is 3 months or after. Keeping these people hydrated, administering/recommending antidiarrheals and sometimes steroidal enemas are needed. Chronic proctitis is a bit of a different picture. This is first managed with non invasive measures, like hyperbaric treatment, anti inflammatory agents, sucral-fate enemas, antioxidants and the above treatments named for acute proctitis. If not effective, we would have to move to more invasive treatments like surgery and / or ablation. Once proctitis is chronic, we refer to GI for evaluation and treatment. Our goal of any treatment is quality of life. This ties a bit into survivorship and living with outcomes/ side effects of cancer and it's treatment. We have a responsibility as oncology nurses to assess for radiation proctitis while on treatment and at each follow up after completion of treatment. This starts with a good bowel habit assessment at consult for any patient that will be receiving pelvic radiation. Once this is done and documented, this allows us to assess each week during treatment and at follow ups and compare to initial bowel assessment. This is a very important step. I had one patient tell me they wouldn't have chosen radiation if they had known this was going to happen. Fortunately, radiation proctitis incidence is decreased as new innovative techniques are being implemented to decrease side effects or damage to healthy tissue. We now use intensity modulated radiation therapy, rectal balloons or space OAR (gel inserted between prostate and rectum) and/or gold markers (prostate cancer) to

decrease the risk of damage to the healthy tissue. I have personally seen huge improvement with some of these new techniques.

EVALUATING OPTIMAL TREATMENT STRATEGIES TO PREVENT THE PROGRESSION OR RECURRENCE OF GESTATIONAL TROPHOBLASTIC DISEASE (GTD) TO MALIGNANT DISEASE FORMS

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Treatment Modalities

Gestational Trophoblastic Disease (GTD) is a “rare complication of pregnancy” that may lead to dangerous malignant disease forms identified as Gestational Trophoblastic Neoplasia (GTN). Alazzam et al report though GTN is “highly curable”, approximately one quarter of GTN cases may not be receptive to initial treatment, and if GTN is untreated or improperly treated the likelihood of recurrence and/or mortality greatly increase (2016). Several treatment strategies have been employed globally, yet it is unclear which treatment strategy is best to prevent GTN recurrence after treatment resistance. Additionally, the strength of available evidence to support research findings is unclear, due to a very limited number of Randomized Control Trials. The purpose was to determine optimal treatment strategies to prevent the progression or recurrence of gestational trophoblastic disease (GTD) to malignant disease forms. A search for systematic reviews using PubMed and the Cochrane Database was performed to determine most effective treatment strategies for preventing the progression or recurrence of gestational trophoblastic disease (GTD) to malignant disease forms. Results revealed that further evidence is needed, and though existing evidence is weak, results 3 systematic reviews indicates chemotherapy should be first line treatment for GTN, and prophylactic treatment of high and low risk GTD. Nurses and nurse practitioners working with patients with GTN, or at risk for development of GTN following diagnosis of GTD should be aware that research regarding treatment strategies is limited. GTN is a rare form of disease that impacts a small patient population making randomized control trials difficult, and current evidence suggests treatment should be based on specific disease characteristics.

NURSING ADMINISTRATION GUIDELINES FOR TOPICAL THERAPY VIA CYSTOSCOPICALLY PLACED URETERAL

CATHETER FOR TREATMENT OF UPPER TRACT UROTHELIAL CARCINOMA

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Treatment Modalities

Upper tract urothelial carcinoma (UTUC) is a rare diagnosis with limited therapy options. Standard of care typically includes systemic platinum therapy, laser ablation, or nephroureterectomy. Patients with UTUC often do not qualify for systemic chemotherapy treatment due to renal insufficiency and the risk for toxicity. The use of topical therapy via percutaneous nephrostomy or cystoscopically placed ureteral catheter has been published as a successful treatment option for this patient population. Even less publications are available regarding the administration guidelines and nursing considerations for this treatment route. After literature review and collaboration with quality management, genitourinary medicine, and nursing; a policy, procedural checklist, and administration document was created to guide nursing practice for this novel treatment method. Topical therapy is administered through a ureteral catheter that is inserted via fluoroscopic guidance into the renal pelvis. Once the catheter has been drained, it is connected to extension tubing of a primed 35 cm manometer and stopcock set. The manometer is placed level with the patient’s kidney and a baseline pressure is recorded. The chemotherapy is then attached via gravity tubing with a flow regulator included to regulate the rate of the infusion over two-hours. The patient is instructed to turn every fifteen minutes and the ureteral pressure and position are recorded. It is important to measure the ureteral pressure as if it raises above 30 mmHG or the patient complains of discomfort, the infusion needs to be slowed or stopped until either diminish. One to one nursing is required for this procedure. The nurse must be able to assess the patient every fifteen minutes and continuously monitor the ureteral pressure during administration. After careful research of the practice; a policy, checklist and education were completed for staff administering this novel therapy. At the time of this writing, one patient had received treatment successfully without exposure to staff or adverse events. When presented with new administration techniques, many considerations need to be addressed including patient and staff safety. Presenting procedural considerations for new administration techniques in detail to the oncology nursing

community may stimulate readiness to perform new procedures and expand treatment options for delicate patient populations.

THE AGE OF TELEHEALTH AND A SYMPTOM MANAGEMENT GUIDE FOR ONCOLOGY NURSES

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Symptom Management and Palliative Care

With the emergence of COVID-19, telehealth has become and will continue to be an essential part of daily nursing practice. Communication with patients can be achieved through several different methods, such as telephone or video visits or via a hospital-based patient portal. Maintaining contact with oncology patients and their caregivers while they are at home with the ability to assess and manage their symptoms from a distance is integral to the care continuum. Efficient and effective triage can result in improved patient outcomes, provides a means for continuity of care and patient education, and may prevent unnecessary office and or urgent care visits without compromising patient outcomes. The Telephone Triage and Symptom Management Protocol Manual was a standardized tool previously developed at our institution to help nurses assess and triage patients over the phone; however, a new edition has been created and renamed the Symptom Management Guide. The new edition expands to include the many ways we communicate with our patients and families and includes both adults and pediatrics. The updated manual is evidence-based and specifically addresses oncology patient treatments and associated symptoms. There are forty-nine symptoms detailed and many are specific to oncology patients, such as neutropenic fevers, radiation dermatitis and neuropathy. Each symptom was updated and reviewed by a group of nurse experts and approved through our shared governance structure. Each section of the manual is specific to a symptom that a cancer patient may report and includes the following sections: assessment, triage and management. The assessment section lists specific questions that are important for the nurse to ask regarding location, character, severity, and timing of the symptom. There are also questions listed to elicit information about associated, influencing and predisposing factors. The triage section of the manual clearly outlines which reported answers to the previously outlined questions would classify the pa-

tient's condition as non-urgent, urgent or emergent. Based on the classification, the nurse then refers to the management section which will help them to either guide the patient in home management methods or escalate the problems reported. This Symptom Management Guide gives nurses the tools they need to provide evidence-based care to patients through telehealth and could be used in institutions wherever oncology patients are cared for.

STANDARDIZING NURSING PRACTICE FOR FLUSHING AND LOCKING CENTRAL VENOUS CATHETER, UTILIZING EVIDENCE-BASED PRACTICE PROCESS

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Oncology Nursing Practice

Maintaining patency in Central Venous Catheters (CVCs) continues to be a challenge, although the practice vary greatly in prevention of CVCs, in reality most institutions recommend the use of heparin when the CVC is not in use. However, there is debate regarding the need for heparin and evidence to suggest that normal saline may be as effective. The use of heparin is not without risk, may be unnecessary and is also associated with increased costs. Evidence-Based Practice process was utilized raised practice question in regards the technique of flushing and locking replacing normal saline instead of heparin. The purpose was to improve nurses' understanding through utilizing Best Evidence-based practice process was used to standardize the practice for flushing and locking CVCs. Johns Hopkins Nursing Evidence-Based Practice (JHNEBP) model was adopted, practice question was raised for the technique of flushing and locking. RCTs were evaluated the use of Normal Saline versus Heparin to maintain the patency of CVCs among adult and pediatric patients were included in the meta-analysis. References of relevant papers were reviewed manually. No language restriction was applied. Non-human studies were excluded. Data were extracted and appraisal undertaken. The studies that compared the efficacy of normal saline versus heparin to prevent occlusion were included. At the completion of the evidence-based process, adjustments were made to the CVC policy and clinical practice guideline, which was then vetted through both, the institu-

tion's professional development and quality council. The elimination of heparin use for locking, as well as the flushing and locking technique guidelines was well established, using two prefilled syringes of normal saline (10 ml each), after each access or use of the CVC line, locking using a pulsatile technique (rapid push-pause sequences when injecting the flush solution into the catheter to create turbulence) and subsequently closed with a positive-pressure valve needleless connector to prevent CVCs occlusions. Nurses are active member of the interprofessional team, who have valuable contribution in nursing shared-decision making, Utilizing the JHNEBP, who provides nurses with opportunities to promote nursing practice through translating the research into practice, and add value to patient and their families. Applying evidence-based practices (EBP) Model is crucial for the nurses to have the opportunities to improve patient's quality of care

EXPERIENCES OF BREAST CANCER SURVIVORS DURING THE COVID-19 PANDEMIC: A QUALITATIVE STUDY

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Survivorship

Regardless of being exposed by COVID-19, individuals affected by cancer face drastic changes in their treatment and survivorship care that may have long term effects and need to be addressed. At this time, there is limited evidence regarding the impact of COVID-19 on cancer survivors, particularly those who have completed treatment. Therefore, this qualitative study aimed to explore the experiences of women affected by breast cancer in survivorship during the COVID-19 pandemic. This study employed a qualitative descriptive design, including semi-structured interviews with 18 women affected by breast cancer who completed their active medical treatment for cancer within the last five years in Istanbul, Turkey. A directed content analysis was performed using the quality of life domains as guiding themes. The mean age of the women was 51±5.9, and the average months since the completion of their chemotherapy was 26.5±9.8 (9–48). Of women, 44.4% had stage 3 breast cancer, 83.3% use hormone therapy and 72.2% of them had no any oth-

er chronic conditions. The themes and categories are follow; Physical functioning; Changes in activities of daily living, changes in physical activity and weight, new physical symptoms, Role functioning; Work life, Emotional functioning; Emotional changes, fear of having the COVID-19 infection, Cognitive Functioning; Risk Perception about the COVID-19 infection, reactions to the COVID-19 pandemic' measures, Social functioning; familial relationship changes, social interactions, General Health/ Utilization of Health-care services; Changes in routine follow ups, changes in diet. Breast cancer survivors had different challenges and new symptoms during the pandemic that may have long term effect on their quality of life. Lymphedema, weight gain, general, bone pain, emotional burnout, anxiety are some new symptoms that need to be addressed during the post-pandemic period.

ESTABLISHING A SAFE WORK FLOW DURING THE COVID-19 PANDEMIC IN AN AMBULATORY INFUSION CENTER. ONE NEW YORK CITY CANCER CENTER'S EXPERIENCE

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COVID-19

On March 9th, 2020 our Hospital and Infusion Center was thrust in to the realization of the Covid-19 Pandemic. That day, staff were informed that everyone would be required to wear a protective mask. From that moment we came to realize the gravity of this illness and the direct effect it would have on both our patients, families, staff and ourselves. The purpose was to introduce a best practice utilized at one ambulatory Infusion Suite to combat the challenge of caring for our Oncology patients during the Covid-19 pandemic. To minimize exposure to both patients and staff all practices were relocated to one location giving maximum utilization of staff. Staff were measured for proper protective equipment including N95 masks. All received training to evaluate patients for symptoms of Covid-19 with a screening tool checking for symptoms, temperature, recent travel and/or exposure to someone known to be positive. A private room was established for anyone meeting this criteria. Staff were required to complete an online attestation evaluating the same symptoms. Those reporting positive symptoms were screened by employee health services who determined if they needed to be quarantined. This process remains in place today. Visitors, volunteers and nonessential workers were banned from the unit. To date, patients who meet the following criteria are permitted to bring one relative with them who

are required to stay with them throughout their visit: First time visits, progressing disease for treatment discussion, physically and or mentally impaired patients requiring an attendant. A daily list is provided to the lobby staff who screen everyone and deny access if symptomatic. Staff were trained to screen all asymptomatic patients coming for treatment utilizing the Nasal Swab method allowing patients the ability of testing locally minimizing travel on mass transit. By instituting the above practices we were able to maintain a sense of normalcy for our Oncology patients during a very stressful time. Our practices also allowed for better support of staff especially during the initial phase of the pandemic.

TELEHEALTH IN ONCOLOGY NURSING: MORE IMPORTANT THAN PREDICTED

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COVID-19

Telehealth can be a cost saving strategy for health-care providers and patients. During COVID-19 surge in New York health providers were trained on how to conduct Telehealth while training for the patients was left aside. At times, the lack of internet access for patients was another challenge to conduct Telehealth. Telehealth was found to be a safe way of communication and receiving medical advice during COVID-19 pandemic and became a possibility to deliver cancer care beyond traditional healthcare. Opened in December 2017, community-based Ambulatory Infusion Center meets the cancer care needs of South Brooklyn. Due to the nursing shortage, some cancer centers in New York City closed during the COVID-19 pandemic. The thorough strategic planning of administrative and nursing leadership helped our Infusion Center to remain open during the surge of COVID-19 pandemic. This allowed for cancer patients to continue to receive their treatments locally and avoid time-consuming public commutes during the lockdown. During the period from March to August 2020, the Infusion Center has conducted more than 300 Telehealth visits during the surge of COVID-19 pandemic. Physician evaluations during video visits has helped many cancer patients to continue their chemotherapy uninterrupted and avoid emergency room visits. It was difficult for many patients to make a choice whether or not to stay at home due to COVID-19 or to come to the center for the treatment, but some oncologists were available to conduct visits via Telehealth only. Telehealth became a cornerstone

in continuity and coordination of care. The strong team performance helped to continue normal operation at our center. Patients were enabled to adhere to their treatment plans without the interruption. During COVID-19 pandemic, nursing leadership participated in organization's decision-making process and advocated for the patients. Oncology nurses also took active role in educating patients on Telehealth. Despite the uncertainty during COVID-19 pandemic, our team members remained agile and resilient. Our patients were able to receive assurance in continuity of their care and emotional support. In New York City we are far from our new normal and Telehealth is our new effort to promote continuity of care and provide emotional and spiritual support during the COVID-19 pandemic.

SUPPORTING PATIENTS WITH NEW OSTOMIES UTILIZING A MULTIDISCIPLINARY STOMA TEAM

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Psychosocial Dimensions of Care

Colorectal resection, a standard treatment for colorectal cancer often results in a temporary or permanent ostomy. Ostomies can be a stressor to patients' mental health and can negatively impact body image, sexual functioning, anxiety, depression, relationships with others, and quality of life. Regardless of surgery type, distress and anxiety can be a source of anguish for those with cancer and should be addressed in the preoperative period. Screening, using the National Comprehensive Cancer Network's (NCCN) Distress Thermometer (DT), followed by appropriate interventions have been effective for distress identification and management. The Generalized Anxiety Disorder (GAD) -7 scale is useful to detect anxiety in patients with cancer. Given the added stress and anxiety that can accompany stoma surgery, a multidisciplinary team approach was designed to assist patients with these emotions. An oncology nurse navigator (ONN) can use the DT and GAD to identify distress and anxiety and implement a plan for psychosocial health services. The purpose of this study is to examine the effect of a multidisciplinary stoma team approach on distress, anxiety, and patient satisfaction among patients preparing for colorectal stoma

surgery. A quasi-experimental design was selected for this study and IRB approval has been obtained. The multidisciplinary stoma team consists of an Oncology Nurse Navigator (ONN), Ostomy Nurses (ON), Social Worker, and Psychiatric Nurse Practitioner. An ONN meets with participants in pre-admission testing before surgery and at discharge to assess participants' level of distress and anxiety. The ONN will refer participants to the appropriate multidisciplinary team member depending on their needs. The DT and GAD-7 will be used to measure distress and anxiety. Patient Satisfaction will be assessed using an investigator-designed questionnaire and will be collected at discharge. The sample (N=60) consists of adults diagnosed with colorectal cancer who are scheduled for colorectal resection with a temporary or permanent ostomy. This study is ongoing.

IMPLEMENTING STANDARDIZED CARE FOR COVID-19 AND AN ONCOLOGY INSTITUTION'S EXPERIENCE

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COVID-19

COVID-19 spread across the United States in early 2020, with initial epicenter in New York City. Early studies from China showed that oncology patients were more vulnerable and likely to become infected with COVID-19, and had higher mortality rates and experienced more severe events, e.g., intubation and ICU admission. This NCI-designated cancer center in New York City experienced substantial impact from the pandemic and launched a rapid response to meet the needs of our affected patients. Our response was focused simultaneously on the high-level critical care nursing needed for our hospitalized Covid-19 positive patients as well as our thousands of outpatients in various phases on the cancer treatment continuum. Our Cancer Center has 4500 nurses servicing an inpatient hospital of 500 beds and 21 outpatient multimodality treatment sites spanning 3 states. Standardizing acute and ongoing care for patients was essential in this critical environment to ensure best practices for safety of staff and patients. A standard of care (SOC) was developed to include comprehensive guidelines for COVID-19 patients and included instructions for nasopharyngeal swab testing, infection precautions, caring for, transporting & discharging and outpatient symptom monitoring. Deliberate emphasis was placed on reducing risk of viral exposure

for highest risk aerosol generating procedures such as cardiopulmonary resuscitation. Efforts also were made to conserve PPE and other essential supplies. Face shield and N95 reuse guidelines were also developed and widely used across the institution. In 2019 an average of 40 telemedicine visits occurred daily. In July, 2020 the monthly visits increased to 34,000, 45% of all outpatient visits. Implementing nurse telehealth visits, enhanced staff and patient safety, while providing comprehensive care. Post the COVID-19 surge our institution reviewed and re-evaluated our initial response and use of resources better prepare for the next COVID-19 surge and global health pandemic. This presentation will include the SOC and practices for telehealth, critical care and prevention strategies and outcomes.

ONCOLOGY AMBULATORY BLOOD TRANSFUSION: GETTING BLOOD IN YOUR BACKYARD!

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Oncology Nursing Practice

At a large academic medical center and comprehensive cancer care center with 15 community care center locations throughout the state, a need to expand services in the care centers was identified. Care centers were sending patients to the main hospital for blood product support which resulted in inefficiencies, delays, and fragmented care. The purpose of the project was to implement blood product administration, including packed red blood cells, platelets, and plasma, in the network sites to provide comprehensive cancer care in the patient's back yard. A multidisciplinary team convened to develop a process for blood product administration in two network sites with a plan to expand to all sites within 3 year(s). The team included representation from Tissue and Blood Quality and Safety, Blood Bank, Laboratory, Operations, Information Technology, and Nursing, including front line staff. The team reviewed the blood administration policy and existing workflows and then identified modifications needed to safely implement blood products in the network. Priority items included: procuring blood product storage, establishing courier workflows, developing guidelines for scheduling, out-

lining a workflow for early release of blood product orders, and establishing expectations for communication. Over the course of six weeks, the team worked to complete these priority items. Once complete, the staff participated in a “Day in the Life” simulation to test processes prior to the go live date. Additional education included an online learning module and a blood transfusion simulation. Audits were conducted for four months to assess compliance with the blood transfusion policy. Data from the audits revealed that staff were following policy and documenting all required elements. Audit results were shared with staff to reinforce compliance with policy. Patient satisfaction results were tracked using Press Ganey Surveys. Since implementation, overall patient satisfaction scores in both sites has exceeded patient satisfaction goals. The goal was exceeded at site 1 by 2.6% and site 2 by 1.6%. Prior to implementation, two network sites sent 100 patients per month to the main hospital for transfusion. Post-implementation, an average of 149 units of blood products per month are being transfused locally in the network sites. Transfusion of blood products in cancer center network community sites is feasible, safe, and improves patient satisfaction through the delivery of comprehensive services closer to home.

INDUSTRY SUPPORTED

IMPACT OF LATE DOSING ON TESTOSTERONE SUPPRESSION WITH TWO DIFFERENT LEUPROLIDE ACETATE FORMULATIONS: IN SITU GEL AND MICROSPHERE—AN ANALYSIS OF U.S. CLINICAL DATA

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Treatment Modalities

Luteinizing hormone-releasing hormone (LHRH) agonists are the most frequently used androgen deprivation therapy (ADT) for prostate cancer (PCa). Achieving and maintaining effective testosterone (T) suppression to levels attained with surgical castration is the cornerstone of ADT for advanced PCa. However, T may rise above castrate level (50ng/dL) between injections, especially if a subsequent dose is delayed.

A large US analysis on LHRH agonists confirmed that late dosing is common (27%), and late injections were associated with 4X higher T breakthrough rate and doubled mean T compared to early/on-time injections. Delivery systems should be considered. Two FDA approved forms of leuprolide acetate (LA), the most commonly used LHRH agonist in the US, use different extended-release systems: in situ gel technology (Gel-LA, subcutaneous) and microsphere technology (Msphere-LA, intramuscular). Nurses play a critical role in ensuring timely dosing to prevent potential T breakthroughs, performing regular tests to monitor therapy effectiveness, and educating patients on therapy options. This study evaluated the prevalence of late dosing and comparative impact of late dosing on T suppression for Gel-LA and Msphere-LA. An observational analysis of US oncology and urology electronic medical records (1/1/07–6/30/16) of PCa patients who received Gel-LA or Msphere-LA injections evaluated frequency of late dosing (occurring after day 32, 97, 128, 194 for 1-, 3-, 4-, 6-month formulations, respectively), least-square mean (LSmean) T and rate of T tests >20ng/dL with late dosing. 2,038 patients received Gel-LA and 8,360 received Msphere-LA. 27% of injections for both drugs were late. When dosing was late, LSmean T was 48ng/dL for Gel-LA vs. 76ng/dL for Msphere-LA ($p=0.0003$). T values were >20ng/dL in 34% (Gel-LA) vs. 44% (Msphere-LA) (odds ratio=1.5, 95% confidence interval=1.2–1.9). Overall, more than a quarter of injections were late. When dosing was late, Gel-LA was more effective than Msphere-LA at achieving and maintaining T suppression, as Gel-LA was 1.5 times more likely to have T below 20ng/dL and had lower mean T than Msphere-LA. As higher levels of T, including T escapes, have potential to adversely impact disease progression and survival, nurses should ensure dosing schedule compliance, recommend an ADT that optimizes T suppression, and educate patients on the importance of adherence to labeled dosing periods.

PATIENT EDUCATION TO REDUCE ONSET AND OPTIMIZE MANAGEMENT OF ALPELISIB-ASSOCIATED ADVERSE EVENTS

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Patient Education and Safety

Approximately 40% of patients with hormone receptor-positive, human epidermal growth factor receptor 2-negative advanced breast cancer (ABC) have a *PIK3CA* mutation. Alpelisib is an alpha-selective phospho-

tidylinositol-3-kinase (PI3K) inhibitor approved for the treatment of *PIK3CA*-mutated ABC. In the phase 3 SOLAR-1 trial, hyperglycemia (63.7%) and rash (35.6%), which are manageable and reversible, were two of the most common adverse events (AEs) reported in alpelisib-treated patients. Our objective is to provide guidance on patient education to reduce the incidence and severity of alpelisib-related AEs and enhance patient treatment experience. Clinical studies, prescribing information, and relevant literature were reviewed to provide recommendations on patient education of alpelisib-associated AEs. PI3K inhibitors suppress the action of insulin in the liver, skeletal muscle, and fat; hence, hyperglycemia is an expected effect of PI3K inhibition. Patients should have good glycemic control prior to alpelisib initiation (patients with pre-diabetes and controlled type 2 diabetes were included in SOLAR-1). Instruct patients regarding lifestyle modifications including regular exercise and low-carbohydrate diet. Counsel patients regarding the signs and symptoms of hyperglycemia. Advise regular monitoring of fasting blood glucose while on alpelisib. In SOLAR-1, grade ≥ 2 hyperglycemia (fasting glucose 160–250 mg/dL) occurred approximately 2 weeks after initiating alpelisib and improved in ~ 1 week. More frequent monitoring is therefore recommended during the first month of treatment and for patients at high risk of developing hyperglycemia. For high-risk patients or those trending toward hyperglycemia, proactively consult with endocrinology. Medication may be needed to control blood glucose levels while taking alpelisib. Regarding rash, onset may occur within 2 weeks after alpelisib initiation and last several days. Rash is frequently maculopapular, pruritic, and located in the torso. Before starting alpelisib, recommend use of antihistamine prior to rash onset to reduce the frequency and severity of rash. Advise patients to avoid unprotected sun exposure and to use mild, fragrance-free soap for bathing. Dermatologist consult may be needed. Overall, management of alpelisib-related rash is similar to other drug-related rash. Patient education is an important component of AE prevention and management and empowers patients to become more involved with their treatment. Overall, educating patients regarding lifestyle changes and employing prevention and monitoring strategies will likely result in a better treatment experience with alpelisib.

NURSING EXPERIENCE WITH PATIENTS RECEIVING IBRUTINIB PLUS RITUXIMAB VERSUS PLACEBO PLUS RITUXIMAB FOR WALDENSTROM'S MACROGLOBULINEMIA:

FIVE YEARS OF FOLLOW-UP FROM THE PHASE 3 INNOVATE™ STUDY

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Oncology Nursing Practice

Ibrutinib is an oral once-daily Bruton's tyrosine kinase inhibitor approved for patients with Waldenstrom's macroglobulinemia (WM). Previous data from the phase 3 INNOVATE study showed superior progression-free survival (PFS) with ibrutinib-rituximab compared with placebo-rituximab in patients with WM. Because ibrutinib is given as continuous therapy, nurses play an important role in supporting continuous treatment to maximize patient outcomes. The purpose was to present long-term results from the final analysis of the randomized portion of INNOVATE and provide experience-based recommendations for AE management and patient education. A total of 150 patients with WM were randomized to receive once-daily ibrutinib 420 mg or placebo in combination with rituximab (375 mg/m²/week IV at weeks 1–4 and 17–20). At a median follow-up of 50 (range: 0.5+ to 63) months, PFS was longer with ibrutinib-rituximab versus placebo-rituximab (median PFS: ibrutinib-rituximab, not reached; placebo-rituximab: 20 months; $P < 0.0001$). Superior overall response rates were observed for patients treated with ibrutinib-rituximab (69/75; 92%) compared with placebo-rituximab (33/75; 44%) ($P < 0.0001$), regardless of prior treatment or genotype. A greater proportion of patients receiving ibrutinib-rituximab vs placebo-rituximab had sustained hemoglobin improvement (77% vs 43%; $P < 0.0001$). With an additional 24 months of follow-up since the primary analysis among patients receiving ibrutinib-rituximab, rates of common grade 3–4 AEs (occurring in $\geq 10\%$ of patients) increased minimally: anemia (1%), hypertension (1%), neutropenia (4%), and atrial fibrillation (4%). After a median 48 months on treatment, the safety profile of ibrutinib-rituximab remained manageable: 9/12 (75%) patients with grade 3–4 atrial fibrillation remained on treatment; no other ibrutinib discontinuations due to common grade 3–4 AEs occurred. Safety results for the placebo-rituximab arm were previously reported. After study closure, 68 (45%) patients remained on

ibrutinib, including 23/35 patients who crossed over from placebo-rituximab to single-agent ibrutinib. Per the nurse authors' experience, nurses help patients identify and manage AEs for optimal treatment benefits from continuous ibrutinib. The nurse authors recommend reviewing written materials with patients to address AE-related concerns. With over 5 years of follow-up, ibrutinib-rituximab showed ongoing superior PFS benefit across clinical outcomes in patients with WM, regardless of prior treatment or genotype. Due to their frequent interaction, nurses can provide patient education and timely support for AE management.

REAL-WORLD PROGNOSTIC BIOMARKER TESTING AND NURSING EXPERIENCE FROM THE PROSPECTIVE OBSERVATIONAL REGISTRY INFORMCLL FOR PATIENTS RECEIVING TREATMENT FOR CHRONIC LYMPHOCYTIC LEUKEMIA/SMALL LYMPHOCYTIC LYMPHOMA

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informCLL is an observational US registry of patients with chronic lymphocytic leukemia/small lymphocytic lymphoma (CLL/SLL) in the era of FDA-approved novel agents, including ibrutinib. Prognostic biomarker testing is an important tool used to guide optimal treatment decisions for patients with CLL/SLL. Understanding the critical role prognostic factors have in clinical decision-making is consequential for nurses who care for these patients. The purpose was to present baseline characteristics, treatment patterns, and prognostic testing for the fully enrolled patient population of informCLL and provide nurse experience-based recommendations for related education. From October 2015–June 2019, informCLL enrolled eligible patients with CLL/SLL who were ≥18 years old and had initiated treatment for CLL/SLL within ±45 days of enrollment. Patients were classified into 5 groups based on treatment received at enrollment. informCLL enrolled 1461 evaluable patients (previously untreated: 59%, relapsed/refractory: 41%); the median age was 71 years (range, 34–95). Most enrolling sites were community-based practices (93%). For

all patients, the most common treatments were ibrutinib (46%) and chemoimmunotherapy (CIT; 33%). Most (87%) patients started ibrutinib treatment at the recommended daily dose (420 mg). For patients continuing ibrutinib, 75% did not require dose modifications. Median cycles received for patients completing CIT treatment were 5 (bendamustine+rituximab), 5 (fludarabine+cyclophosphamide+rituximab), and 6 (obinutuzumab+chlorambucil). Overall, prognostic biomarker testing was infrequent: FISH, TP53 mutation, and IGHV mutational status testing was performed in 28%, 11%, and 12% of patients, respectively. Overall, half of patients with these high-risk features received ibrutinib (49%), and approximately a third received CIT (35%); 16% of patients received chemotherapy, immunotherapy, or other novel agents. Oncology nurses' knowledge of current treatment guidelines on prognostic biomarker testing is critical for understanding a patient's prognosis and treatment selection. In the nurse authors' experience, patient programs used for education may consist of materials from established societies that highlight the utility of testing and the potential for better outcomes when biologic markers are used to guide patient care. Results from informCLL show ibrutinib was the most common treatment received. Prognostic biomarker testing was infrequent; patients with high-risk features received CIT despite current guideline recommendations. Nurses can advocate for prognostic marker testing and help to close a "knowledge gap" by educating patients on the importance of prognostic marker testing.

NURSING EXPERIENCE WITH THE USE OF IBRUTINIB FOR THE FIRST-LINE TREATMENT OF PATIENTS WITH HIGH-RISK CHRONIC LYMPHOCYTIC LEUKEMIA/SMALL LYMPHOCYTIC LYMPHOMA

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Genomic abnormalities, such as deletion(17p)/TP53 mutation, deletion(11q), or unmutated IGHV, predict inferior outcomes with chemoimmunotherapy in patients with chronic lymphocytic leukemia/small lym-

phocytic lymphoma (CLL/SLL). Ibrutinib, a once-daily Bruton's tyrosine kinase inhibitor, is the only targeted therapy to demonstrate significant progression-free and overall survival benefits versus chemo- and/or immunotherapies in multiple phase 3 studies in patients with CLL/SLL. This integrated analysis explored the efficacy of ibrutinib in patients with CLL with high-risk genomic features. The purpose was to describe clinical outcomes with ibrutinib in patients with high-risk genomic features based on a pooled analysis of two phase 3 studies of ibrutinib-based therapy for first-line treatment of CLL/SLL (RESONATE-2 and iLLUMINATE), and share nursing experience-based insights on education. In RESONATE-2, elderly patients aged ≥ 65 years without deletion(17p) were randomized to single-agent ibrutinib or chlorambucil. In iLLUMINATE, elderly patients or younger patients with coexisting conditions or deletion(17p)/TP53 mutation were randomized to ibrutinib-obinutuzumab or chlorambucil-obinutuzumab. High-risk genomic features were evaluated using FISH (deletion[17p], deletion[11q]) or next generation sequencing (IGHV, TP53 mutation status). Clinical outcomes were compared (1) between ibrutinib- and chlorambucil-based therapies for each high-risk subgroup and (2) among ibrutinib-treated patients with or without high-risk genomic features. Of 498 patients assessed, 249 each received ibrutinib-based or chlorambucil-based therapy with up to 6.5 years follow-up (median 49 months). At 42 months a significantly higher proportion of ibrutinib-treated patients with deletion(17p)/TP53 mutations, deletion(11q), or unmutated IGHV were progression-free compared to patients with these genomic features who were treated with chlorambucil. The majority of ibrutinib-treated patients remained free from progression regardless of the presence of high-risk genomic features. There were no meaningful differences in rates of adverse events between subgroups of patients with high-risk genomic features and the overall ibrutinib-treated population. Nurse-patient counseling can play a critical role in supporting testing for prognostic factors and treatment adherence to maintain long-term efficacy, including in patients with high-risk genomic features. This integrated analysis of patients with CLL/SLL demonstrated superior efficacy with first-line ibrutinib-based treatment in high-risk populations, which are known to have poor survival with chemoimmunotherapy. As the presence of high-risk genomic features can predict response to CLL treatment, nurse-patient education on the importance of testing for these features and their implications on treatment selection is crucial.

ISATUXIMAB UPDATES FOR NURSES: ISATUXIMAB PLUS CARFILZOMIB AND DEXAMETHASONE VERSUS CARFILZOMIB AND DEXAMETHASONE IN RELAPSED MULTIPLE MYELOMA PATIENTS (IKEMA)

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Isatuximab (Isa), a CD38 monoclonal antibody, is approved in combination with pomalidomide and dexamethasone (d) for the treatment of adult patients with relapsed/refractory multiple myeloma (MM) who have received at least two prior therapies, including lenalidomide and a proteasome inhibitor. In this indication, nurses should be aware that Isa can be administered as a 250 mL fixed-volume infusion with a median infusion time of 75 minutes for the third and subsequent infusions. Here we review the latest Isa data in MM (Isa plus carfilzomib [K] and d), including considerations to enhance nursing practice. The Phase 3 IKEMA study (NCT03275285) demonstrated benefit of Isa plus Kd (Isa-Kd) vs Kd in patients with relapsed MM. 302 patients with 1–3 prior lines of therapy were randomized 3:2 (179 Isa-Kd, 123 Kd) and stratified by number of prior lines and Revised International Staging System. Isa was administered intravenously (using a 0.20- μ m filter) at 10 mg/kg weekly for 4 weeks, and every other week thereafter. In a pre-specified interim analysis, median progression-free survival was not reached for Isa-Kd vs 19.2 months with Kd (HR 0.53; 99% CI: 0.32–0.89); one-sided $p=0.0007$. Overall response rate was 86.6% Isa-Kd vs 82.9% Kd, one-sided $p=0.1930$. Very good partial response or better rate was 72.6% Isa-Kd vs 56.1% Kd, $p=0.0011$. Minimal residual disease negativity rate (10–5) was 29.6% Isa-Kd vs 13.0% Kd, $p=0.0004$. More patients remain on treatment with Isa-Kd (52.0%) vs Kd (30.9%). Grade ≥ 3 AEs were observed in 76.8% Isa-Kd vs 67.2% Kd. Serious AEs and fatal AEs were similar in Isa-Kd vs Kd: 59.3% vs 57.4% and 3.4% vs 3.3%, respectively. Infusion reactions were reported in 45.8% (0.6% Grade 3–4) Isa-Kd and 3.3% (0% Grade 3–4) Kd. Grade ≥ 3 respiratory infections and cardiac failure were seen in 32.2% and 4.0% Isa-Kd vs 23.8% and 4.1% Kd, respectively. Grade 3–4 thrombocytopenia and neutropenia laboratory results were reported in 29.9% Isa-Kd vs 23.8% Kd and 19.2% Isa-Kd vs 7.4% Kd, respectively. As measured by QLQ-C30 Global Health Status scores, health-related quality of life was maintained with Isa-

Kd (descriptive analyses). In conclusion, the clinical activity and manageable safety profile of Isa offers an important potential new treatment option for relapsed MM.

TREATMENT EXPERIENCE AND PYREXIA MANAGEMENT IN A PATIENT WITH STAGE III MELANOMA RECEIVING ADJUVANT BRAF/MEK-TARGETED THERAPY

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Symptom Management and Palliative Care

In COMBI-AD (NCT01682083), 1 year of adjuvant oral BRAF/MEK-targeted therapy with dabrafenib plus trametinib (D+T) significantly prolonged relapse-free survival in patients with BRAF V600E/K-mutant resected stage III melanoma, with a 49% reduction in the risk of relapse or death vs placebo at 5-year follow-up. Adverse events led to treatment discontinuation in 26% of patients; pyrexia (9%) and chills (4%) were most common. Because of the substantial clinical benefit with adjuvant D+T, it is important to maintain treatment adherence. We present a case to highlight recommendations for pyrexia management, which include evaluation for infectious etiology, dose interruptions, antipyretics, and in some cases, dose reduction and/or low-dose corticosteroid. We report a patient case from an academic center and recommendations for pyrexia management based on clinical experience and medical literature. A 38-year-old female patient with resected stage IIIB BRAF V600K-mutant melanoma was started on adjuvant dabrafenib 150 mg BID and trametinib 2 mg QD following nodal recurrence after 3 cycles of adjuvant immunotherapy post-completion lymphadenectomy. Two weeks later, she presented with fever (maximum temperature, 102°F/39°C), grade 2 actinic rash, and grade 1/2 myalgias. Infectious workup was negative. D+T was withheld, and ibuprofen 400 mg Q6h as needed was started. After 2 days without symptoms, D+T was restarted at reduced doses of 75 mg BID and 1 mg QD, respec-

tively. Despite the dose reduction, episodes of low-grade pyrexia recurred even with dose interruption and ibuprofen. To prevent recurrent pyrexia, prednisone 10 mg/day was added to the D+T regimen. After 30 days without fever, prednisone was tapered to 5 mg/day and then to 2.5 mg/day. The patient completed 1 year of D+T therapy and has been without evidence of recurrence at 2 years. This case illustrates that although the prescribing information recommends interrupting dabrafenib (but not trametinib) for uncomplicated fever of $\leq 104^{\circ}\text{F}/40^{\circ}\text{C}$, clinical experience suggests that both D+T should be interrupted at the first sign of pyrexia or its prodrome. In this patient, dose interruption and low-dose corticosteroid were effective in managing pyrexia and preventing recurrent episodes; dose reductions were less effective. Nurses should be aware that proactive management through prompt interruption of D+T at the first sign of pyrexia or its prodrome may help manage pyrexia and maintain treatment adherence.

NAVIGATING PATIENTS WITH GLIOBLASTOMA TREATED WITH TUMOR TREATING FIELDS DURING A PANDEMIC: EXPANDING THE ROLE OF THE NURSE THROUGH TELEHEALTH

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COVID-19

Glioblastoma (GBM) is an aggressive primary brain cancer with an incidence of ~3.2 per 100,000 people. The median overall survival with treatment is 15–21 months. A treatment regimen for newly-diagnosed GBM includes a multi-disciplinary approach that involves a maximal safe surgical resection, followed by concomitant daily temozolomide with radiotherapy, and then maintenance temozolomide (6–12 cycles) with Tumor Treating Fields (TTFields; Optune[®]; Novocure[®], device manufacturer). Optune is a portable, noninvasive antimetabolic treatment that locoregionally delivers low-intensity, intermediate-frequency (200 kHz optimal frequency), alternating electric fields through transducer arrays to GBM tumor bed. The current COVID-19 pandemic has presented new challenges to delivering optimal care to patients with GBM. Nurses and navigators are well-positioned to use telehealth to assist in the man-

agement of TTFields-treated patients. nCompass™ (Novocure-offered patient-caregiver support service) paired with telehealth offers a novel means to support patients remotely. The objective of this abstract is to delineate how nurses may leverage nCompass program resources to meet the needs of TTFields-treated patients with GBM during a pandemic. The neuro-oncology nurse/navigator play a pivotal role in addressing gaps and challenges within the neuroscience and oncology arenas. Patients will require assistance and support as they navigate through a multi-disciplinary environment while dealing with disease and treatment burden. The needs of patients with GBM will likely escalate with disease progression. To avoid disruption of daily-living activities and to maintain patient QoL, nearly all side effects of chemotherapy and TTFields can be addressed through the telehealth platform. Nurses may utilize resources available by the Novocure nCompass program to address lifestyle concerns and to help prevent and manage local, low-grade TTFields-associated dermatological adverse events. The role of the Device Support Specialist (DSS) at Novocure provides an additional layer of support that works in tandem with the nurse/navigator to expand patient services. GBM is one of the most immunosuppressive of solid tumors and various mechanisms of T-cell dysfunction lend to GBM-associated anergy. Patients with GBM can be at higher risk for contracting coronavirus. Patients who use Optune can minimize these risks with remote monitoring and telehealth. Telehealth and remote monitoring are activities that can serve as a safer option for patients undergoing cancer treatment. Optune is an anti-mitotic therapy that is not associated with immunosuppression.

DAROLUTAMIDE SIGNIFICANTLY IMPROVES OVERALL SURVIVAL WITH A TOLERABLE SAFETY PROFILE IN MEN WITH NON-METASTATIC CASTRATION-RESISTANT PROSTATE CANCER

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[Oncology Nursing Practice](#)

Men with non-metastatic castration-resistant prostate cancer (nmCRPC) are largely asymptomatic

from their cancer and often lead active lives. Therefore, these patients require a therapy that prolongs survival while maintaining their lifestyle over the long-term. Nurses can optimize treatment outcomes in patients with nmCRPC through education on both disease and available treatment options, actively engaging them in decision-making, recognizing and managing treatment-related adverse events (AEs), and recommending treatment modifications accordingly. Darolutamide is an androgen receptor inhibitor (ARI) approved for treating nmCRPC, after demonstrating significantly prolonged metastasis-free survival versus placebo in the primary analysis of the ARAMIS trial: median 40.4 months versus 18.4 months, respectively (HR=0.41; 95% CI: 0.34-0.50; P<0.001). Results from the final analysis of overall survival (OS) are presented here. Patients with nmCRPC receiving ongoing ADT were randomized (2:1) to darolutamide or placebo. After study unblinding (Nov 30, 2018), 170 pts crossed over from placebo to open-label darolutamide. Secondary endpoints of ARAMIS included OS, time to pain progression, first cytotoxic chemotherapy, first symptomatic skeletal event, and safety. At final analysis (Nov 15, 2019), darolutamide significantly improved OS, reducing the risk of death by 31% (HR=0.69; 95% CI: 0.53-0.88; P=0.003). Darolutamide also significantly prolonged all other secondary endpoints. Darolutamide was well tolerated and exhibited a favorable safety profile. At final analysis of the double-blind period, discontinuation rates due to AEs for darolutamide remained unchanged from the primary analysis and were similar to placebo (8.9% vs 8.7%). Darolutamide also showed minimal additional risk of most AEs associated with other ARIs (Figure). The incidence of falls, bone fracture, mental impairment disorders, rash, and hypertension demonstrated ≤2% difference between darolutamide and placebo; fatigue was the only AE occurring in >10% of patients treated with darolutamide (13.2% vs 8.3% with placebo). Health-related quality of life (HRQoL) was maintained and showed a trend toward improvement compared with placebo in key areas related to pain, physical and emotional wellbeing, urinary symptoms, and bowel symptoms. Early treatment of nmCRPC with darolutamide significantly prolongs OS and maintains HRQoL with a consistently favorable safety profile. Nurses can play a key role in discussing the efficacy and safety of available treatment options and their impact on the lives of these patients.

TREATMENT EXPERIENCE WITH ENCORAFENIB PLUS BINIMETINIB FOR

BRAF V600-MUTANT METASTATIC MELANOMA: MANAGEMENT INSIGHTS FOR CLINICAL PRACTICE

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Symptom Management and Palliative Care

Combination BRAF/MEK inhibitor therapy is standard of care for patients with BRAF V600-mutant unresectable or metastatic melanoma. Literature and existing therapy guidance, together with practical experience, provide an overview of common adverse events (AEs) associated with encorafenib, a BRAF inhibitor, plus binimetinib, a MEK1/2 inhibitor, in BRAF V600-metastatic melanoma and recommendations for managing these events. At 3 years' follow-up of COLUMBUS (NCT01909453, Ascierto et al. *Eur J Cancer* 2020;126:33-44), frequently reported AEs (any grade) for encorafenib plus binimetinib were gastrointestinal disorders (nausea [44%], diarrhea [39%], and vomiting [32%]), fatigue (30%), arthralgia (29%), increased blood creatinine phosphokinase (26%), and headache (26%); for these AEs, incidence of grade 3/4 events was 1-8%. Observed BRAF/MEK inhibitor class effects include serous retinopathy (20%) and skin disorders (dry skin [16%], rash [16%], hyperkeratosis [15%]). Although no direct trial comparisons are available, rates of pyrexia (20%) and photosensitivity (4%), associated with intraocular inflammation, tended to be lower than reports for other BRAF/MEK inhibitors. Nausea or diarrhea is usually mitigated with dietary modification/supportive care medications. Arthralgia/myalgia may require dose reduction or low-dose oral anti-inflammatory drugs or steroids. Skin disorders may be relieved with topical treatment; severe cases requiring oral antibiotics, steroids, retinoids, or dermatologist referral. Patients should be informed about erythema nodosum, a skin disorder that is typically managed with supportive measures but may require systemic steroids. Serous retinopathy, characterized by fluid accumulation in the inter-retina layers, may cause transient visual disturbances that can occur at any time, as early as 24-48 hours after treatment. Serous retinopathy typically resolves without dose interruption/pharmacologic intervention; dose interruption considered for patients with decreased vision. Left ventricular dysfunction usually

resolves by dose interruption/reduction. Monitoring liver function, electrolytes, creatinine with creatinine phosphokinase, echocardiogram/multi-gated acquisition scan, electrocardiogram, ophthalmologic, and dermatologic evaluations are recommended at treatment initiation and during routine visits. Encorafenib plus binimetinib is generally well tolerated over long-term treatment in patients with BRAF-mutant melanoma. The nursing community is encouraged to educate patients on the common signs and symptoms of BRAF/MEK inhibitor AEs and provide supportive care and mitigation strategies. Safety profile awareness of encorafenib plus binimetinib and regular monitoring can help anticipate and manage AEs and prolong the duration of therapy and benefit of this combination.

SAFETY AND MANAGEMENT OF ADVERSE EVENTS WITH CILTACABTAGENE AUTOLEUCEL, A CHIMERIC ANTIGEN RECEPTOR T CELL THERAPY, IN PATIENTS WITH RELAPSED/REFRACTORY MULTIPLE MYELOMA: INITIAL RESULTS FROM CARTITUDE-1

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Oncology Nursing Practice

Cytokine release syndrome (CRS) and neurotoxicity, known side effects of chimeric antigen receptor T (CAR-T) cell therapy, can be mild to life-threatening and require careful monitoring and management. The phase 1b/2 CARTITUDE-1 study (NCT03548207) is evaluating ciltacabtagene autoleucel (cilta-cel), a CAR-T therapy with 2 B-cell maturation antigen-targeting antibodies, for relapsed/refractory multiple myeloma (RRMM). A single cilta-cel infusion (target dose: 0.75×10^6 [range: $0.5-1.0 \times 10^6$] CAR+ viable T cells/kg) was given 5-7 days after start of lymphodepletion. Adverse events (AEs) were graded using CTCAE v5.0. CRS and neurotoxicity were graded by Lee et al (*Blood* 2014) and CTCAE v5.0, respectively, in the phase 1b portion and by American Society for Transplantation and Cellular Therapy (ASTCT) criteria in the phase 2 portion. Here, Lee and CTCAE were mapped to ASTCT criteria for CRS and immune effector cell-associated neurotoxicity syndrome

(ICANS), respectively. The study protocol provided CRS and ICANS management guidelines. 97 patients with RRMM received cilta-cel; median follow-up was 8.8 months. Common hematologic AEs were neutropenia (90.7%; grade 3/4: 90.7%), anemia (81.4%; grade 3/4: 68.0%), and thrombocytopenia (79.4%; grade 3/4: 59.8%). CRS was reported in 92 (94.8%) patients: 48 (49.5%) had grade 1, 38 (39.2%) grade 2, 4 (4.1%) grade 3, and 1 (1.0%) grade 5; maximum ASTCT toxicity grade could not be derived for 1 phase 1b patient with CRS. Median time to CRS onset was 7.0 days (range: 1–12); median duration was 4.0 days (range: 1–27, excluding n=1 with 97 days). Supportive measures for CRS were administered to 87 (89.7%) patients, most commonly tocilizumab (69.1%; 1 dose: n=63; 2 doses: n=4), acetaminophen (68.0%), corticosteroids (20.6%), and anakinra (18.6%). CRS resolved in 91 (98.9%) patients; 1 died due to CRS/hemophagocytic lymphohistiocytosis. CAR-T-cell-related neurotoxicity was reported in 20 (20.6%) patients (grade 3/4: 10.3%), with ICANS in 16 (16.5%): 10 (10.3%) had grade 1, 4 (4.1%) grade 2, 1 (1.0%) grade 3, and 1 (1.0%) grade 4. Median time to ICANS onset was 8.0 days (range: 3–12); median duration was 3.5 days (range: 1–9). Supportive measures for ICANS were administered to 16 (16.5%) patients, including corticosteroids (9.3%), tocilizumab (4.1%), anakinra (3.1%), and levetiracetam (2.1%). ICANS resolved in all 16 patients. Preliminary CARTITUDE-1 data indicate a manageable safety profile for cilta-cel in patients with RRMM; oncology nurses can facilitate AE management.

INCREASING COMPLIANCE OF AN ORAL ONCOLYTIC THROUGH A NOVEL CLINICAL NURSE EDUCATOR MODEL

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[Patient Education and Safety](#)

Due to the ten-fold increase in the number of marketed specialty medications that has occurred since the mid-90s, there is a growing need for enhanced support in terms of medication administration, and patient management. Evidence shows that a patient education platform to help navigate medication coordination and symptom management may lead to improved adherence and more effective patient-HCP communication. The International Council of Nurses has maintained that education is an essential compo-

nent of nursing care. With the development of novel oral targeted therapies in adult patients with functioning neuroendocrine tumors (NETs) and carcinoid syndrome (CS), the need for a standardized nursing support program (NSP) was deemed essential. Historically, patients with cancer have lower rates of oral therapy adherence (~16%) versus patients receiving infusion therapy. Further, NETs are often indolent with the debilitating effects of CSD lasting for years or even decades, increasing the importance of symptom management. Given the unique needs of this population, a NSP was developed that focused on NETS/CS patients. This program is supported by in-house expert Clinical Nurse Educators (CNEs), with specific NET/CS training, that guide patients through treatment education, transition of care, and integration of treatment into the patient's lifestyle. Regionally based CNEs are engaged with health care providers (HCPs) at academic cancer centers and local oncology clinics to provide information about the NSP. This service is a complimentary, opt-in for patients receiving treatment of CSD via a dedicated enrollment website. The program provides an immediate benefit of reducing calls to HCPs regarding on-label medication administration questions. Additionally, CNEs provide education to clinics where NETs are less frequently treated thus providing insights on identification and treatment. Once a patient is enrolled, CNEs contact patients within 48 hours. Call backs are based on patient preference and recommendation. All calls are documented, and HCPs may be contacted if needed. Topics discussed with patients include: (1) medication mechanism of action, administration, and potential side effects; (2) disease state education; (3) nutritional education; (4) patient support and advocacy groups. All CNE to patient discussions are consistent in conversation, with no medical advice provided. The continuous NSP provides a novel model for a mutually beneficial educational framework, creating an effective collaboration between HCP and the patient, improving all around patient care.

INTERNATIONAL

TRANSLATION, CROSS-CULTURAL ADAPTATION AND VALIDATION OF THE "WOMEN SURVIVORS STUDY" FOR BRAZILIAN WOMEN SURVIVORS OF BREAST CANCER

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Survivorship

The different socioeconomic, cultural, educational and environmental conditions generate different impacts on breast cancer survivors, which need to be mapped from the perspective of quality of life. In Brazil, despite the importance of cultural and socioeconomic aspects for the population of breast cancer survivors, there are still no instruments that assess quality of life multidimensionally. The objective was to describe the process of adaptation to Brazilian culture and the content validation of the instrument “Women Survivors Study”, which assesses the quality of life of socioecologically vulnerable women. Method: This was a cross-sectional, methodological study with a quantitative, multicenter approach, divided into two stages, with permission and participation from Dr. Kimlin Tam Ashing (City of Hope Comprehensive Cancer Center, USA). Stage 1 brought together cross-cultural adaptation with translation, back-translation and evaluation by a committee of specialists in the area, according to technical criteria for content validation. Step 2, still in the execution phase, due to current prohibitions of collecting face-to-face data due to the COVID-19 pandemic, making use of the instrument with cancer survivors. The validity of the instrument will be accomplished by the content and construct validity. Location: Mastology outpatient clinics at a public general hospital and a private cancer hospital, located in the city of São Paulo, São Paulo, Brazil. Inclusion criteria: disease-free patients after breast cancer treatment, whether or not using endocrine therapy. The translation of the instrument into Portuguese was performed by two bilingual Brazilian professionals, with back-translation into English by a native English speaker. Afterwards, a committee of specialists was formed, with the participation of four nurses, a social worker and a doctor, three of them with doctorate degrees, two masters, a medical resident and a master’s student, all in the area of oncology. The experts evaluated the instrument in terms of content, clarity, usefulness, cultural responsibility and socio-ecological responsibility. The content validation was performed using the content validity index, which obtained a rate of 94.85%, indicating good agreement between the expert judges, and the cronbach’s alpha of 0.976 indicating an excellent consistency of the

questionnaire in general. The Women Survivors Study instrument translated and adapted to the Portuguese language reached a high level of reliability. The better knowledge about breast cancer survivors will help us to improve the care plan.

RECOMMENDATIONS TO MINIMIZE THE IMPACT ON THE QUALITY OF LIFE OF CANCER PATIENTS DURING THE COVID-19 PANDEMIC

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COVID-19

The current COVID-19 pandemic is causing damage worldwide. When it comes to quality of life during the pandemic, the biological, psychological, social and spiritual dimensions can be affected, especially in cancer patients who already deal with the physical and mental changes resulting from the treatment and coping with the disease. In this sense, the objectives of the present study were to reflect on the possible impacts on the quality of life of cancer patients during the pandemic from Abraham Maslow’s theory of basic human needs, as well as to highlight the recommendations and strategies already outlined by health researchers in order to minimize such losses. It is a reflective study with documentary analysis whose theoretical framework used was the human motivation theory or hierarchy of basic human needs by Abraham Maslow. The data found point to four possible dimensions for the impact on the quality of life of cancer patients in the pandemic scenario COVID-19: biological, psychological, social and spiritual. The innovations for care with cancer patients in times of pandemic can be seen from Maslow’s theory of human motivation and the following interventions are recommended to minimize the effects on quality of life: scheduling appointments online or by phone to outpatients, consultations via the Internet for guidance on medication use, symptom management and psychological monitoring; replacement of intravenous chemotherapy by oral route, when possible; increase the intervals between sessions for adjuvant chemotherapy and reduce the fractionation in radiotherapy, according to the patient’s conditions; maintain a balanced diet, prioritizing the consumption of fruits and vegetables with greater durability; practice physical activities respecting your limits; create a routine that guarantees restful

hours of sleep; communicate with family, friends and support groups over the phone and via video calls; reduce access to news that can cause stress and anxiety.

THE IMPORTANCE OF INTEGRATIVE AND COMPLEMENTARY PRACTICES IN TREATING CANCER PATIENTS

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Symptom Management and Palliative Care

Cancer and its conventional treatments cause many aggressive adverse effects that impact on patients' quality of life. In this way, the search for recovery of patients undergoing cancer treatment covers not only conventional medicine, but also Integrative and Complementary Practices, since stimulating effective alternative means that reduce these effects is a tool of great relevance in the context of nursing care and holistic care. The objective was to investigate the role of integrative and complementary practices in the treatment of cancer patients. This qualitative study was carried out through an exploratory study using the descriptors "complementary therapies", "neoplasms" and "nursing" using the Boolean connector "and", with 14 articles. Bardin's content analysis method was used. The effects promoted by the use of integrative and complementary practices by cancer patients identified in this study were: relief from stress, anxiety and psychosocial distress, improved mood and pain, increased levels of dopamine and serotonin, decreased depressive symptoms and rashes, cortisol and cytokine levels, lymphedema, hot flashes, insomnia and fatigue, symptoms of menopause, consumption of medications as well as reduction of adverse effects caused indirectly by medications. It is concluded that the role of integrative and complementary practices in the treatment of cancer patients is linked to comprehensive care, that is, providing biopsychosocio-spiritual effects for this population already quite vulnerable in the face of human suffering caused by the disease.

LEADERSHIP/MANAGEMENT/EDUCATION

SUPPORTING THE GENERAL SURGERY NURSE IN THE POST-OPERATIVE CARE OF THE ONCOLOGIC PATIENT

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Oncology Nursing Practice

Surgical Oncology, in a large academic medical center with 112 inpatient oncology beds, focuses on recovery after complex cancer surgeries where nursing staff have highly specialized competencies and skill sets. Connecticut's COVID-19 hospitalizations peaked in April 2020 creating urgent needs for negative pressure ICU beds resulting in Surgical Oncology relocating to another campus. As operating room cases were meticulously triaged based on urgency there were minimal cases being performed in effort to decant the hospital and prioritize patient safety. Pandemic recovery efforts included re-opening operating rooms for scheduled surgery. We quickly learned that the new location could not meet the needs of the most specialized cases, resulting in a subset of the surgical oncology population moving back to main campus admitted to general surgery units. The staff on these units do not have the same competencies as the surgical oncology staff which presented an opportunity for intervention. Care of post-operative patients with cancer is dynamic and interdisciplinary. To preserve the cancer hospital care signature and maintain superior patient outcomes the role entitled Surgical Oncology Nurse Liaison was created. A job description was developed to support the patients and surgical nursing staff overseeing their care and an application process was used for liaison selection. The role was supported for eight weeks until the unit returned to its original state. Prior to initiation, education was performed with surgical nurses at huddles, staff meetings and by Zoom lectures. Specific interventions were performed daily by the liaison including review of physician orders, nursing documentation of patient education plans, and that consults and discharge plans were individualized. The nurse liaison provides real-time education to both patients and surgical nurse in the format of tip sheets, demonstration and coaching. This innovative role was valued by the department and led to increased support of general surgical nurses as well as surgical house staff. Surgical teams utilized the role to troubleshoot patient concerns, assist nurses with unfamiliar procedures while maintaining excellence in patient outcomes. During the time frame there were no hospital acquired infections, falls or report-

able pressure injuries in this subset of patients that were relocated. The model can be adapted across service lines during emergency preparedness to ensure that patients receive the highest quality nursing care related to their disease process.

OUTPATIENT ONCOLOGY ORIENTATION: A SELF GUIDED TOUR

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[Oncology Nursing Practice](#)

Hiring nurses into the outpatient oncology clinic has changed in recent years. Previously requirements for oncology experience were stringent; now it is not uncommon to hire a new graduate nurse or a new to oncology nurse into the outpatient oncology clinic. Creativity and flexibility in the orientation plan is essential to assure success for both the new hire and the preceptor. A revision of the orientation plan in a suburban multi center cancer center was initiated. A comprehensive orientation manual was built that provides the opportunity for the new hire to take a majority of the accountability for assuring all items are accomplished in a timely manner. The orientation period is guided by the oncology staff educator with scheduled opportunities to shadow a member of the team from all disciplines, both clinical and nonclinical. An initial 55 question assessment is done during the first week and repeated around week 8 to assess the success of the orientation. The educator meets with the new hire and the preceptors on a weekly basis and provides education to fill knowledge gaps based on the needs of the individual nurse. 2 preceptors are assigned for consistency and diversity. To date, 2 new graduate nurses and 2 new to oncology nurses have completed the orientation program. Evaluations from the new hires, preceptors and managers as well as the nonclinical staff that were shadowed has been positive with overall satisfaction in the process expressed.

CONVERTING A PRIVATE PRACTICE INFUSION CENTER TO REGULATORY COMPLIANT HOSPITAL-BASED CLINIC

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[Professional Development](#)

The Dan L. Duncan Comprehensive Cancer center was rapidly transitioned from a private practice physician operated clinic to a hospital-based regulatory compliant clinic and infusion center. The Centers for Medicare and Medicaid (CMS) accrediting body's hospital regulatory requirements vary greatly from

private practice criteria. The transition brought several rapid changes to the care setting for adequate patient safety and environmental standards. The purpose of this project was to transition the outpatient infusion center to full compliance with hospital regulatory requirements that would sufficiently pass a Joint Commission survey without any non-compliant findings. An initial assessment of the clinic was performed with numerous areas of non-compliance identified. Findings included items such as unsecured medications and sharps, infection control concerns, lack of appropriate temperature monitoring on supplies, corrugated boxes within practice areas, and inadequate nursing documentation and patient screenings. A 'clean-sweep' tool was utilized weekly by leadership to identify, track, and monitor progress on compliance issues. A representative from the quality and infection control department rounded in the clinic monthly. Proposals, budget costs and return on investment projections were created for projects needing capital expenditure. In addition, leadership teams met bi-weekly to address needed approvals or concerns. The daily clinic huddle was utilized to educate staff on important regulatory information such as how to find hospital policies and infection control practices. Although regulatory readiness is a continuous process, the cancer clinic received high accolades on the recent annual CMS accreditation compliance survey without any non-conformities identified. Clean sweeps of the area are continued weekly by leadership. Monthly rounds have also continued by infection control and quality teams. The clean sweep results are submitted via an electronic system to track progress and communicate needs from within the department that require inter-disciplinary assistance. In addition, a unit educator was recently added to the staffing structure to assist in meeting clinic staff regulatory knowledge and documentation compliance. This also provides support for meeting the Commission on Cancer 2021 nursing education requirements.

TALES OF TELEHEALTH AND OTHER VIRTUAL SUCCESS STORIES: DELIVERING CANCER CARE DURING COVID 19 PANDEMIC

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COVID-19

With the first outbreak of COVID-19 (Coronavirus SARS-CoV-2) in January 2020, the health care world was called to respond and act swiftly to decrease spread of the virus. Patients with cancer were identified as a vulnerable population and care teams were called to develop and implement innovative best practices to ensure patients would continue to be diagnosed, and treated while adopting the CDC's safety recommendations. One such innovative approach was the deployment and rapid transition to oncology telehealth. Our Electronic Health Record had an established telehealth platform. Telehealth visits allow patients to interact with their care team to establish and maintain a plan of care, provide education, and quickly address and manage possible side effects of cancer treatment. Challenges of managing the volumes of appointments that required transition required both clinicians, telehealth support staff and non-clinical staff collaboration. Our entire team joined together to "coach" patients and each other through the process of engaging and deploying telehealth to full capability at our cancer center. Our teams called patients/caregivers to transition their appointments to a telehealth visit including new patient's visits, radiation consultations, follow up visits, pre-chemo treatment visits and survivorship visits. Overall, our team successfully converted over 85% of appointments to telehealth. Our teams provided daily education to our patients and formed an infrastructure of collegial support during the telehealth ramp up. The cohesive ability of many to move this volume of appointments facilitated continuity of care and avoided any lapse in patient care. Other outcomes included a) transition to tele-phone calls if patient technology constraints were identified, b) Sustaining Press Ganey Scores >95%, c) Nurse Driven Virtual Delivery of Chemotherapy Education and Infusion Suite Tours, d) Increased Infusion Chair Turn-Over, e) Access to Tele-Nurse Navigation f) Transition of wellness and support programs for both staff and patients to virtual platforms. Through intensive teamwork, creation of new models of care were achieved to ensure the safety and well-being of both patients and staff during COVID-19. As evidence on the pandemic evolves, much is still to learn and data collection on interventions, patient outcomes, and staff engagement are vital for ongoing monitoring and success of telehealth in the ambulatory oncology setting.

MENTORING THE NEW GENERATION OF ONCOLOGY LEADERS

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Professional Development

Being an oncology nurse leader can be challenging for the most seasoned leader. Having an oncology division with all novice leaders at the same time, as well as the Vice President new in this role, was ambitious in itself. The novice Vice President, leading the novice nursing leaders, presented huge opportunities and challenges. The Vice President Position was a new position, which brought many obstacles and uncharted paths. This discussion will review how critical leadership development plans were identified and aligned, staffing cultures changed, program development for educational development of staff, and staff retention concerns outlined. Lecture will address how novice nursing leaders worked together to standardize nursing practice both inpatient and outpatient infusion sites, and develop transitions of care that affected our patients across the oncology care continuum. This topic will discuss how new processes were implemented, biases and resistance addressed, and what support and strategies were put in place for the new novice oncology nursing leader to be successful in the role. How to develop unified goals, engage leaders to understand the importance of engagement of staff and each other, identify their potential, align their personal unit goals with the goals for the program will be reviewed. How to guide the new managers to address priorities, manage resources in a challenging budget time, implement cross training and onboarding of staff will be reviewed. Skills to quickly adjust to crisis management of the COVID crisis, guide staff during the volatile demonstrations when they impacted patient care and to institute diversity awareness in their management of staff and environment will be addressed. Discussed will be the steps that led to well developed cohesive team, what barriers were faced and what goals were formed, what goals were scratched. This topic will be honest with the failures, specifics on how leaders struggled to join as a team, how strong conversations took place and outcomes of communication between the Vice President and direct reports, as well as the relationships between the leaders themselves. How did personal journeys and bias be addressed and pushed aside to form a division with unified goals, transitions of oncology care, education and staff retention as a success.

OPERATIONALIZING SURGE STAFFING IN AN ONCOLOGY ICU DURING THE COVID-19 PANDEMIC

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[COVID-19](#)

In the spring of 2020, New York City became the epicenter of the COVID-19 pandemic. Immunocompromised oncology patients were particularly at high risk for contracting COVID-19. As infection rates climbed, the volume of ICU patients in a 514-bed Magnet recognized, NCI-designated Comprehensive Cancer Center in NYC surged as well. This abstract will outline strategies employed for operationalizing safe, high-quality nursing care of critically ill oncology patients in the setting of the COVID-19 pandemic that required a 150% increase in ICU bed capacity. Due to the surge in ICU patient volume, a Stepdown Unit (SDU) was transformed into a pop-up ICU and a 5-bed Neurologic After Care Unit (NACU) was converted to a designated COVID-negative ICU. To adequately staff the new ICUs with critical care trained nurses and provide adequate clinical resources, several interventions were employed. After a review of human resources across the institution, existing organizational capacity was utilized to bridge the widening resource gap. The review gauged recency and depth of ICU experience to stratify how quickly and safely each nurse could transition back to practice in the ICU. All deployed nurses who required reorientation were given several training shifts with a preceptor based on their specific needs. A tiered staffing model was implemented in the pop-up ICU and NACU, resulting in ICU nurses overseeing the care of 3–6 ICU patients and the practice of 2–4 SDU or NACU nurses. SDU nurses attended an ICU boot camp class and were given an ICU handbook to assist in the transition to critical care nursing. 28 deployed nurses were reoriented to the ICU. 80 SDU and 20 NACU nurses were up-trained to critical care nursing. SDU and NACU nurses cared for 1–2 ICU patients each under the oversight of ICU nurses, who oversaw the practice of 2–4 SDU or NACU nurses. Using the tiered staffing model, adequate staffing was ensured and safe patient care was delivered. While scheduling was difficult as many of the deployed nurses were accustomed to working day shift, a rotating shift schedule helped ease this challenge. Assigning deployed nurses consistently to the pop-up ICU and NACU allowed them to get familiar with their new environments and colleagues. Frequent communication and transparency fostered teamwork and trust among the nursing teams.

TELEHEALTH OPTION FOR ORAL ONCOLOGY EDUCATION: PROVIDING PATIENT EDUCATION REMOTELY DURING THE COVID-19 PANDEMIC

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[COVID-19](#)

Walter Reed National Military Medical Center in Bethesda, Maryland features a 22-chair infusion suite as part of their outpatient hematology/oncology clinic. The staff consists of 9 dedicated full-time infusion nurses and 2 part-time infusion nurses. For an average of 40 patients per day, nurses in the clinic deliver chemotherapy, immunotherapy, blood products and other supportive services including the provision of detailed patient education. In March of 2020, the COVID-19 pandemic made it clear that we needed to limit the time patients spent in clinic. A telehealth option for the provision of oral oncolytic education was implemented to reduce face-to-face time between staff and patients who are at higher risk for contracting COVID-19. The referral-based program utilizes the ONS Oral Chemo Guide video learning module. Patients referred to the program received a phone call from the clinic nurse educator who reviewed the option of remote counseling and after receiving verbal consent from the patient, enrolled them into the facility's patient portal system containing a secure messaging feature. The patients were all provided with the option to elect for face-to-face counseling should they prefer it. No patients elected this option. The nurse educator then sent the patient step by step instructions for the counseling, the web link to the ONS Oral Chemo Guide, and attachments including the medication order, medication specific education sheets, and medication diary. Patients were provided with the ability to correspond with the nurse educator by phone or secure messenger and provided with access to the clinic nurse triage line. Support, consent and all education reviewed was documented in the electronic medical record (EMR). The nurse educator followed up with the patient immediately, and again within 7–10 days of initiation of therapy to assess for compliance, side effects and additional educational needs. Of the 33 patients prescribed new oral oncolytic medication since March, 23 received their education remotely. 10 patients received their education face-to-face concurrent with other treatment. Each educational appointment lasted one hour. This resulted in a reduction in in-person interactions by 23 hours. In order to continue to assess compliance, a

questionnaire has been added to the EMR to be completed at each clinic nurse appointment.

RAPID RELOCATION OF 13 HOSPITAL BASED AMBULATORY CARE TEAMS TO SATELLITE CENTERS: TWO ONCOLOGY NURSE LEADERS' VUCA (VOLATILE, UNCERTAIN, COMPLEX AND AMBIGUOUS) LEADERSHIP SKILLS DURING COVID-19 PANDEMIC

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Coordination of Care

Two oncology nursing leaders were faced with the challenge of simultaneously moving 13 ambulatory oncology teams from hospital-based settings to regional satellite ambulatory centers within a few days during the rising Covid-19 Pandemic. Oncology nursing leaders were charged to move their clinics to increase inpatient capacity and reduce exposure to ambulatory patients at the main hospital. The utilization of strategic VUCA leadership skills were paramount to ensure safe patient care and operational continuity. The experience provided the nurses an opportunity to lead in an environment of continuous change, lack of predictability and necessity to leverage technology. To ensure transparency, the nurse leaders shared the news with their teams during leader rounding and huddles as information was changing hourly. Daily interdisciplinary team relocation calls reviewed clinical needs and modified workflows to establish a smooth transition and clinical operation in the new locations. Nurse leaders focused to establish medication dispensing systems, identify safe chemotherapy drug delivery and storage to infusion locations, build new EPIC departments, move telecommunication lines, relocate clinical equipment, develop workflows and communicate the changes to patients. Nurse managers supported staff and empathized as they grieved normalcy. Nurse leaders ensured that services were replicated and newly established workflows were executed. One third of provider visits were conducted in person (2,349) versus two-thirds conducted by Telehealth (4,645). Leader rounding post-relocation revealed patient satisfaction with the newer facility, private infusion bays and ease of parking. Less than 0.5% of hospital's healthcare team members were diagnosed with Covid-19. Decision making during a crisis was driven by more than algorithms or processes. Human elements such as leader and team trust and leader wellbeing are crucial factors to success. Lead-

ership during the transition of units required a high emotional intelligence, resiliency, and comfort during a VUCA world event. Keeping patients and staff safe was paramount. While the locations for nursing care were different, the same patient care was delivered by the same oncology nursing team. The pandemic challenged the nursing leaders to use non-traditional spaces to deliver care such as a PACU and ambulatory surgical holding bays for chemotherapy administration. The number of Telehealth visits exploded and ensured patients could be evaluated by their providers.

EXPEDITION BMTCN®: GUIDING THE JOURNEY FOR SUCCESS

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Professional Development

In an academic medical center, no registered nurses within the Stem Cell Transplant and Cellular Therapy (SCTCT) program were certified within their specialty. Highly specialized oncology nurses are needed to ensure patients within the SCTCT program are receiving quality nursing care that leads to best patient outcomes. BMTCN® certification, available from Oncology Nursing Certification Corporation (ONCC), offers the only nationally accredited certification test to validate the SCTCT nurse's knowledge needed to meet the complex needs of the patient population. The purpose was to increase the number of BMTCN®s through the development of a certification preparation program targeted to overcome barriers of time, cost, test anxiety, fear of failure, and employer support. The guided program consisted of the ONS Fundamentals of Blood and Marrow Transplant course, a 12 week Yammer (organization's social media platform) educator lead study group, review course, and mentoring. Pre-intervention, participants were asked to complete a 'commitment to certification' contract. Participants were provided a copy of the BMTCN® Certification Review Manual, reimbursed for completing ONS Fundamentals course and attending a one day review. Social media offered an innovative educational platform for on-demand virtual studying and sharing. 10 of 13 eligible nurses participated in the program (n=5 bedside RN's, n=5 RN coordinators, mean experience in BMT 10.5 years). To date, 60% have tested and 50% have passed. Four nurses experienced delays in testing due to COVID. Post survey evaluation was completed by 8 nurses; 100% felt their learning needs were met and would recommend the program and 62.5% noted they would not have tested

without the program. Specifically, respondents noted the social media platform to be “fun” and “helpful and convenient”; with 87.5% rating it helpful or very helpful. Respondents noted they spent between 1–8 hours weekly (m=3.5 hours). The Commission on Cancer’s newly updated standards strongly support patient care delivered by certified oncology nurses and suggest organizations develop a pathway to certification. Expedition BMTCN® provides evidence that increasing certification rates is attainable when nurses are provided a guided curriculum utilizing different learning methods. Incorporating social media can enhance a prescribed curriculum by encouraging peer support, providing a user-friendly interface for posting of learning resources, and providing a mechanism for meaningful interaction with facilitator.

CREATING A CULTURE OF SAFETY: SAFE HANDLING OF HAZARDOUS DRUGS (HD)

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Oncology Nursing Practice

The increasing use of hazardous drugs (HDs) within and outside the oncology arena increases the risk of exposure of patients and healthcare workers. Studies show that millions of health care workers in the U.S. are potentially exposed to HDs. Oncology Nursing Society (ONS), the United States Pharmacopeia (USP), Occupational Safety and Health Administration (OSHA), and the National Institute for Occupational Safety and Health (NIOSH) recommend the practice and quality standards for handling HDs to promote patient safety, worker safety, and environmental protection. The increase in biomarkers of chromosomal changes in health care workers occupationally exposed to antineoplastic drugs reported in many studies makes it imperative that there should be diligent adherence to established policies and procedures for limiting exposure. The magnitude of the health risks associated with HD exposure and the ambiguity in existing policy highlighted the need for a literature review on the current standards and guidelines and a gap analysis. The gap analysis revealed that discrepancies exist between evidence-based guidelines and the current practice. This led to a safety improvement project with the following interventions: (a) Identify the NIOSH list of HDs and make it available to all the healthcare workers through a link in the hospital intranet. (b) Set forth a plan for transporting HDs after compounding. (c) Update the policies for the safe handling and disposal, spill management, and proper documentation of spill. (d) Educate the clinical

nurses on the standards and best practice guidelines for safe handling of HDs. (e) Conduct annual competency of clinical nurses handling HDs. (f) Monitor compliance with the established standards and guidelines. This safety project identified several opportunities for the education of clinical nurses. The clinical nurses reported increased awareness about the list of hazardous drugs, the risks of exposure, and the current guidelines on safe handling. These tailored interventions support the enforcement of USP <800> guidelines in collaboration with pharmacy. Keeping current with the standards and evidence-based practice guidelines leads to improved adherence to safety standards, and limits inadvertent exposure to HDs.

WHEN THE FLAME BURNS OUT . . . CONQUERING LONGEVITY IN AN ONCOLOGY NURSING CAREER

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Professional Development

Nursing is one of the most challenging professions to enter due to the rigorous and intense curriculum. According to the 2016 National Healthcare Retention and RN staffing report “The average cost of turnover ranges from \$37,700–\$58,400.” As professionals, we must be proactive in reducing the burnout and preventing nurses from hanging up their stethoscopes. The oncology specialty is a career pathway that is very rewarding but can challenge you emotionally, spiritually and cause physical distress making longevity an even bigger obstacle. Additional researchers found oncology registered nurses more likely to encounter moral distress, compassion fatigue and traumatization in their efforts to help others. Potter, et. Al (2010) reports “44% of inpatient oncology nurses experience burnout.” Burnout, a term coined by psychologist Herbert Freudenberger in 1974 and described by Rajvinder (2017) explores the physical and behavioral nature of those in the caring profession. In 2019, A. Montgomery, an organizational psychologist finds that “Burnout has become a big concern within healthcare. It is a response to prolonged exposure to occupational stressors, and it has serious consequences for healthcare professionals and the organisations in which they work. “ Canadas-De La Fuente et al (2017) identified burnout among health care workers to be linked to negative patient outcomes and increased staff absenteeism. Emotional exhaustion, depersonalization and low personal performance have also been linked to high burnout scores

as measured by the Maslach Burnout Inventory. Using Maslach's Burnout Inventory, analysis of current oncology nurses and oncology nurses who have left the specialty will be investigated. Utilizing an online social platform, subjects will be recruited and surveyed to identify a relationship between burnout score and oncology nursing retention and resignation. Our goal is to keep the flame burning in order to enhance engagement, retention and job satisfaction at a professional and personal level.

DIVERSITY, EQUITY AND INCLUSION IN ONCOLOGY NURSING: HOW DO WE MAKE MEANINGFUL CHANGE?

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Oncology Nursing Practice

The US nursing workforce is comprised of 9.1% males and 19.2% minorities. Although these demographics are improving, a significant opportunity exists to increase diversity in nursing. Greater diversity in oncology nursing can lead to shared understanding across races and cultures and promote the engagement of patients from under-represented minority (URM) groups in cancer care services. We developed a multi-year diversity, inclusion and equity plan in our nursing department. The goals are to increase the diversity of the nursing workforce and support an equitable and affirming practice environment for all. Our efforts are focused on program development and career advancement opportunities for our most diverse employees and education in areas such as cultural humility and sensitivity. Interventions implemented and planned are in the following three areas: (a) Program Development: 1-year residency for NLNs from URM groups: 09/2019–present and Clinical Assistant Mentoring: 12/2020–ongoing (Mentor training, Mentor/mentee support), and Center for Career Development Planning stages (Focused on URM groups); (b) Culture Change: Welcome Table (listening) sessions for staff Summer, 2020–ongoing and Commitment to Inclusive Behaviors: 11/2018–ongoing (Commitment, Consciousness, Courage, Collaboration, Cultural Intelligence, Curiosity), and (c) Education and Training: Trainings/Courses (in process): 10/2020–ongoing: Unconscious bias, Working Across Cultures, Difficult Conversations, Leading Inclusively, When Words Hurt—managing disrespectful patients. Leaders committed to an equitable, diverse and inclusive environment, coupled with education and specific action, can impact longstanding inequities and misunderstand-

ings between employee groups, promote new thinking and provide opportunities for all employees to pursue their professional dreams and aspirations. Welcoming staff to talk about their experiences in safe, supportive environments can be a source of deep learning for leaders wanting to make meaningful change. We are evaluating our efforts by tracking success metrics: (a) Clinic assistant recruitment and retention, (b) recruitment of URM oncology nurses, (c) residency completion rates and job placement, (d) mentoring intervention success metrics (promotions, school enrollment), and (e) staff perceptions of 'belonging.' None of us can change the whole world, however we can all change the worlds we live and work in. Staff involvement in designing specific interventions has resulted in changes with measurable impact.

PROMOTING NURSING EXCELLENCE AND PROFESSIONAL DEVELOPMENT: HARNESSING RESOURCES WITHIN THE ONCOLOGY CARE INDUSTRY

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Professional Development

Tennessee Oncology is a community-based oncology practice that values professional development and continuing education for its staff members. However, the clinical training team has encountered barriers to providing educational opportunities to staff at all 30 clinic locations, spread across hundreds of miles. While there were some opportunities in place for additional education, most options were not convenient for staff members. After-hours dinner programs were located too far from the staff at outlying clinics and staff often cannot attend on-site lunch in-services due to midday time limitations. In addition, many of these programs are branded and drug-specific, primarily intended for providers rather than nursing staff. Because of these barriers, staff frequently requested accessible educational opportunities that were relevant to their practice. In 2019, the clinical training team began brainstorming how to overcome these challenges and provide valuable educational opportunities to clinical staff. It was determined that the use of a virtual platform to deliver education sessions during clinic hours would be the most effective way to achieve these objectives. The annual educational needs assessment survey was used to identify topics for these virtual sessions. Feedback from clinics helped to de-

termine that presentations were most convenient at the end of the workday when most patient care has been completed. Because the programs are virtual, staff can access the presentations while continuing to monitor patients. Many staff members requested more information about disease states and the management of adverse reactions. With these topics in mind, the training team reached out to subject matter experts, including Tennessee Oncology providers, as well as nursing educators and medical science liaisons from pharmaceutical companies. Initially, industry compliance regulations were a barrier to the virtual format of these sessions. However, the training team worked closely with the presenters to meet regulatory requirements so that the program could move forward. Tennessee Oncology has successfully hosted virtual sessions each month since September of 2019. Attendance at these sessions included medical assistants, nurses, advanced practice providers, clinical data abstractors, and patient navigators. Surveys were sent after each session to evaluate the program, with promising results. Nearly 80 percent of attendees reported an increase in knowledge of the topic presented, and 98 percent of attendees reported that the presentation was relevant to their daily work.

UTILIZING TELEHEALTH FOR RADIATION ONCOLOGY PATIENT EDUCATION

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COVID-19

Being a radiation oncology department in a large academic medical center COVID-19 brought along many changes to patient care and the way our department functioned. To reduce possible patient exposures, we converted a majority of our new patient consults to telehealth encounters. Between March and August 2020 we saw approximately 300 new patient consults as telehealth visits. Due to this, our standard routine of providing patient education, which was previously done by our nursing team in person with paper education documents, had to be revised. The purpose of this abstract is to present the changes that we made within our workflow to get our patients the education they needed. With the transition to telemedicine we relied heavily on the EMR our hospital utilizes—EPIC and the MyChart system. MyChart is a patient portal that allows for the patient to have access to their visit summaries, laboratory results, clinical results,

and communicate with their care team. We identified the MyChart system as a way to intervene with the problem of relaying education virtually. To start, we converted all of our paper education documents to PDF documents. We were then able to attach these PDFs to a personalized MyChart message which we sent to the patient. When the nursing staff calls the patient prior to their telehealth visit to review their medical-surgical histories and current symptoms, we are also informing them that the education documents are now available in their MyChart account for review. MyChart will also notify us if the message is not opened within 48 hours so we can reach back out to the patient and guide them through the process. As evaluation, we are checking in again with the patient when they do come into the clinic to start the radiation that they received and reviewed the education documents and answering any additional questions that they may have. Patients have also been responsive through the MyChart system showing appreciation for the education documents. The innovation of using MyChart as a portal to disseminate education to our patients during the COVID-19 pandemic has proved to be beneficial, allowing the patient to receive the same education they would have in person, but through technology in order to reduce unnecessary clinic visits and possible COVID-19 exposures.

USING KNOWLEDGE AND SELF-AWARENESS TO COMBAT RACISM

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Professional Development

Since the death of George Floyd America is experiencing demonstrable racial turmoil. Like many institutions, racial unrest led a comprehensive cancer center to examine injustices within the system. Nurse's issues and emotions about race, came to the forefront. Active listening, participating in demonstrations, and asking difficult questions clarified the need for intervention. "If we acknowledge and name racism in our work, writing, research, and interactions with patients and colleagues, we can advance understanding of the distinction between racial categorization and racism and clear the way for efforts to combat the latter. The unit's thoracic oncology and mental health clinical nurse specialists created the Racial Crisis Forum to examine racial issues impacting oncology nurses and provide support. The forum is held monthly, for one

hour, virtually and with a safe, social distanced, option on the unit. Day and night shift sessions are provided. Staff is invited via email. With a virtual option we were able to email invites throughout the hospital system. The initial forum allowed for an intentional discussion regarding the recent racial unrest. Resources and reading addressing racial issues were provided for review before the meeting. Forum topics came from staff inquires including: microaggressions, lack of diversity and health disparities. Subsequent forums have included experiences from an African American police officer and role playing to combat microaggressions. The forums have been well attended and staff has been engaged and willing to share. The feedback has been positive. Participants feel the intervention has been useful in dealing with race issues at home and work. Several individuals consistently return each month. The intent is to employ more objective methods of evaluation in the future. The Racial Crisis Forum created a supportive and non-judgmental environment. Additionally, the unit specific race issues were brought forth, making interventions more authentic. Future forums will focus on topics identified by the unit and how race is informing the environment, individuals and relationships. The forum is a useful way for nursing units to create opportunities to explore today's race issues in our professional and personal lives.

TELE-CHEMO TEACH: RE-SETTING ONCOLOGY PATIENT EDUCATION DURING A PANDEMIC

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COVID-19

At a rural cancer program in the Northwestern US, one-to-one education sessions between infusion nurses and new patients were required prior to beginning treatment. Keeping updated with COVID-19 recommendations, the need was identified to decrease in-person encounters, incorporate tele-health visits, and limit exposures to those immunocompromised. Cancer patients are at highest risk for infections and serious complications, including mortality from coronavirus. As new organizational COVID-19 policies were implemented, visitor restrictions were enforced which resulted in families' inability to attend sessions. The project's purpose was to implement virtual teaching methods for patients/families beginning treatment. During analysis of current process, the nursing leadership team identified inconsistent educational content, lack of health literacy standards, and outdat-

ed materials. All resources were gathered, researched, and updated to meet evidence-based practice. New materials were created incorporating ASCO/ONS' Chemotherapy Safety Standards. A symptom reference table along with telephone numbers of when/who to notify and home instructions for safe handling of medications/body fluids were developed. Cancer medication information sheets were incorporated into the consent process. Revisions to curriculum included critical self-care management interventions, adult learning concepts, and health literacy standards: plain language, avoiding information overload, and chunking content. Strategies such as teach-back were reviewed with staff to assess patients' understanding. By collaborating with Telehealth, AV Media, and Marketing departments, on-site equipment was updated to support telehealth, nurses were trained in virtual conferencing, and print materials, video tour of the infusion area, and picture-collages of "mask-less" staff were uploaded to the organization's website. Staff then completed required competencies for virtual "tele-chemo" teaching. Initial feedback about the virtual teaching concept was negative. However after implementation, feedback from staff, patients, and their families have been extremely positive; staff commented how appreciative patients/families are regarding the ability to learn from home. Formal program evaluations are planned for Fall along with a new virtual orientation program for the cancer center. The coronavirus pandemic provided an amazing opportunity to update patient resources, standardize patient education, incorporate health literacy, meet oncology chemotherapy safety standards, increase staff and patient use of technology, and involve patients' families/friends in teaching including those that live miles away from treatment. Oncology nurses should consider taking the lead to adapt similar projects, especially for rural cancer programs where patients are required to travel significant distances.

BRIDGING THE INFORMATICS GAP: OPTIMIZING THE TRANSITION TO EMR AT A COMMUNITY CANCER CENTER

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Oncology Nursing Practice

Transitioning to an electronic medical record (EMR) can improve workflow efficiency and quality care, increasing safety and access to patient data. Our health system implementation of a new EMR across outpatient and inpatient services presented an addi-

tional challenge for our community cancer center as medical oncology and radiation oncology staff transitioned from paper documentation. Transforming the clinical workflow while continuing to provide safe, timely, and patient centered oncology care was crucial to successful implementation. A one-day training session was led by health system EMR trainers followed by access to a learning playground available for practice before launch. As staff completed system wide training, increased anxiety was reported with varied prior EMR experience and concern that gaps in knowledge would prevent successful adaptation of our complex oncology workflows. To increase support, decrease barriers, and continue to provide quality care during our EMR launch, an opportunity was identified by nursing to promote positive change management throughout the transition. Our goal was to optimize the classroom training and adapt the knowledge to our specific outpatient cancer center workflow. Separate workflow documents were created for our clinical team outlining step by step process starting from rooming a patient to check out. Workflows were utilized for standardization and tailored to patient pathways for visits in medical oncology, radiation oncology, and infusion. We supported alternate learning styles and supplemental training by incorporating written workflows with screen shots and providing the opportunity for independent workflow practice within the EMR playground. As our team trained to workflows, decreased anxiety and increased engagement in utilization and value of the EMR was noted. As EMR went live, our team utilized these supplemental workflows to provide safe, timely, standardized care. Throughout our transition we encouraged open communication on barriers or safety concerns, which led to bi-monthly meetings with EMR analysts and informaticists to promote best practices. Following the initial transition, additional support resources were created including nurse led supplemental refresher courses to improve utilization and further standardize documentation. Bridging the informatics gap through creation of department specific workflows, collaboration with EMR team leads on process improvement opportunities, and identifying internal resources to promote usability enabled a successful transition from paper to EMR.

SEAMLESS STAFFING TO OPTIMIZE OUTPATIENT ONCOLOGY CARE

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Professional Development

Outpatient Oncology care is an arena of safety, quality and patient centered care. In a community cancer center oncology nurses work across many continuums of care including infusion care, office practice, triage management and radiation oncology. The ability to provide seamless care in these domains and across different satellite locations was key to our care delivery model. Training of staff five years ago was limited, and our oncology nurses would stay siloed in their specialty for at least a year. Covering absences and volume surges was difficult with staff not feeling competent to move into each nursing position of the care continuum. A training program was devised for a systematic method to train staff in preparation of covering these specialty domains. A needs assessment was created to ascertain the level of knowledge and perceived competence in each specialty. Each oncology nurse completed the needs assessment and identified requested training. A training schedule was created to provide standardized and comprehensive orientation to the requested specialty. In addition, a rotation schedule was provided that afforded staff a future look at schedules. Infusion training was identified as the foundational skill to work in the Cancer Center. Building upon these principles, training continued with physician office practice to expand skills on new consultations and education sessions. Triage training was key in building our care coordination continuity, providing symptom management telephonically and management of issues within the EMR. A training checklist was developed to ensure all responsibilities were covered and met successfully. In addition, nurses with an interest in radiation oncology were provided training time with the radiation oncology nurse with a goal of seamless coverage. In evaluation of our training modules and our continued quest for self-governance, the oncology nursing staff completed a survey to identify their requested satellite and method for rotation in the coming year. The nurses individually noted their requested satellite and requested a rotational schedule for triage by day as compared to the six-month rotation. This innovative change required additional training of new staff with experienced triage nurses to ensure competence. The nurses identified that experience in all roles proved valuable in promoting expertise in symptom management in the infusion arena and improved understanding of patient management across the cancer continuum.

IMPROVING PATIENT SAFETY IN THE AMBULATORY INFUSION CENTER: DEVELOPMENT OF A PROTOCOL FOR MANAGEMENT OF EXTRAVASATION

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Oncology Nursing Practice

Extravasation of chemotherapeutic agents can lead to consequences such as tissue necrosis, damage to tendons, nerves, joints, and even loss of the affected extremity. Prevention, early recognition, and timely management remain the critical approach to manage adverse events. While guidelines and institutional policies attempt to minimize the risk of adverse events, on busy units like ambulatory infusion centers the time constraints in reading the policy or guidelines in the event of an extravasation may be a barrier for timely management. Recent studies have shown that the use of clinical protocols based on evidence-based guidelines is one means of improving the quality of patient care in oncology practice settings. As such, the need for education and development of a clear concise extravasation protocol was identified to bring the best evidence into practice. This initiative aimed to improve clinical nurses' knowledge of: (a) the risk factors of extravasation, (b) differentiation between extravasation, flare reaction, and venous irritation based on the clinical manifestations, (c) complications, (d) CTCAE grading, (e) specific management, (f) proper documentation and reporting, and (g) patient education. A comprehensive literature search was conducted in the PubMed, UpToDate, and Google Scholar databases, in addition to a review of the guidelines published by the Oncology Nursing Society (ONS), American Society of Clinical Oncology (ASCO), the institutional policy, and consultation with oncology pharmacists for expert opinion. The implementation plan included: (a) a pre-test to assess knowledge of the clinical nurses, (b) education of the clinical nurses, (c) development of the protocol, (d) making the one-page laminated protocol available in the staff education binder for quick reference, (e) making a readily available extravasation kit, and (f) ongoing assessment of knowledge through post-test. The clinical nurses scored less than 60% in the pre-test. Education is the mainstay of safe administration of chemotherapy, but the quick availability of a standardized protocol containing general initial measures, specific measures related to the cold or warm application, specific antidotes, and instructions on administration is key for prompt management. After the education and development of the protocol, the post-

test showed a total score of 90%–100%. In addition to building up the confidence of new and experienced clinical nurses, the protocol provides autonomy for the clinical nurses over the management of emergencies such as extravasation and improves patient safety and outcomes.

SUCCESSFUL SUPPLY CHAIN MANAGEMENT DURING A PANDEMIC

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COVID-19

In recent years, many companies have operated with a lean approach to supply management; keeping minimal stock on hand, decreasing operating costs, and using available funds for other opportunities that promote company growth. The downfall of this minimalist approach to company stockpiles, became evident with the appearance of COVID-19. As the virus spread across countries, continents, and the world, most companies quickly exhibited the strain of short supply availability, compounded by massive delays in shipping by land, sea, and air. Due to the critical need for personal protective supplies, it became imperative for hospitals and clinics to preserve what supplies they had available, and then locate and allocate whatever supplies they could continue to obtain. As the pandemic became more severe across the country, outpatient healthcare organizations felt the stress of supplies being diverted to hospitals on the front lines, instead of being available for their staff and patients. Outpatient healthcare companies like Tennessee Oncology; comprised of forty-five locations including clinics with infusion centers, imaging, reference labs, pharmacies, and corporate headquarters; needed to facilitate their own product acquisition and improvise, to successfully care for their patient population. Tennessee Oncology enacted their Pandemic State of Emergency Preparedness Plan; utilizing local, regional, and enterprise-wide incident response, to give direction to management teams and staff. The response team, quickly tallied available supplies of all clinics and gave instruction to clinic management on how ordering processes would change immediately. Each clinic had maximum order limits, set by suppliers; many, too low to amply care for their patient volume. The response team swiftly devised a plan to order maximum amounts per clinic, then redistribute supplies to the facilities that needed them. Through proactive daily calls, including: executive leadership, the incident response team, clinic managers, and

suppliers; Tennessee Oncology preserved, provided, and allocated PPE to over 1200 staff members. The forethought, organization, and ingenuity of company leadership and staff; has facilitated the continued, necessary care of thousands of immunocompromised oncology patients, by safely administering chemotherapy, caring for isolation patients, and providing COVID testing. This success of supply chain management during a pandemic is due to the ability of company leadership and staff to be continuously adaptable as they strive to provide excellent patient care.

COMPUTERIZING A CHEMOTHERAPY COURSE TEST

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Professional Development

The University of Pittsburgh Medical Center (UPMC) is comprised of hospitals, and outpatient health centers across Pennsylvania, and into Ohio, New York, and Maryland. Nurses hired into UPMC facilities caring for oncology patients are required, per policy, to take and pass the UPMC Hillman Cancer Center (HCC) Chemotherapy and Biotherapy Course. Historically the course exam was a paper test of one hundred questions. All paper tests were graded manually by the course director and on successful completion of the course requirements an ANCC certificate was electronically issued to attendees. This grading process could take up to four days to complete the manual process. UPMC uses an on-line education system for all mandatory education. Through the online system managers can track employees' education. The HCC education department set a goal to transition to online testing to improve efficiencies within the education department and for online education record keeping. The course director contacted the Senior Learning Tech Specialist to discuss the option. The course exam was electronically sent to the Senior Learning Tech Specialist who uploaded the exam into the system. The online test was trialed by the education team and ten oncology RN volunteers within UPMC. The trial team approved the virtual exam and a process was put into place for all required UPMC employees to test. The first class to use the testing system was early in 2020. Since early 2020, over 150 participants have tested using the on-line Chemotherapy and Biotherapy Course test. Testers are able to see the results of their test immediately following the test completion. Exam scores, course evaluation, and class certificates are available

with the education system. Additionally, course directors have improved workflow through the elimination of manual test grading and staff education records are accessible to management teams. Future plans include test upgrades as new course materials are added to the course content and adding all course required exams into the online format.

IMPROVING OUTPATIENT ONCOLOGY NURSE PRECEPTOR SUPPORT PART II: ADAPTING EDUCATION

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Professional Development

The University of Pittsburgh Medical Center (UPMC) Professional Education Department conducts a systemwide Precepting for Success Course offered to all nursing preceptors throughout UPMC hospitals. Educators from the UPMC Hillman Cancer Center (HCC) Education Department attended a health system courses and noted its value. A survey was sent to current HCC preceptors to understand their knowledge of the preceptor course offering. Survey results revealed HCC preceptors had no knowledge of the preceptor course and therefore were not regularly attending the offering. HCC preceptors who attended the course agreed that the precepting content was informative but found that the clinical information was not pertinent to the outpatient oncology setting. HCC developed a preceptor committee with the goal to better support nursing preceptors within all 27 HCC locations. The team determined integrating HCC clinical education into the current system Precepting for Success course would meet the educational needs of an outpatient oncology nursing preceptor. The preceptor course modifications align with the UPMC system preceptor education requirements and included training specific to outpatient oncology nurse preceptors. As of September 2020, two courses were offered with plans for two offerings in December of 2020. The course feedback from oncology preceptors was overwhelmingly positive. The oncology Precepting for Success course will provide structured support to preceptors in 2020 and in addition, it may provide new insight into ways to offer continued support to HCC preceptors.

CARING FOR PATIENTS WITH TREATMENT-NAIVE CLL: SIGNIFICANT GAINS IN NURSES' KNOWLEDGE AND SKILLS THROUGH CASE-BASED EDUCATION

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Patient Education and Safety

Frontline treatment of CLL has evolved recently, with several options now available. Nurses need to be skilled using available therapies in order to optimize patient outcomes. The goal of this study was to determine if online education could improve nurses' knowledge and skills regarding therapies for treatment-naïve CLL. The activity launched online March 28, 2020 and data were collected through September 9, 2020. The format was an online continuing medical and nursing education (CME/CNE)-certified text-based activity composed of 2 patient cases with interactive questions. Evidence-based educational feedback was provided following each response. Three multiple-choice knowledge/competence questions and 1 self-efficacy question were repeated immediately post-education. These questions assessed the impact of the education in the form of a repeated pairs pre-assessment/post-assessment study design in which each participant served as his/her own control. A chi-square test was used to analyze statistical differences between pre- and post-assessment responses. Differences with a P value < 0.05 were considered statistically significant. There were 5,996 nurses who completed the pre- and post-assessment questions during the study period. Upon completion of the activity, the average percentage of correct responses from pre- to post-assessment improved from 25% to 60% (P < .0001), respectively. Specifically, an improvement from pre- to post-assessment was observed in the nurses' ability to (a) identify patients who are candidates for frontline therapy with a Bruton tyrosine kinase (BTK) inhibitor (28% vs 48%, P < .0001), (b) select the appropriate dosing frequency of acalabrutinib for a patient with diabetes and mild renal insufficiency (24% vs 67%, P < 0.001), (c) provide supportive care for patients with acalabrutinib-associated headaches (24% vs 63%, P < 0.001), and (d) confidence in their ability to incorporate BTK inhibitors into the treatment of patients with CLL (23% had a positive change in their level of confidence). This online, interactive, case-based CNE-certified educational activity led to statistically significant improvements in the knowledge and clinical skills of nurses for using BTK inhibitors in the management of patients with treatment-naïve CLL. The results indicate that unique educational methodologies and platforms, which are available on-demand, can be effective tools for advancing clinical decision making. This CME/CNE activity was sup-

ported by an independent educational grant from AstraZeneca Pharmaceuticals LP.

LEADERSHIP ACCOUNTABILITY REPORTING: DRIVING AND SUSTAINING CHANGE WHILE EMPOWERING YOUR LEADERS

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Oncology Nursing Practice

Healthcare leaders have the enormous responsibility of delivering on departmental and institutional performance measure. These performance measures, also known as key performance indicators (KPIs), include financial and non-financial metrics and are used to gauge/define success. Examples of various measures generally tracked in institutional dashboards are patient satisfaction, employee retention and engagement, new patient access, quality indicators (readmissions, acquired conditions), volume (ambulatory visits, patient days), expense to net revenue. It is important to monitor, analyze, and evaluate these metrics for accurate problem/barrier identification. A standard process was established to produce stable and consistent results and ensure achievement of KPIs are dependent on the process and not the person. The Vanderbilt-Ingram Cancer Center (VICC) clinical enterprise instituted a standard accountability process identifying a specific time slot for reporting on metrics and standardizing the meeting structure with a set agenda and reporting format. All leaders of the cancer center clinical enterprise and key stakeholders are required attendees. A standard powerpoint template was provided for leaders to visually compare and illustrate the department's current to target/expected performance. Leaders are able to highlight best practices in achieving or exceeding metrics. Conversely, leaders are expected to provide action plans for any unfavorable results. The group discussions following each presentation engages the team to collectively brainstorm on other possible tactics. This standard leader reporting was designed as a system for holding local leadership accountable for their unit/department performance and increases cancer center executive leadership awareness of the clinical enterprise's progress in achieving goals. Executive are then able to assist in directing resources towards areas of need, identifying barriers and constraints, and addressing or resolving concerns raised. Since implementing the monthly leadership KPI report-out, improvements were realized in the following institutional priorities: labor productivity, nursing staff retention rates, patient satisfaction: medical practices, patient satisfaction: outpatient services, and employee engagement, safety culture, and nursing survey scores.

DEVELOPING AN EVIDENCE-BASED INFRASTRUCTURE IN A LARGE ACADEMIC MEDICAL CENTER

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[Professional Development](#)

Evidence-based practice (EBP) is a problem solving strategy incorporating evidence, clinical expertise and patient preference. The Institute for Healthcare Improvement's quadruple aim in health care: improving the patient experience, improving population health outcomes, decreasing health care costs, & improving the work life of clinicians and their well-being has been a target. EBP is critical in reaching this aim. An infrastructure building organizational culture valuing and expecting evidence-based care is needed. At this academic medical center, EBP was incorporated into the nursing mission and vision but there was no formal organized strategy to imbed EBP. To develop an EBP department that would lead the promotion of EBP throughout the organization. An associate director of EBP was named. An EBP strategic plan was developed in order to incorporate EBP. Tactics included presenting an EBP immersion for nurse leaders, meetings with EBP mentors, meetings with the leaders of research, EBP, and quality (QI), development of an online tool for staff to submit project ideas for research, EBP, & QI that would determine the type of project and track all projects. The online tool was developed for all projects to be submitted. From the time the tool was developed project submissions increased by threefold. Quarterly meetings for leaders of research, EBP, & QI have been ongoing allowing the three groups to work more collaboratively with knowledge of what was happening in each area. Mentor meetings were redesigned to include educational reboots of EBP topics with an increase of the number of mentors attending increasing 5X. Leaders attended a 5-day EBP immersion with 14 ongoing EBP projects being conducted by nurse leaders. EBP is a way for nurse leaders to improve their outcomes. Organizations must have a sound infrastructure that incorporates EBP into all decision making. Having an EBP department is an effective way to imbed EBP across the organization. Having a leader whose main work is EBP is an innovative way to enculturate EBP into the organization. Use of an online tool for all staff to use to determine what type of project they have and track all projects has been an innovative way to make EBP a priority. Assuring that nurse leaders are involved in working on EBP projects shows all staff the importance of EBP.

SUPPORTING SCT NURSES: A TELEMETRY/ CARDIAC MONITORING ART SHOW

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[Oncology Nursing Practice](#)

Cardiovascular dysrhythmias are one of the most common complications associated with stem cell transplant (SCT). A needs assessment identified a desire for additional training in six domains on telemetry/ cardiac monitoring to complement the hospital's certification training and online clinical resources. The six main topics included: waveforms, rhythm recognition, policy and procedures, new equipment, medications and drips, and emergency situations. The SCT unit is expanding its continuous cardiac monitoring beds and due to the demands of COVID-19, nurses are floating to more acute areas. Prior to the expansion, only one quarter of the unit had cardiac monitoring capabilities therefore a small amount of dedicated staff had regular practice with telemetry. The pandemic then posed specific restrictions on classes and gatherings. The purpose of this project was to create a uniquely socially distant and self-paced learning activity to meet the educational needs for nurses. The unit nurse educator and frontline nurse assembled information from the institutional EKG training, literature research on dysrhythmias in the SCT population, interviews with select cardiac monitoring experts, and a thorough review of policies and procedures. The learning activity, a "He[art] Show", was then designed to meet the remembering and understanding pieces of Bloom's Taxonomy. This art gallery theme allowed for a large amount of information to be displayed in a spacious conference room where nurses take their breaks and can visit in their own time. Each topic was paired with a piece of art which created intrigue surrounding the topic. 25 visitors attended "Opening Night" of the He[art] Show which offered music and refreshments to bolster engagement. This educational activity yielded positive reviews from leadership, SCT nurses, as well as other nurses from within the hospital who have visited the He[art] Show. A post survey sent to Opening Night participants detailed that 100% of respondents found the training valuable and relevant to their needs. Nurses identified that the information was helpful in preparation for the cardiac monitoring expansion in SCT. Implications for clinical nursing practice was offering the program to build skills and provide timely education within the restrictions of the COVID-19 crisis. The future direction of this project is to build upon this learning activity to

meet the application and analysis pieces of Bloom's Taxonomy as well as distributing complementing resources.

PACKET DEVELOPMENT MENTORS: SETTING UP SUCCESS FOR CLINICAL LADDER IN THE OUTPATIENT ONCOLOGY SETTING

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Professional Development

The ambulatory clinical ladder program at my large academic institution has been in existence since 2010 to recognize and reward exceptional contributions to nursing. Four levels represent incremental stages of clinical expertise, achievement, and professional contributions. The sections of clinical ladder are separated into eight nursing standards based on the scope and standards of practice set by the American Nurses Association. This presentation discusses the role of packet development mentors to assist nurses develop, revise, and implement their clinical ladder packets and lessons learned from use of oncology specific mentors. Each year, nurses contract for their clinical ladder goal and prepare a packet of information. The purpose of the packet is to present evidence to the ambulatory clinical ladder committee that the candidate is functioning at a higher performance level. The committee is comprised of voting peers from varying outpatient departments and advisors that review the information for successful completion. This year the Ambulatory Ladder Committee is adding the role of Packet Development Mentor to tenured committee members with greater than three years of service to provide creative support on packet development. The packet development mentors work specifically with those participants new to clinical ladder or those that want to advance to a higher level. The goal is to focus on the higher performing nurses to ensure they feel structural empowerment at the institution. The hypothesis is that by providing clinical ladder participants packet development mentors that it will increase new participants and increase levels of achievement. Clinical ladder allows for recognition of nurses participating in clinical ladder professionally, adds in retention of current nursing staff, and aids in recruitment of nurses interested in working at the institution. Institutions could benefit from the packet development mentorship program as developed or modify it based on their needs. With the competitiveness of the job market and shortage of nurses, institutions must have incentives to retain and recognize current nurses for their contributions to nursing within their institution.

Additionally, institutions must also recruit new nurses with incentives such as professional growth and development through clinical ladder programs. Lessons learned from hospital systems can be modified for a successful packet development mentors within other specialties in the outpatient setting.

INCREASING NURSE PUBLICATION THROUGH A MENTORED NEW AUTHOR CLASS

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Professional Development

The American Nurses Association (ANA) code of ethics states nurses have an obligation to advance the profession. One means to accomplish this is publishing. Many nurses shy away from publishing for a variety of reasons ranging from not knowing where to begin to feeling they don't have anything to say. To help nurses find their publishing voice it is imperative to offer ways to increase writing skill and comfort. At this academic medical center, nurses were proficient in presenting their work. But few were involved in publishing. Barriers to publishing include fear of writing, a knowledge deficit of the process, and lack of publishing mentors. Our purpose was to help nurses understand the writing process in order to write a manuscript and abstract for submission to publication. The course begins with a 5 hour class with didactic content and group exercises. Topics include an introduction to why writing is important, choosing a topic, finding a journal, searching the literature, the writing process, strategies for success, & writing tips. Four hour-long, monthly follow up meetings review homework assignments and topics including reference managers, grammar basics, & pulling it together. Additional follow up is done with an assigned mentor as needed. Overall publications increased by 9% after 3 cohorts. Of participants, 67% started writing, 21% had a manuscript accepted and 14% had a date for publication. 60% stated they definitely would write again with 33% most likely to write again and 87% stating they would recommend the course to others. This course received positive comments with nurses feeling more comfortable with the writing process and ability to complete a manuscript. Attendance has increased over time but planned benefits of the smaller class size include increased individual attention. Designing a course that breaks the writing pro-

cess into small, monthly goals allows participants to complete the course with a manuscript ready to submit. Use of interactive activities helped to engage the participants in the process. Using experts such as the librarians for reference management and an English professor to teach grammar basics was an innovative way to engage other disciplines in the process.

“IN IS OUT” IN 2020: TRANSITIONING A COMPLEX CLINICAL RESEARCH PROTOCOL FROM INPATIENT TO OUTPATIENT CARE

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COVID-19

The COVID-19 pandemic has affected healthcare operations and patient experiences dramatically. Principal Investigators faced the challenge of continuing to treat patients with rapidly progressing diseases while increased physical distancing and tele-medicine became the new normal. Our administrators devised strategies to re-design clinical trials workflow according to Centers for Disease Control guidelines. All semi-private rooms were converted to single rooms thus decreasing the inpatient unit’s bed capacity. A nurse-led multidisciplinary effort effectively converted one cycle of a complex clinical trial from an inpatient to an outpatient setting as a solution to maintain inpatient beds for acutely ill patients. This study discusses the challenges of successfully transitioning an oncology clinical trial from the inpatient setting to the outpatient day hospital and the continuation of the research process while maintaining protocol integrity and patient safety. Prior to COVID-19, to provide close monitoring for complications, patients on this complex protocol received the first two cycles as inpatients, and subsequent cycles as outpatients. The five-agent chemo/immunotherapy regimen involves ramped-up dose-escalations and frequent timed blood sampling. During the first two cycles, critical management of fluids and electrolytes to prevent Tumor Lysis Syndrome (TLS) is essential for the first 13 days of each cycle. We transitioned cycle 2 of a six-cycle trial from inpatient to outpatient to lessen the volume of planned admissions. Patient education was paramount to the success of this alteration. We created a detailed and customized study calendar in addition to a drug diary as visual tools to support patients’ schedule adherence. In addition to in-services, outpatient nurses meet daily to review the plan-of-care to ensure and highlight protocol specific require-

ments. The last 16 patients enrolled on the study have been effectively managed as outpatients using this new workflow. Thus far, there have been accurate completions of drug diaries and no reports of protocol deviation or loss to follow-up. The favorable new workflow enhanced our oncology patients’ quality of life and decreased the risk of nosocomial infections, by limiting the inpatient stay, while maintaining protocol integrity. It also fostered collaboration between the nurses and the research team. Furthermore, it promoted resource conservation that could be redirected toward other priorities. This provides an exemplar moving forward to strive for in accommodating detailed research protocols in the ambulatory care setting.

IMPLEMENTING HEPATIC ARTERIAL PUMP INFUSION NURSING CARE IN A DAY HOSPITAL

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Oncology Nursing Practice

Colorectal cancer is the third most common cancer in the United States among men and women. The liver is the most common site of metastasis, and for some patients, the liver will be the sole site of spread of colorectal cancer. For these patients, surgical resection of the liver metastasis can offer long term survival. However, for patients with unresectable liver metastasis, additional interventions are required to attempt cure. The Hepatic Artery Infusion Pump (HAIP) is a specialized device using continuous delivery of high dose floxuridine (FUDR) directly to the liver. The pump, about the size of a hockey puck, is surgically inserted into the abdomen and the catheter is threaded into the hepatic artery. The HAIP has the advantage of being able to deliver high doses of chemotherapy regionally to the area of cancer in the liver without causing debilitating side effects, as the liver has the ability to metabolize higher levels of chemotherapy. Using sterile technique, the HAIP is accessed with a needle and chemotherapy is administered. Between cycles of chemotherapy, the pump is accessed and filled with an anticoagulant to keep the pump patent. Only a few hospitals in the country utilize hepatic pumps for the treatment of colorectal cancer liver metastasis. Because of this unique route for chemotherapy delivery, oncologists have historically been the primary

healthcare provider to fill the pumps. At the National Institutes of Health, as patient enrollment into clinical trials for colo-rectal cancer treatment increased, it became challenging for the surgeon to complete the HAIP treatments. The surgical team turned to the Day Hospital (DH) nursing staff to perform the HAIP treatments. Based on the experience from nursing departments at other institutions, and with training by the surgical team, the ambulatory nurses in the DH trained to become experts in HAIP management. In seven months, the nurses developed a standard of practice and procedure and an educational program and competency assessment tool for nurses seeking this advanced skill. We currently have five HAIP competent nurses in the DH, with more advancing through the practicum. A successful clinical program was newly established that improved patient throughput, allowed the surgeon to increase patient accrual, and provided a new skill opportunity for nurses caring for people with cancer.

EXPANDING ACCESS, EXPANDING KNOWLEDGE: FROM SPECIALIST TO GENERALIST. AN INTERVENTION TO SUPPORT STAFF LEARNING NEEDS IN AMBULATORY ONCOLOGY INFUSION

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Oncology Nursing Practice

Cancer patient care during infusion therapy requires specialized nurses to adapt their skills across multiple treatments using varying administration techniques. Previously, our large academic cancer program implemented a disease-specialty model for infusion therapy; this permitted nurses to develop expertise within assigned disease areas. With growing volumes, there was need to expand access. Additionally, staff expressed interest in cross-training to different disease groups. Therefore, patient scheduling shifted to open access and nurses began caring for patients across different disease states. Educational opportunities, resources, and consultation efforts were put into place to prepare nurses to care for multiple patients across different disease states. Using Adult Learning Theory principles, the Clinical Nurse Specialist (CNS) and nurse manager developed a transition plan and vetted it through key infusion staff. Cross-training and peer mentorship began 8 weeks in advance of scheduling change. Nurses collaborated with peer experts in the disease area to learn common treatment regimens and plans of care. Experienced nurses developed a reference list with key drug information, such as compatible fluids, required

premeds, and pertinent drug-related issues. This information is stored in a shared drive for open staff access. To supplement staff knowledge, the CNS initiated a “Drug of the Week” memo. This memo highlights a new drug each week and includes mechanism of action, common dosing and monitoring parameters, and use within common treatment regimens. Additional resources include: Oncology Nursing Society Drug Reference Sheets, Lexicomp links, relevant publications, institutional patient education tools, and pertinent institutional policies. To address educational needs of newer infusion nurses, the CNS developed bi-weekly group clinical rounds. Clinical rounds provide an opportunity to discuss specific treatment plans, complicated patients, and pertinent policies and procedures. Finally, to support the just-in-time needs for nurses, the CNS reinforced 1:1 consultation to address complex patient situations, questions regarding treatment plans, and additional concerns. Staff were successfully trained for transition to an expanded access, cross-covered infusion model. The “Drug of the Week” resource was so well received, it has been shared across our health system. Impact with patients is continuing to be evaluated.

CREATING AN ESCAPE ROOM TO COMPLETE ANNUAL ONCOLOGY REVALIDATION EDUCATION

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Professional Development

Revalidation is a requirement for all nursing staff, including our outpatient oncology center staff. Topics are determined based on organization requirements, policy changes, low volume/high risk procedures, and staff feedback. Revalidation was previously completed in groups using stations staffed by clinic champions and topic experts; however, sessions lacked engagement and did not test immediate comprehension. The Clinical Nurse IV (CNIV) and Clinical Educator (CE) envisioned the annual oncology revalidation process to be a compelling method to increase comprehension, participation, and collaboration. The purpose was to create and implement an engaging educational oncology-specific revalidation process increasing staff comprehension, participation, and collaboration. The CNIV and Clinical Educator reviewed the literature on use of games and escape rooms in nursing education. Using the topics to be covered in the revalidation process, they wrote a fictional patient scenario. Stations were created incorporating the scenario: code cart,

safe handling/spill kill, documenting patient education, port de-access/IV therapy, pain assessment, infusion pump and suture/staple removal. Revalidation sessions were capped at 10 participants to facilitate active participation and required staff registration. After completion of each station, participants worked collaboratively to incorporate what they learned to solve written clues and unlock boxes to achieve the goal of finding a key to “escape” the room. Escape room gaming actively engaged staff with collaborative participation. After the first session, facilitators realized that groups of 10 participants limited some participation, therefore two groups of five were established to require hands-on practice. After completing the stations, the two groups came together to solve the escape room clues. Staff began hearing about the escape room and arrived excited to complete annual requirements. Over 120 staff successfully completed revalidation. 53 staff participated in a post-survey: 88% reported being somewhat or extremely satisfied with the new theme, 81% reported learning something they did not already know, and 83% thought the session was an efficient measure of knowledge. Utilizing an interactive game to complete oncology annual revalidations can help unlicensed and licensed nursing staff review and learn new information that directly impacts their daily practice and care provided to patients. Changing the process helped foster engagement and participation. This can be easily replicated; we anticipate staff providing input for gaming at next year’s revalidation event.

DEVELOPING A CENTRALIZED EDUCATIONAL SITE

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Professional Development

The question of “how do we ensure that all nurses have received the same information?” often arose in our institution as we continued to grow in number of locations and staff. Previously we had a platform known as SharePoint, however it has been replaced with OneDrive. Learning how to navigate within the site provided many challenges in developing and ensuring that it was appropriate for the use we needed. The documents that were to be available for all to see needed to be created/updated and then uploaded to the site. Not only was the developer/owner of the site a novice in utilization, the staff needing access to the information were also novices with varying degrees of comfort in technology use. The learning curve for

tackling this project would be one of the largest hurdles to overcome. Once the site was ready, 260 users were identified as needing access to be granted by the owner of the group. Once the invitations were sent, tip sheets describing how to access OneDrive and also how to navigate the site for optimal use were provided. To ensure all received the same information an attendance section needed to be added where the staff could attest they had read the appropriate information. Multiple help sessions were scheduled virtually and all were invited to attend. One of these sessions was also recorded as a refresher to ensure those who needed a little extra help would be able to learn at their own pace. Currently we have brief medication tip sheets of the more intricate medications we give as well as medications that are not seen on a regular basis and therefore it was a refresher to ensure the nurse was confident in administration. There are also videos of educational sessions on medications that are new on the market. An email is sent out as new information is posted on the site and staff are notified they have 2 weeks to read the information and attest to it. To date, it has been working well, with more and more staff accessing on a regular basis. Feedback from users has been very positive with questions/suggestions of what else could be added arising. Next steps involve inviting our advanced practice nurses to join the site.

CULTIVATING A PATIENT-PROVIDER RELATIONSHIP OF TRUST WHILE ENHANCING/IMPROVING PATIENT EXPERIENCE AND SATISFACTION

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Patient Education and Safety

Many studies and/or articles have studied the patient satisfaction phenomenon. It has been demonstrated that health care quality service is a major factor driving/affecting/influencing patient experience and satisfaction. Health care quality encompasses dimensions such as reliability, responsiveness, tangibles and empathy. It is imperative to empower patients to be more inquisitive and involved in their care. The purpose of our program was to cultivate the patient-provider trusting relationship within the cancer center and to improve patient experience and satisfaction in our cancer population. We decided to use the Ask Me 3 communication tool and the Oral Exchange Rating Tool, Part 3 to educate and assess nurses, medical

assistants, receptionist and secretarial staff during patients' interactions. A pre-program learning needs survey/assessment and pre-test were conducted to determine each individual's perception of their role during patient-provider's interactions. The program was presented and all of the staff was mandated to attend by administration. A post program test was administered to assess learning and understanding. The program was evaluated through attendance, pre and post-tests and post intervention assessment using the Oral Exchange Rating Tool, Part 3. To further assess the program effectiveness, we will be monitoring our patient satisfaction scores which we predict will improve through a patient-provider trusting relationship. Once our patient-provider trusting relationship improves this will in turn enhance health care quality thus improving patient experience and satisfaction. It is our hope that through proper staff education and the use of the Ask Me 3 communication tool, our cancer patient population will feel confident and supported throughout their cancer experience.

SAFELY CARING FOR ONCOLOGY PATIENTS AT A COMMUNITY PRACTICE AMIDST THE COVID 19 PANDEMIC

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COVID-19

In March of 2020 the United States along with the world were faced with an exploding pandemic caused by the novel COVID 19 virus. Continuing to provide life sustaining treatments for Oncology patients in a community practice posed unprecedented challenges. Safely providing care to patients in addition to protecting our staff and patients from exposure to the COVID 19 virus created unique hurdles. Regional Cancer Care, Central Jersey Division's (RCCA, CJD) objective was to continue to safely provide necessary care and treatments to our patients whilst minimizing the potential risk of exposure to our staff and other patients. RCCA, CJD created a comprehensive schedule for our providers and staff minimizing time spent onsite as well as maintaining a 7 day "washout" period between sites and local hospitals. Pre-pandem-

ic, 4-5 providers cared for patients at each office site including routine follow up visits with every chair in our treatment rooms occupied. Our front office and administration suite were fully staffed onsite as well as a phone triage department. Daily, upwards of 130 patients plus staff occupied each of our sites. In response to the risks COVID 19 presented, all non-essential staff converted to working remotely including administration, billing, phone triage and majority of our providers and front office. Clinical staff transitioned from daily 8h shifts to 12h shifts for 1 week on followed by 1 week off. 2 providers covered each office to monitor treatments. Strict cleaning procedures, social distancing, and PPE were implemented at all locations. Staff were provided education on how to minimize exposure and transmission risk. Telemedicine replaced traditional office visits. All patients were screened 24h prior to their appointment and again upon arrival. Satellite labs were set up with a dedicated outdoor entrance/exit for patients to allow us to continue safe monitoring. Using strict guidelines RCCA, CJD continued operations at our locations without disruption to essential patient care. Patient and employee positivity were < 1%. During the peak we continued to provide treatment services onsite for an average of 135 patients per day across 4 sites. Due to strict screening guidelines and staffing schedule changes RCCA, CJD continued to provide uninterrupted care for our patients while protecting staff in a region hit hardest by the COVID 19 Pandemic.

AN UNEXPECTED ROLE CHANGE: THE ONCOLOGY CLINICAL DIRECTOR BECOMES THE HOSPITAL'S PPE CZAR DURING THE COVID-19 PANDEMIC

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COVID-19

In an effort to keep our caregivers safe and preserve our supply of personal protective equipment (PPE) during the coronavirus disease (COVID) pandemic, the PPE Czar role was developed. This role became the leader of the PPE taskforce and owned the execution of my hospital's PPE conservation strategy. This role was replicated at every HCA hospital nationwide. Role changes occur frequently in healthcare with our ever-fluctuating environment. PPE is not new to the oncology nurse who may be caring for patients receiving hazardous drugs or brachytherapy. This project identified the development of this leadership role for an oncology nurse in record time to meet

the COVID crisis. Immediate priorities for the PPE Czar were identified. These included: elimination of all non-essential PPE use, cohorting of COVID+/PUI patients and limiting provider's workflow, validation and competency of all staff using PPE and ensuring its' appropriate use and reuse, monitoring inventory of essential PPE, and staying current with PPE recommendations. A PPE task force was created and a team of Stewards were identified to deliver PPE. The PPE Czar reported at leadership huddle daily, studied the HCA division and CDC guidelines, and provided education. Through the use of various tools including the hospital's isolation report and Next Generation Analytics for Treatment and Efficiency (NATE), patients were identified and appropriate PPE provided. Evaluation was determined in several ways. This included weekly employee satisfaction surveys related to PPE. All PPE comments were noted and discussed with hospital leadership. HCA developed a web-based tool to record PPE usage/burn rate and reusage. A dashboard was developed with metrics related to use of gowns (isolation and chemotherapy), N95, L-3 masks, shoe covers and caps. This data was reviewed and reported to hospital leadership daily. Concerns for PPE sustainability have been heightened throughout the COVID pandemic with the uncertainty of where current and future states would lead. This remains today as we look to the upcoming months. The PPE Czar role has continued with planned processes to bring PPE back to the unit level with close oversight. This represents a healthcare system's immediate development of a novel role to help with keeping staff safe while conserving our resources with an oncology nurse leading this initiative.

SUCCESSFUL IMPLEMENTATION OF AN INFUSION NURSE RESIDENCY PROGRAM

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Professional Development

Experienced nurses can be difficult to source when trying to fill needs for outpatient oncology areas. A large academic medical center was experiencing an average of 120 days to fill open ambulatory oncology RN positions. Departments within the center often compete to land oncology experienced candidates. The purpose was to determine the feasibility of training new graduate RN's to work in the ambulatory oncology setting by expanding the inpatient nurse residency program. A pilot program to introduce new graduate

RN's as nurse residents into the oncology clinics was developed in late 2019 and recruitment for a summer 2020 cohort started in March 2020. After conducting interviews one resident was hired into infusion. Preceptors for the resident were pre-identified and completed our training program. The nurse resident hired into the program spent her first three weeks completing both general and ambulatory nurse residency orientation before beginning clinical orientation. The nurse resident completed 8 weeks of clinical orientation and will care for patients that do not require chemotherapy/biotherapy training until undergoing additional training after 6 months. The nurse resident was interviewed near the end of her orientation to find out her impressions of the experience both positive and negative. She reported that the most helpful aspect has been "the welcoming attitudes and friendliness of the staff," stating that: "most nurses have been very willing to show me things or to let me jump in to practice certain skills." She did however report that her pre-clinical experiences in residency orientation and ambulatory orientation were not well spent as "much of it was not pertinent to what I do in this clinic." She also reported confusion as to what the residency program would look like when she was hired into it. Since infusion centers function quite differently from provider clinics standardized ambulatory training should be evaluated and tailored to meet the needs of infusion residents. Nurse residents should have shadow experiences in other areas such as lab, provider clinics and inpatient units to gain an understanding of the cancer patient's continuum of care. Nurse residents in the infusion setting increase the ability to fill vacant RN positions, decrease variation in nursing practice and attracts more staff that want to work in the oncology setting.

CONTINUING EVIDENCE-BASED PRACTICE COMPETENCY THROUGH CRITICAL APPRAISAL SKILL DEVELOPMENT

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Oncology Nursing Practice

Today's oncology healthcare environment calls for continuous improvement in patient outcomes by integrating the best evidence into practice. Oncology nurses utilize evidence to evolve their practice in response to a rapidly changing healthcare environment.

Critical appraisal is the process of assessing and evaluating the value of available evidence, which is an essential skill to ensure poor quality evidence is not translated into practice leading to patient harm. At a large comprehensive cancer hospital, evidence-based practice (EBP) workshops were designed to introduce PICOT question development, advanced search strategies and utilization of library resources. 1021 oncology nurses completed the initial workshop. This helped to enculturate EBP throughout the institution. To continue skill development, a sequential workshop was created to introduce basic critical appraisal skills to nursing staff. An interactive, 90-minute workshop was developed to introduce levels of evidence, methods for critical appraisal, and common terms used in research. As experts in EBP, Clinical Nurse Specialists led the development of teaching the workshops. Skills were practiced through group appraisal of a journal article to introduce strategies to determine the value of research (evidence) before recommending a practice change. Since January 2020, 8 workshops were held with 39 participants. Pre and post surveys were collected to evaluate familiarity and knowledge related to critical appraisal. Preliminary results show 22% improvement in over-all knowledge with the greatest increases being around identification of meta-analysis (50% knowledge improvement) and systematic review (42% knowledge improvement). Workshops are ongoing monthly. Presentation will include final data review including full statistical analysis, program curriculum and data collection tools. Implementation of critical appraisal workshops enhanced skills of all nurses. Participants reported increased familiarity with the purpose, level, quality and key indicators of the evidence. It is essential to carefully and systematically review the evidence to ensure that only quality evidence is utilized when recommending nursing practice changes. Organizations looking to sustain their own culture of EBP, could replicate the methods used in this workshop.

CREATE AWARENESS OF ADVANCED CLINICAL PROVIDER'S CALIBER IN RADIATION ONCOLOGY

Shamim Lalani, MSN, FNP-C, Northwell, Lake Success, NY

Oncology Nursing Practice

Barriers to autonomous NP practice persist and include a lack of role clarity, practices limiting independent decision-making, a disproportionate involvement in indirect clinical activities, and physician resistance. With advancement in treatment modalities

and Radiation Medicine expanding exponentially, more and more patients are recipients of RT, yet ACPs seems to have not established its role as it has in other Oncology services, such as Medical and Hematological Services. The movement can be established by involving the leadership and creating awareness of ACPs potentials among our physician partners. Involving ACPs actively in the department educational rounds and learning activities, scheduling them as part of their daily routine. Giving more and more interdependency in managing patients.

ONCOLOGY NURSING ORIENTATION IN A VIRTUAL WORLD: EFFECTIVENESS OF REMOTE LEARNING DURING A PANDEMIC

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Professional Development

Providing Oncology Specific Education to new graduate nurses working in the inpatient setting is critical to their success and patient safety. In person classes were historically provided on a quarterly basis, covering a range of topics across the care continuum. During the COVID-19 Pandemic, there was a need to continue to provide education while following social distancing guidelines and promoting a safe learning environment. This was achieved by utilizing innovative teaching strategies and leveraging technology to transition classes to a virtual learning experience. The purpose of this initiative was to continue to provide quality education to new oncology nurses amidst a pandemic through virtual learning. The Fundamentals of Oncology Course was composed of 6, four-hour lectures for a cohort of 16 learners utilizing virtual learning in lieu of in person classes. Learners were new graduate nurses, with 3-7 months experience in Inpatient Oncology. Topics included cancer basics, site specific considerations, treatment modalities, symptom management, oncologic emergencies, and psychosocial considerations. The content was delivered utilizing Microsoft Teams, with all participants in remote locations. Teaching methodologies included PowerPoint slides, cases studies, multiple choice questions, and open discussion. To engage participants and enhance the virtual learning experience, the "chat" function was utilized to allow for discussion and assess understanding. A game-based learning platform was utilized to assess knowledge and promote engagement via multiple-choice quizzes through a web browser. Data was collected from

participant surveys utilizing a 5 point Likert scale and top-box analysis. Results showed that 98% of learners agree to strongly agree that they would implement this information into their practice, and 94% of learners agree to strongly agree that the course met their learning needs. 84% of learners rated the virtual learning experience (in lieu of in person), good to excellent. Despite the challenges associated with virtual learning, survey results demonstrated high levels of satisfaction and engagement with the virtual learning experience. Participants also favored the convenience of remote learning limiting commuting time. Overall engagement may have also improved due to a degree of anonymity provided by the “chat” feature compared to the in person experience. For future cohorts, areas for opportunities include offering continuing education credits, and creating flexible options for night shift participation.

DEVELOPING NURSING EDUCATION CURRICULUM FOR A NEW CLINIC SPACE AND MODEL OF CARE

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Oncology Nursing Practice

At an NCCN designated cancer center, a new clinic opened designed to support and assess an innovative model of care proposed for the entire institution. The Gastrointestinal Oncology service line was the first team to implement care in the new setting. The previous model of care required the patient to move throughout the institution for all required services (i.e., lab draw on the 1st floor, provider visit and RN education on the 4th floor, and infusion on the 5th floor). The new “Care Neighborhood” model supports patient access to all care in one location. In addition, continuity of care is prioritized through dedicated staff and collaboration is optimized by collocation of the team in the Care Neighborhood. The purpose was to (a) develop and implement education curriculum for medical assistants, licensed practical nurses, infusion RNs, clinic RNs, supportive care, and providers to be prepared to practice in the Care Neighborhood and (b) perform a feasibility analysis of preparation and training required for the collaborative care team for adoption of the Care Neighborhood model institution wide. Curriculum needs were identified by determining changes to standard work, role responsibilities, and communication expectations in the new Care Neighborhood. Curriculum topics for

clinic RNs included room turnover, infusion reaction management, injections and port care, chemotherapy spill management, bar code medication administration, and infusion pump troubleshooting. Curriculum topics for infusion RNs included room turnover, patient teaching, home oxygen set up, telephone triage, and nasogastric tube insertion. Curriculum for all staff included orientation to the new technology systems and communication norms. Simulations were completed by front line staff prior to clinic opening to validate new workflows. Job aids and reference binders were created as resources for each role. Due to the COVID-19 outbreak, curriculum was provided virtually, creating challenges in team building and in person communication which were addressed upon clinic opening. Staff completed surveys pre and post (2) clinic opening which demonstrated positive trends in staff confidence in the transition to the new model and ability to complete responsibilities, as well as increased job satisfaction. Ongoing analysis is being done to address education gaps and improve curriculum. This data will be essential as the institution brings this innovative model of care to other service lines.

COMMUNICATION AND LEADERSHIP IN A GLOBAL PANDEMIC: STRATEGIES IMPLEMENTED AND LESSONS LEARNED

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COVID-19

Effective leadership is critical in times of crisis. While our NCI-designated Comprehensive Cancer Center has weathered different challenges over the years, none was like Novel Coronavirus-19. To handle the unknown of this pandemic, our leadership made it a priority to keep staff informed and supported during this time. Our purpose was to support the nursing staff with resources and continued communication, while maintaining social distancing guidelines. Nursing leadership (including managers, directors and senior director level) conducted daily phone call/WebEx huddles for the oncology staff to answer questions and concerns. The senior director of nursing, along with

the medical directors for the cancer center conducted town halls to all staff throughout the various ambulatory oncology sites. These included PowerPoint presentation slides followed by a question and answer session. A supplemental presentation, provided by the medical directors included pertinent information related to COVID-19 such as disease process, symptoms, transmission, and PCR testing versus antibody testing. Cancer center leadership sent out daily comprehensive emails, which included COVID-19 related updates (examples included screening and testing updates, commuting to work, self-care, and any other pertinent updates). In order to decrease the amount of days the nursing staff were commuting into work, we consolidated their shifts to three 12 hour shifts (our infusion staff typically work four 10 hour shifts per week). We were able to maintain adequate staffing with this temporary change in schedule. The program manager for survivorship & wellness, along with the nutrition & wellness coordinator sent out weekly emails on tips for employees to “stay calm and well”. Tips included nutrition and activity, among other important topics. The cancer center psychiatrist provided individual, virtual counseling sessions for employees on an as needed basis (by appointment). Lastly, a 24/7 hotline was set up for COVID-19 related support. While at first the staff were scared and concerned with the unknown of COVID-19, implementing these measures kept the staff informed and comforted with up to date answers. Communication was key and continues to be prioritized with the staff. Nursing leadership has continued the phone calls with nursing staff but instead of daily, it is now conducted three times per week. As we settle into the “new norm”, we must maintain support for the staff.

LESSONS LEARNED FROM PILOTING A TEAM NURSING MODEL ON A STEM CELL TRANSPLANT INPATIENT UNIT

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Oncology Nursing Practice

COVID-19 forced consideration of a disaster nursing model and plan that could be implemented when certain skilled staff is limited, such as an outbreak of cases or inpatient surge. The Stem Cell Transplant (SCT) unit piloted team nursing (TN), a task-oriented model that allows for a team of nurses to safely expand care to a larger cohort of patients rather than the current 1:3 nurse-to-patient ratio. The goal was

to explore the feasibility of TN on a high acuity unit with specialized care as well as to identify barriers and develop strategies to mitigate risk. It was designed to intentionally challenge staff to simulate the unpredictable nature of a disaster by steadily increasing ratio in a controlled environment utilizing varying staff expertise. The team consisted of one team lead nurse, one support nurse, and one non-licensed clinical personnel. Budgeted staffing was not decreased and all staff members regularly worked on the SCT unit. After the first TN shift, another RN was added to the team to accomplish specific tasks including administration of blood, chemotherapy and care transitions. Staff members not assigned to the TN model acted as observers to ensure safe care and monitored objective measures of success such as timely administration of medication, response time and communication. On the last day, TN was halted due to communication barriers that caused concern for poor patient satisfaction. A post-pilot survey and focus group discussion demonstrated a mixed perception regarding TN success despite meeting objective measures. Because TN was not piloted during a disaster, routine care and documentation were required which contributed to staff distress. SCT staff are accustomed to delivering high quality patient-centered care. TN is task-oriented and does not allow for additional time with patients. The most efficient shifts had a team lead nurse experienced in care coordination. Physical leadership presence and communication also contributed to participants’ understanding and sense of well-being. A structured schedule for periodic de-brief is needed for success; this pilot utilized every 2 hour huddles. Although staff did not find TN sustainable for daily care, they expressed an understanding of how it could be effectively utilized in a disaster and appreciated the opportunity to practice.

COVID AND CANCER—INVOLVING NURSES IN HEALTH POLICY AND ADVOCACY

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COVID-19

There are four times more nurses in this country than physicians, yet we do not have a seat at the table for most discussions around healthcare legislation. The issues nurses face during a global pandemic gives them a unique stance to speak to legislators about the needs of our profession and patients. This event allowed nurses to learn how to become involved in health policy formation. A state wide legislative event on ‘COVID and Cancer’ was planned with nurses from

multiple ONS chapters and the Wisconsin ANA. This allowed nurses to be a part of the health policy advocacy and have their concerns addressed by their representatives in a casual and safe venue. The national ONS government relations director, Alec Stone, was contacted for facilitation of the virtual broadcast of the event and discuss COVID cancer efforts on a federal level. The Wisconsin Nursing Association Lobbyist was also invited to speak as a panelist and invite their members. A state senator and state representative of different political party affiliations were invited as guest panelists. The event allowed each panelist to speak on their legislative efforts and provide any personal connections to nursing and cancer. Guests then had the opportunity to ask questions in the chat box for the moderator to ask the panelists to answer. Nurses were eager to ask about obtaining PPE to keep themselves safe while working, and hear thoughts on a statewide masking ordinance. There were multiple panelists who also responded to nursing concerns over the lack of educators to sustain the nursing schools, especially given the low wages and high cost for graduate nurse programs. This event was a unique opportunity for nurses across the state to have an opportunity to speak to their representative and ask questions about what their legislative efforts are on topics that are meaningful to them. After the legislative event in June 2020, numerous nurses contacted the moderator thanking them for facilitating this opportunity and asking for ways to become more involved in health policy. Both the guest legislators asked for nurse contact information to continue their discussions around the lack of PPE at their facilities, which was escalated to the governor of Wisconsin for PPE procurement.

NEW RN ORIENTATION PROGRAM FOR RADIATION ONCOLOGY

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[Oncology Nursing Practice](#)

The current orientation program for new RN's entering the Department of Radiation Oncology is a combination of general nursing education and preceptorship with an RN in the department. A survey of current staff and exit interviews with former staff led to the needs assessment for a dedicated orientation program that is specific for radiation oncology. The needs of the radiation oncology patient are often physical as well as emotional. It is important for the RN's to understand the disease concepts, treatment modalities

as well as how to intervene when side effects occur. The purpose was the creation of a dedicated orientation program for the Department of Radiation Oncology for RN's, new graduates and those transitioning from other specialties. This orientation program is created to coincide with the mission and vision of the parent organization. The educator created a concept map and curriculum map demonstrating the areas of course work. Courses will include classroom time of one hour per week of the six-week orientation with a combination of computer based modules via FOCUS online learning platform accompanied by a mentorship new RN and dedicated staff RN. Utilizing a didactic class discussion, online modules and mentorship provides the new RN with improved competency and confidence. Meeting the needs of the nurses in radiation oncology provides staff with improved patient care, patient and staff satisfaction, and increased competence. Ultimately, the goal is to improve retention and recruitment as the department continues to expand. Meeting with current and former staff in the Department of Radiation Oncology led to a desire for an improved orientation program specific to radiation oncology as a specialty. The RN's will complete each assignment, task and exam prior to the conclusion of the orientation program. The radiation oncology nurse is an integral member of the health care team. Meeting the needs specific to the new RN is important to the goal of providing high quality care as well as instilling confidence in the RN. The educator developed tools specific to meet the needs of the RN.

ONCOLOGY NURSING DURING A PANDEMIC: A TEAM APPROACH

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[COVID-19](#)

In March 2020, nursing leaders at The Arthur G. James Cancer Hospital and Richard J. Solove Research Institute were confronted with a new challenge: the COVID-19 pandemic. A possible surge of critically ill COVID-19 patients, coupled with the potential for staff absences due to illness or exposure

meant that a new model of care must be considered. How could available nursing resources and expertise be used efficiently and safely to manage increased patient volumes and acuity? Nursing leaders worked with educators, process engineers, and bedside nurses to design a team nursing model. Each team consisted of a Charge Nurse, Nurse Team Leader, Support Nurse, Patient Care Support Person, and Runner. Roles and responsibilities were delineated for each team member and ratios for each team were determined based on patient acuity. To identify opportunities and ensure success, pilots were scheduled immediately on each of the eight acute care units and two intensive care units (ICUs). An experienced nurse from each unit was assigned as the Team Leader. The Support Nurse Role was filled by outpatient nurses on the acute care units, and progressive care nurses in the ICUs. After each trial, staff had time to debrief with their team and participate in a hospital-wide phone call to discuss what worked well and what could be improved. This feedback was incorporated into the model prior to the next pilot. Based on feedback from the team nursing pilot nurses from the outpatient, perioperative, and progressive care units were scheduled for an orientation shift in the area where they may be needed in case of a surge. Ancillary staff were also trained. Roughly 80% of outpatient RNs and Patient Care Associates (PCAs) were oriented to inpatient units. Staff were surveyed on anxiety levels pre and post team nursing pilots. The survey results demonstrated that personal perceived anxiety levels decreased after pilot. While the hospital did not experience a surge that required the team nursing approach to be fully implemented, the design of a team nursing model has better equipped the hospital for future emergencies.

DEVELOPING EFFECTIVE PATIENT EDUCATION VIDEOS, FROM A NOT SO SIMPLE PROCESS TO IMPLEMENTATION

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[Patient Education and Safety](#)

According to ONS Standards “it is the responsibility of oncology nurses to develop, assess, implement, and evaluate education programs for patients/significant others”. This is important for bone marrow transplant patients discharged home with central venous catheters (CVC).

To decrease the risk for central line blood stream infections (CLABSIs), the ability to competently care for CVCs is required prior to discharge. To achieve this, attendance at a live “line care class” (didactic information, interactive/return demonstration, teach-back) was mandatory. CVC care is a complicated skill performed in a series of specific steps. Patients/caregivers verbalized fear of making potentially harmful mistakes. The most frequently asked question was “is there a video”. Thus began a journey into making a video to provide an accessible format to promote repetition of information, improve retention, enhance skills, and boost confidence. The first step in the video process identified the need to “provide the knowledge and skills to perform safe CVC care and decrease the risk of CLABSIs”. The target audience was patients/caregivers. The video would be no longer than fifteen minutes and have multiple publishing points. Digital content included video with 2D graphics, voice over, and on-screen talent. Over the course of three months, task completion timelines were set including, script writing (keeping the comprehension level at 5th grade), storyboard creation, review by content experts, concluding with voiceover and video shoots. The timeline changed when COVID-19 struck. Lockdown created an urgency to provide in-home education for caregivers no longer allowed hospital visitation. The video was voiced-over and the graphics recorded in one take. The final product produced a video seven minutes in length and published for viewing within a week. “Taking Care of Your Central Venous Catheter” allows the patient/caregiver to view and review a complicated skill as needed to prevent infections and increase confidence. An added bonus is the ability for staff nurses to use it as a tool to teach patient/caregivers. When discharging a patient with a complex task such as CVC care the patient/caregiver can be apprehensive. Having a video available that can be reviewed multiple times has been found to help relieve anxiety when dealing with complex skills. Restricted visitation and the increased need to educate in a different format a video approach has been shown to be useful.

AMBULATORY RESIDENCY FOR DIVERSE NEWLY LICENSED NURSES

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[Professional Development](#)

Enhancing a culture of diversity and inclusion is priority, considering disparities in oncology care and under-representation of diversity in the workforce. An estimated 30% of newly licensed nurses (NLNs) leave their first job within 2.5 years and the oncology specialty is a particularly high-risk area for burn-out. In addition, as nurses age, preparing NLNs for ambulatory oncology practice has become essential to meet the demands of increasing cancer incidence. The Oncology Nurse Residency program (ONRP) was developed as a clinical/academic partnership with the local, urban public university. This 12-month program is to successfully transition diverse graduates into oncology practice, thereby increasing diversity in the workforce and positively impacting health equity in cancer care. NLNs learn to provide relationship-based care through 12-months of clinical preceptorship. NLNs are mentored to complete an evidence-based practice project focused on caring for diverse patients. NLNs attend self-care workshops and implement plans to build personal resilience. NLNs are precepted in 4 ambulatory clinics and shadow interdisciplinary team members, including a community-based clinic for the underserved. NLNs are partnered with community out-reach initiatives during the ONRP. NLNs join professional organizations to address issues of health equity and build leadership skills in communication, self-awareness, and unconscious bias. Clinical competency in oncology nursing with emphasis on integrative principles and health equity was measured using precepting checklists, bi-weekly journals, mentor and preceptor interviews, evidence-based practice and case study presentations. The Casey-Fink tool and mentor surveys assessed high NLN satisfaction, resilience and confidence. All NLNs were hired into permanent infusion roles and engaged post-program in unit-based projects, Nursing's shared governance and professional organizations. A pipeline to clinical advancement in oncology was established through the creation of an undergraduate senior practicum. A second NLN cohort has been recruited and begins in September. Achieving ANCC certification in transition-to-practice is a target metric of success for the ONRP. The ONRP supports the organization's commitment to diversity. NLNs now provide care to oncology patients with complex needs (NLNs), are leaders in promoting health equity, and are resilient clinicians. The ONRP exemplifies the Magnet culture

of professional development, innovation and collaboration to shape future oncology nurse leaders.

BRIDGING THE GAP: PROVIDING CLINICAL TRIALS EDUCATION FOR ONCOLOGY NURSES

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[Professional Development](#)

As an academic cancer center, clinical research covers a large percentage of the patient population served. Many oncology patients are enrolled in clinical trials, and new nurses continue to express concerns due to a lack of education. At times, nurses feel unprepared, and rely on study coordinators in order to adequately care for their patients. To address these concerns, a clinical trials lecture was created and implemented into the Infusion Nursing Essentials program for new nurses. The Clinical Trials Office and infusion leadership group developed an online learning module that was completed by all infusion nursing staff. To bridge this education gap, content included clinical trials terminology, phases, workflows, and resources. Interactive activities were included to boost learner engagement and comprehension. The purpose of this intervention was to help nurses develop a better understanding of clinical trials, and most importantly, to advocate for and mentor their peers. By adding this lecture, the educational needs of both new and existing nurses have been met, and nurses feel more confident in their ability to competently care for clinical trials patients. An evaluation was obtained at the end of each class, and nurses were given the chance to share improvement recommendations for future training. Nurses expressed that lecture content was very beneficial and helped them to appropriately provide care for this specialized patient population. The interactive activities helped nurses recall the key concepts and knowledge so it is applicable to their daily clinical practice. Clinical trials play a large part in maintaining hospital accreditation and recognition and are being introduced frequently, therefore it is crucial to maintain up-to-date information to staff. Not only are clinical trials patients being treated in outpatient areas, but many are treated in inpatient areas, as well. If knowledge of clinical trials can expand by incorporating a similar training model in current and future education programs, nurses will have a strong foundation that promotes quality patient care for this patient population to be given safely in all oncology areas.

EMERGENCY RESPONSE: AN INTERVENTION TO IMPROVE STAFF COMPETENCY OF MOCK CODE IN INFUSION SETTINGS

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COVID-19

Infusions often respond to emergencies, such as hypersensitivity reactions. Staff are taught protocols to respond to the hypersensitivity reactions immediately, however they often end up calling a rapid response or a Code. Each Infusion has chairs in an open space with a few rooms available. Since most emergencies occur in chairs, staff need specific training to respond to emergencies in this type of setting. Due to the challenges of providing high quality cardiopulmonary resuscitation (CPR) in a chair, mock codes are now a required competency for all Infusion staff. Additionally, the COVID-19 pandemic required changes to code response, due to aerosolization of particles, a protocol was established by the hospital's Code Committee. The workflow and role changes of Infusion staff during a code response were identified, and staff were educated and trained. The training included "mini" mock codes that were done independent of the code team response to help the staff better understand their roles and protocols. A full mock code with a code team was then implemented to expose the Infusion staff to a realistic code and to help them realize how important their individual role is for the desired outcome. New equipment, such as a slick board, was supplied to aid in the transfer of the patient safely from the chair to a bed. The competency verification for mock code was reformatted and assigned as an annual unit based skill. This required each nursing staff to participate in mock code to demonstrate their own competencies in realistic Infusion settings. An annual full mock code has been scheduled for Infusion. Debriefing was held after each mock code to determine where the team performed well and on which areas the team needed improvement. Individual roles were timed to obtain objective data to determine where and how improvements could be implemented. Observation of each role was conducted to help staff understand how their actions could delay CPR or transmit COVID-19 to other staff and patients. The COVID-19 pandemic necessitated a change in training, enabling more realistic mock code education. With this successful in-

tervention, it has been shown that continual training and practice related to emergency response will help to maintain staff competency, promoting high quality CPR, and ultimately better patient outcomes.

IGNITING CHANGE AMONG THE STORM OF COVID-19 THROUGH UNIT BASED SKILLS

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Professional Development

An academic cancer institute initiated an outside of the box approach to annual skill competency and education. Unit Based Skills was implemented for ambulatory oncology and infusion clinical staff. Annual skills days were previously offered a few times throughout the year, however, this lacked flexibility, applicability, and did not meet the needs of the clinical staff. The initiative brought education and competencies unique to each clinical area through quarterly education bundles. Each clinical area designated staff members as Education Advocates and/or Skill Champions to assist the Nursing Professional Development Practitioner (NPDP) with education and competency pass offs. This brought an improvement in staff engagement, satisfaction, knowledge and competence even amongst challenging work environments. In addition, the Unit Based Skills pilot program ignited a change at a crucial time through the Covid-19 pandemic. Staff in pilot clinics completed all education and skills by March of 2020 at the height of COVID-19. NPDPs were then able to provide COVID-19 training at a time when education and skills had to quickly shift. Ambulatory NPDPs were available to assist inpatient NPDP's complete required skills day education and competencies that were not able to be done due to COVID-19. Ambulatory staff reported increased positivity, learning opportunities, convenience, and applicability in the skills they completed throughout the year using Unit Based Skills. Unit Based Skills was piloted successfully last year, in five out of eleven ambulatory oncology clinics. An additional role of Education Advocate was introduced to assist the NPDP. Advocates serve as an informal leader and have a higher level of involvement in the education in their clinical areas. Skill Champions continue to be used to

lead specific skills and competencies. In May 2020, the program was unanimously adopted into all ambulatory oncology clinical areas by hospital leadership. Measurements continue to be in place for continual monitoring and adjustments. A post survey was completed after the initial pilot with the positive findings mentioned above. An additional survey will be sent at the end of the year to clinical staff for further evaluation. Debriefing's will also be done with Education Advocates and Skill Champions following quarterly education bundles where additional ideas and information will be gathered.

A MODEL FOR THE PROVISION OF URGENT CARE TO ONCOLOGY PATIENTS DURING A GLOBAL PANDEMIC

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COVID-19

The COVID-19 pandemic challenged health systems to deliver care in new ways. At a multi-hospital academic health system including a National Cancer Institute designated comprehensive cancer center with sixteen community care locations, a multidisciplinary response team convened to identify priorities for patient care amidst rising COVID cases in the state. Prior to the pandemic, urgent care of oncology patients was provided at an Oncology Extended Care Clinic (OECC). Avoiding emergency department (ED) visits is a key quality initiative as data at our center indicated that 90% of oncology patients seen in the Emergency Department (ED) are admitted in comparison to 30% seen in an oncology specific extended care clinic. Care of oncology patients presenting with symptoms suspicious for COVID-19 was identified as an early priority. The purpose of this initiative was to develop a safe ambulatory location for oncology patients with COVID-like symptoms to be assessed, tested for COVID-19, and triaged by oncology nurses and advanced practice providers. We aimed to keep our existing OECC COVID-free. Oncology nursing leaders mobilized a team including front-line staff to assess and modify space and obtain access to rapid

COVID-19 testing resources. In collaboration with infection prevention, the team developed policies, care algorithms, and communication tools to support safe, standardized, high quality care. The Rapid Evaluation Clinic (REC) has triaged over 450 calls and evaluated over 400 patients. Sixty-six percent of patients seen in the REC were discharged home and only 2.7% sent to the ED. Total rate of COVID positive tests was 6%. Implementation of a REC for oncology patients with infectious symptoms minimized interruptions in care for our sickest patients while protecting other vulnerable oncology clinic populations by localizing care. Avoiding the ED allowed more patients to be discharged home with close follow up, and allowed patients requiring admission to be triaged to the most appropriate location based on COVID test results. Over the course of a week, a vacated ambulatory space was converted to an urgent care clinic equipped to triage, test, and manage patients with symptoms suspicious for COVID-19. Over the first 4-6 weeks of operations, the needs of patients and the organization quickly evolved and the clinic flexed to meet the needs of COVID-19 positive patients, including delivery of anticancer therapies and supportive care.

DEVELOPMENT OF A STAFFING TOOL BASED ON NURSING ROLE AND PATIENT ACUITY IN AN OUTPATIENT ONCOLOGY INFUSION CENTER

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Oncology Nursing Practice

Outpatient oncology infusion centers are confronted with high variability of patient acuity, increased patient volumes, new clinical trials, treatment complexities including the risk for infusion reactions, and the increased care requirements due to the COVID-19 pandemic. Identification of appropriate staffing levels can promote high quality, safe patient care, and nursing satisfaction. The purpose of this ongoing project is to create efficiencies within the clinical setting by standardizing staffing levels, defining the roles of the nursing and ancillary staff to ensure performance to the highest level of licensure, and evaluating staffing requirements to maintain quality, safe patient care. Data was collected of the required nursing times, based

upon patient acuity, for the continuum of patient care in the clinic setting on the day of treatment including pre-treatment, treatment, and post-treatment phases of the nursing care cycle. A nursing time-based, patient acuity staffing tool was developed and implemented. Outcome measures include the amount of nursing leadership time required to determine staffing status and needs, accurate staffing predictions based upon patient acuity, full transparency in staff availability information, and a historical staffing data information system based upon patient acuity to support administrative efforts for continuous improvement. A comprehensive analysis of nursing functions and workflows was completed to establish a new electronic, automatic staffing model and tool that incorporates patient acuity, staff availability, and standard required times to complete nursing activities. Results indicate efficiency and standardization of staffing levels to support high quality, safe patient care. Further tool refinement and analysis is ongoing and additional results and nursing satisfaction outcomes are forthcoming. The development of a reliable outpatient oncology treatment staffing tool promotes accurate staffing requirements while supporting high quality, safe patient care and improves nursing satisfaction.

ACUPUNCTURE FOR CANCER PAIN MANAGEMENT

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Symptom Management and Palliative Care

Cancer is the second leading cause of death in the United States (US); national report revealed that there are 609,640 deaths and 1735,350 new cancer cases occurred in the US in 2018. Thus, cancer care is a pivotal issue that should not be neglected. Among all kinds of cancer-related symptoms, pain is the most prevailing and burdensome sign that affects patients' quality of life. WHO three-step analgesic ladder has shown effectiveness in cancer patients' pain relief; however, it may increase the risk of opioid addiction and other adverse effects. Therefore, complementary and alternative medicine (CAM) such as acupuncture may be a safer auxiliary treatment for cancer-related pain relief as it has limited adverse effects. This project aims to discuss the effectiveness of acupuncture on cancer patients' pain relief and framing a clinical protocol for primary care providers and patients. We conducted a comprehensive literature search in both international and Chinese databases including ScienceDirect, MEDLINE, CINAHL, Science Citation Index, Cochrane Database of Systemic Reviews, Scopus, Directory of Open Access Journals, China

Science & Technology Journal Database, eBook Collection (EBSCOhost), China Online Journals, and AgeLine between 2015 to 2019. Two reviewers independently selected studies for full-text review, abstracted data, and evaluated articles using the Mixed Methods Appraisal Tool. Reviewer disagreements were resolved in consultation with the professor. The results of literature search yielded 2,794 unique studies, and 3 met our criteria. We found that acupuncture has a statistically significant effect on pain reduction after the first and across all treatment. Moreover, the combination of acupuncture and drug therapy has favorable effects on pain reduction compared to the drug-along group (N = 845, RR = 1.18, P<0.0001, and 95% CI: 1.09–1.27). Furthermore, acupuncture and related therapies have a significant effect on cancer pain relief (95% CI: -0.14 to -0.39, I²=0.0%), shortening the analgesic onset time when compared with conventional medicine (N=115, MD=7.29 hrs., 95% CI: 6.27–8.31 hours), and improving cancer patients' quality of life (N=111, 95% CI: 0.36–1.13). Based on the research studies, we develop a clinical protocol that could benefit the patients and all healthcare providers interested in using acupuncture therapy.

AN ONBOARDING REFERENCE GUIDE FOR NEW BONE MARROW TRANSPLANT ADVANCED PRACTICE PROVIDERS

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Professional Development

The Hematology/Oncology and Bone Marrow Transplant (BMT) patient population is complex and requires meticulous care by providers. Due to the continued expansion of cancer services and recognition that advance practice providers (APP) play an integral role in patient care, Ochsner has increased the number of APP new hires. With this expansion, it quickly became apparent that a structured orientation was needed. This led to the creation of an onboarding guide for APPs to reference during and after their orientation period. This guide is known as the “cheat sheet” and it includes step-by-step information on how to perform daily tasks such as admissions (general, autologous transplants, and allogeneic transplants), discharges, and graft versus host disease documentation. It also includes important phone numbers, frequently used order codes, and the process for performing and documenting procedures such as intrathecal chemotherapy and bone marrow biopsies. Additionally, it discusses common labs and advanced testing guidelines for BMT patients categorized by hemato-

logic malignancy. This onboarding guide also includes a quiz intended to initiate discussions. This guide is updated frequently to allow for the most up to date information. This guide was well received by recent APP new hires, and thus it was shared with hematology/oncology fellows. There are also plans to share this with internal medicine residents who rotate through the BMT service. There are also plans to expand and create a structured onboarding guide for the medical oncology APP new hires.

PIVOT: PATIENT AND INVESTIGATOR VOICES ORGANIZING TOGETHER: RESOURCES FOR INVESTIGATORS

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Survivorship

PIVOT (Patient and Investigator Voices Organizing Together) is a unique initiative encouraging teamwork between patients and investigators at The University of Kansas Cancer Center. The goal is to ensure research is responsive, synergistic, and impactful to patients and survivors of cancer. KU Cancer Center started PIVOT in 2017. PIVOT provides a way for cancer survivors, co-survivors (family and friend caregivers), and previvors (those at high-risk) to impact KU Cancer Center's research efforts; and work as research partners. PIVOT links patients and researchers from the starting stages of cancer research through sharing study results. As of September 2020, 101 PIVOT members, from across the KU Cancer Center catchment area, are available to work with KU Cancer Center researchers. PIVOT research partners come from varied experiences with many cancer types, and are diverse in race, ethnicity, age, gender, urban/rural residence, experience with healthcare, and education. PIVOT aspires to ensure cancer research is relevant to patients by: 1) embracing patients' voices, lived-experiences and perspectives in every step of the decision-making process to inform all aspects of research; 2) promoting meaningful partnerships, shared understandings and ongoing communications among patients, families, caregivers and researchers across the spectrum of cancer research; and 3) collaboratively developing education and training for patients, families, caregivers and researchers. In 2018, PIVOT created a novel resource called the Rapid Reactor Team (RRT). At in-person or teleconference sessions, researchers deliver a short 10-minute presentation to PIVOT trained patient research advocates. The advocates share their feedback and discuss the research with the researchers. The RRT delivers rapid patient feedback

on research design, recruitment strategies, and data collection methods. These sessions also help identify potential patient research partners for the research team. From 2017 to Summer 2020, PIVOT supported 22 research proposal submissions and worked with over 30 KU Cancer Center researchers. PIVOT also has created tools and offered education to guide patient partners and researchers to assure a meaningful engagement for both. Moving forward, PIVOT's focus is: 1) educating researchers and advocates on effective partnership strategies; and 2) identifying and developing tools to support these partnerships.

NAVIGATING THE NEW NORMAL IN AMBULATORY CANCER CARE FOR THE COVID-19 ERA AND BEYOND

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COVID-19

COVID-19 pandemic have changed the way we speak, talk, and live. Despite the limited and scarce information to appropriately care for these patients, The Mount Sinai Health System, specifically the Cancer services implemented measures using the guidelines from the trusted agencies to address safety concerns and promote continued quality care. We continue to find ways to address this pandemic, using literature and best practices. COVID-19 pandemic has affected the delivery of patient care in the oncology setting. Numerous evidence-based practices that assisted during the pandemic include: communication, personal protective equipment, screening and testing, social distancing, cleaning, and emergency planning. Moreover, the under-reported topic of mental health and how to remain resilient during these challenging times are presented. The objectives are: (1) To share insights about the measures to promote patient staff safety in the hospital, (2) To discuss the learning opportunities our team experienced that can be leveraged to remain prepared, and (3) To highlight the importance of mental health and how to remain resilient during these unprecedented times. We have utilized lean methodology, technology, and triad models to successfully implement the COVID-19 initiatives. Lean methodology assisted in ensuring the check-in process, telephone screening, lobby screenings are safely implemented. Technology use such as Microsoft Teams, Telehealth have been pivotal in streamlining communication. Moreover, the triad system of having MD, RN, Administrative leaders that are openly communicating and setting real-time expectations with the group have been remarkable in producing safe and effective outcomes. Data on suc-

cess of phone screening and lobby screening initiatives will be highlighted. Data on staff redeployment will be shared. Volume of patients before and after COVID will be differentiated. Information about the resources that front line clinicians can utilize to address their mental health concerns (dismantling mental health misconceptions, promoting self-care, and promoting resilience) will be also be shared. We have utilized lean methodology principles in implementing our lobby screening. Telehealth were utilized in lieu of office visits. Moreover, the use of Microsoft Teams in streamlining information about visitor approval process, person under investigation identification, and patient screening process is discussed.

DISCHARGE TEACHING FOR AUTOLOGOUS AND ALLOGENEIC BONE MARROW TRANSPLANT PATIENTS

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Autologous and allogeneic bone marrow transplant (BMT) patients undergo lengthy inpatient hospital stays. They are thoroughly evaluated and educated prior to transplant. At Ochsner, our patient population varies with a wide range of demographics. It was noted by the BMT department's advanced practice providers (APPs) that patients and their caregivers tend to experience and verbalize significant anxiety the days prior to post transplant hospital discharge. They ask many similar questions about what to expect when they are home and what restrictions they must follow. The APPs took the initiative to create written discharge education material for post autologous as well as allogeneic BMT patients and their caregivers. These documents were crafted specifically for our patient population and the culture we typically see at Ochsner. All transplant physicians approved the material. The patients and their caregivers receive this material prior to transplant, and then again prior to hospital discharge. This material includes how to contact the transplant team and recommendations regarding the following: safe diet, home sanitation, ways to prevent infection and fatigue, personal hygiene, pet and plant care, safety of common hobbies, returning to work, smoking and alcohol consumption, sexual activity, immunizations, traveling, emotional changes, outpatient plan of care, and signs and symptoms to report immediately. The documents were well received by patients and caregivers. There are future plans to transcribe the written material into other languages.

ADDING SKIN CANCER ASSESSMENT AND EDUCATION TO THE ELECTRONIC MEDICAL RECORD (EMR)

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[Patient Education and Safety](#)

Skin cancer is the only cancer increasing in frequency. In 2014, the surgeon general put out a call for action against skin cancer. More people are diagnosed with skin cancer each year in the U.S than all other cancers combined. As nurses, we know that all patients admitted to hospitals have their skin examined by a registered nurse. The nurse is examining the skin for pressure ulcers or other breaks in the skin. The focus on pressure ulcers is warranted and important. However, during this initial skin assessment, it is an ideal time for nurses to assess for skin cancer and to teach sun-protective behaviors. It is important for nurses to teach about sun-protective behaviors. If melanoma is caught early, there is a 99% 5-year survival rate. If melanoma metastasizes, that 5-year survival rate drops to 20%. This is why the role of the nurse is literally life-saving. Skin Cancer Prevention Guidelines added to the EMR's of eight hospitals. As nurses we assess patient's lungs, heart, abdomen, neuro, but we do not assess their skin for skin cancers. Yet skin is the largest organ and many people do not use sun-protective measures. As nurses, we teach patients not to smoke, to eat well balanced meals, to exercise, etc. With these guidelines, we can teach them about skin cancer and sun safe behaviors. As nurses concerned about population health, we could easily incorporate skin cancer education and screening into our practice. I have worked with eight hospitals on Long Island and they have adopted my skin cancer screening guidelines to their EMR, educating over 249,000 patients annually. The nurses easily incorporated the screening into their assessment and conducted the education during the examination of the skin. There is much interest as it is not difficult and it is very important to public health. Nurses are involved in health assessment, promotion and education. If nurses screened for skin cancers and educated patients about sun-protective behaviors, they could reduce morbidity and mortality. Nurses can make a difference with skin cancer screening and education. It is hoped that more hospitals will adopt the skin cancer screening to their EMR so nurses can have a significant impact on the skin cancer epidemic.

TOOLS TO SUPPORT STAFF AND PROMOTE A HEALTHY WORK ENVIRONMENT DURING

THE 2020 PANDEMIC AND RACIAL UNREST

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COVID-19

2020 has been a year of complexity, turbulence with nurses caring for the nations citizens affected by the Covid-19 pandemic months, heightened racial tensions, and political unrest. Nurses are the backbone of the healthcare system the "superglue" and we need to take care of our-self's so we can effectually take care of others. The American Nurse Association has adopted the mission of "Healthy Nurse Healthy Nation" and there is acknowledgement of the need to address the concepts of moral distress, burnout, compassion fatigue, post traumatic stress disorder, racism and inequities that our faced by our profession. There are tools that can help support a healthy work environment such as using appreciative inquiry, unity rounds, social hour with CEU awarded lectures and the hematology/oncology/stem cell transplant advancing resiliency team (HART). Unity rounds embrace open discussions about inclusivity, culture, and implicit biases. It is a forum to share thoughts and to also have presentations on race matters, culture, and implicit biases. The HART program is comprised of educated nurse coaches on the unit that have designated time to address concerns of the multi-disciplinary work force and promote resiliency. Adoption of these tools has been effective in strengthening the team spirit, respect for each other differences, and provide a lens of gratitude for the positive work we accomplish, plus the desire to support each other through complexity and chaos. Measurement of the work environment and level of support has been measured over time with results that adoption of these tools builds and helps sustain a healthy work environment where discussion, support, and respect for all is valued.

QUALITY IMPROVEMENT

IMPROVING INTERDISCIPLINARY COMMUNICATION IN THE OUTPATIENT ONCOLOGY SETTING

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Coordination of Care

Hand-off transition between healthcare professionals has been recognized as a national patient safety

goal by Joint Commission (2017) and a high priority for enhancement by the Agency on Healthcare Research and Quality. Aggregate data illustrates that inefficient hand-off transition has resulted in negative consequences related to work inefficiency and caregiver dissatisfaction. A large academic medical center struggled to improve communication between the nurses in multiple oncology care teams and the nurses in a very busy infusion center. Issues that negatively impacted outcomes included missing or unsigned orders, information related to the therapy not being shared proactively, and confirmation of critical lab parameters. Chemotherapy infusions are time sensitive; thus, strong communication between clinicians can reduce delays in treatment and improve overall satisfaction. The purpose of this project was to improve this process in order to assure patient safety, improve workflow, improve patient satisfaction through decreasing wait time and increase satisfaction of both infusion and care team nurses through improved communication. A positive correlation exists between communication satisfaction and job satisfaction within the nursing profession. Job satisfaction is imperative for organizational stability and patient safety. Patient-centered care coordination and use of resources such as electronic medical record (EMR) to provide quality transition of care is necessary for successful outcomes. The question posed was whether the improvement of chart preparation through optimization of the EMR would improve transitions of care for outpatient oncology chemotherapy administration. The intervention was the development of a standardized "Chart Prep Note" including essential information embedded in the EMR which could be accessed by all involved in the chemotherapy administration process. To evaluate the intervention the stakeholders, care team nurses and infusion nurses were surveyed. This innovative project not only resulted in improved communication, but also allowed for improved collaboration within nursing, and may implicate a need for further utilization of EMR resources.

INNOVATIVE MODEL FOR TIMELY CARE FOR ONCOLOGY PATIENTS WITH URGENT CARE NEEDS

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Coordination of Care

Oncology infusion units need to be designed for the scheduled and urgent needs of patient's therapies.

One of the major goals of Oncology Care Model is to avoid the ED. Historically, if there was not availability in the infusion areas, the patient would be directed to go to the ED. Unscheduled urgent needs are often a challenge to the existing infusion schedule. The cancer center of large urban, academic medical center struggled to meet the needs of these patients. The purpose of this presentation is to describe systems developed to allow for timely care of these patients while avoiding the use of the ED. This institutions cancer center encompassed 3 oncology infusions centers and one infusion center that was utilized for the care of non malignant diseases. Each infusion site had their own way of supporting patients scheduled and those with urgent needs. Nursing leadership met to develop a structure to improve this process. The geographic locations of the centers were considered in this plan. Previously, the workflow for adding patients on the schedule was that the care team would call the charge nurse of the largest infusion center. This process had many issues that caused delay in care. The group realized each infusion unit, including that the non oncology infusion center was an untapped resource. Next, a role was developed, budget neutral, that would allow for a point person to coordinate all calls related to patients needing urgent care. This role was title the central scheduler (CS). A script was developed to allow this non nurse to collect necessary information to appropriately assign patients to one of the four infusion centers. As the process evolved, it became clear that a proactive approach was necessary. A virtual morning huddle that included the charge nurses from all areas, the CS and the nurse leads from the care teams. This presentation will discuss the new process which includes the role of central scheduler, use of morning huddle and coordination of care from care teams. This innovative project allowed for more timely care for the patient and decrease use of the ED.

IMPROVING SURGICAL ONCOLOGY FAILURE TO RESCUE IN A MAGNET INSTITUTION: DEVELOPMENT OF A POST-OPERATIVE BLEEDING PROTOCOL IN SURGICAL ONCOLOGY PATIENTS

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[Oncology Nursing Practice](#)

Prevention of postoperative complications, is a focus of numerous national quality improvement ini-

tiatives. Failure to Rescue (FTR) is defined as death after development of a serious postoperative complication. The Centers for Medicare and Medicaid Services (CMS) has reducing healthcare-related adverse events as a priority of the *CMS Quality Strategy*. The Agency for Healthcare Research and Quality (AHRQ) has failure to rescue as patient safety indicator. Nurses are the first to assess, report condition changes, and initiate attempts to rescue the patient. In a magnet institution, nurse autonomy is emphasized and lower nurse to patient staffing ratios are implemented. Autonomy enhances teamwork when nurses can practice to the full extent of their scope of practice. Nursing studies have shown improved patient outcomes and quality of care with nursing autonomy. The purpose of this project was to identify and develop a nurse driven protocol to rescue a surgical oncology postoperative patient with a bleeding complication. During a journal club on FTR, the nursing staff discussed that with protocols, they could “rescue” the patient before the provider arrived to see the patient. This would allow nurses to gain more autonomy of their practice and to improve patient outcomes. A workgroup of surgical oncology staff nurses and nurse practitioners was formed to review the literature on nurse driven bleeding protocols. A nurse driven protocol was developed and shared with the surgical oncology nursing staff and the physician group in the Division of Surgical Oncology. The protocol was included in the staff nurse orientation, and was laminated and placed at the bedside. An audit tool was developed to determine whether the nurse followed the nurse driven bleeding protocol with any surgical oncology postoperative bleeding. In the absence of use of the bleeding protocol, individual re-education will take place to improve future outcomes. Our workgroup will continue to meet and identify “rescue scenarios”. Our intent is develop additional nurse driven protocols to improve patient quality and rescue outcomes of common postoperative complications

IMPROVEMENT IN PALLIATIVE CARE ASSESSMENT AND UTILIZATION FOR OLDER ADULTS WITH CANCER

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[Symptom Management and Palliative Care](#)

Patients with advanced illness can gain much benefit from adjunct palliative care, which in cancer patients has been shown to extend some patient’s lives. Despite this, palliative care is poorly utilized in oncol-

ogy; an issue which can be linked to barriers for both the patient and provider separately, which results in a lack of standardized practice referring to palliative care. The purpose of this quality improvement project is to improve the quality of care provided to oncology patients over the age of 65 by increasing the utilization of palliative care in adjunct to their primary oncology treatment. First, baseline use of palliative care will be established through assessment of current referral practice. Second, a standardized assessment and referral tool will be implemented by nursing on admission. Development of this tool will occur by combining the evidence-based Karnofsky, ECOG and Katz ADL/iADL scales and palliative and nutrition screens already in use at the project site. Each evidence-based scale, will be assigned a separate score, which will calculate a combined total of each and then trigger nursing to input a palliative care referral at a specific total score. The total number of palliative care referrals will be evaluated post-implementation with change statistics and tool usability, feasibility, and staff satisfaction. It is important to note that there is no standard practice for palliative care needs assessment at this project site. This site cares for newly diagnosed cancer patients, as well as those with metastatic disease and nearing end of life. Palliative care assessment is a highly effective intervention for the improvement of quality-of-life. The current use of these existing scales in the electronic health record (EHR), collect data that is used in documentation and direction of some intervention, but not in the manner this project suggests. Implementation of this tool into the EHR, combines already collected data and uses it to innovatively empower the EHR in quality of care improvement for patients in this population.

AMBULATION AND REDUCTION OF FALLS WITH INJURY: THE MORE THEY ARE UP, THE LESS THEY FALL DOWN

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Patient Education and Safety

Patients diagnosed with various forms of cancer often decompensate and become fatigued and deconditioned during a hospital stay. The deconditioning and oncology treatments place this patient population at higher risk of falls and falls with injury. It is the role and scope of oncology registered nurse to ensure that these vulnerable patients have safe passage and not incur a secondary harm such as an injury from a fall and/or general deconditioning. Pa-

tient ambulation has been cited as one of the most common nursing missed care activities. Nurses often keep patients in bed allowing for rest and to decrease the patients' risk of falling; that strategy however increases deconditioning and falls with injury. A Performance Improvement (PI) Project was initiated to address the sequela of a lack of robust ambulation. The goals of the rapid cycle change PI project were to increase patient ambulation, reduce deconditioning, and reduce falls with injury in the inpatient oncology patient population. Interventions: (a) Implemented evidence-based tools such as Fall TIPS® and Banner Mobility Assessment Tool® (BMAT), (b) Enhanced accessibility to mobility aides such as gait belts, (c) Implemented a budget neutral ambulation tech, (d) Partnered with therapy services for education and training of staff and patients, (e) Inpatient room whiteboards/communication boards dedication to mobility, and (f) Visual aides for staff and patient. Evaluation: (a) Reduction of patient self-reported, or provider-reported, deconditioning. (b) Reduction of patient falls with injury to 0 per 1,000 patient days, which was sustained for more than 6 months. (c) Increased patient ambulation as evidenced by documentation in the electronic medical record. Mobility matters! Patient ambulation cannot be viewed as a "nice to do" patient care activity or as increasing the patient's risk of falling; it is a patient care priority than serves to prevent hospital acquired harms. It is difficult to unbundle the interventions, but it is felt that the most impactful and innovative intervention on the culture of ambulation was the budget neutral ambulation tech.

IMPLEMENTING DAILY CHLORHEXIDINE (CHG) BATHING PROTOCOL TO PREVENT HAI'S (HOSPITAL ACQUIRED INFECTIONS) IN THE NEUTROPENIC, ONCOLOGY POPULATION

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Patient Education and Safety

Hospital Acquired Infections (HAI) are infections patients contract as a result of their hospital admission. These infections are not present upon admission, but are contracted during the course of their hospital stay. The most common HAIs are central line-associated blood stream infections (CLABSI), catheter-associated urinary tract infections (CAUTI), methicillin-resistant Staphylococcus aureus (MRSA), surgical site infections (SSI—abdominal hysterectomy and colon surgery), Clostridium difficile (C-Diff), and ventilator

associated events (VAE). With proper hygiene and infection prevention practices, these infections are preventable. It is estimated that on any day, one in every 31 patients has at least one HAI. Oncology patients are even more vulnerable and susceptible to infections due to their immunocompromised states resulting from chemotherapy/biotherapy treatments. Mucosal Barrier Injury (MBI) is the term used when a blood stream infection occurs in an immunocompromised patient. There occurred a significant increase in the number of CLABSIs in the identified oncology unit during one fiscal year as compared to the years past —3/5 were attributed to MBIs. As such, a new practice change of daily CHG bathing on all neutropenic patients was implemented. This session will discuss how an evidence-based, quality improvement project was implemented on the unit as a standing protocol for all immunocompromised patients in an oncology unit, whereby resulting in significant decrease in their number of infections.

DEVELOPING AN ONCOLOGY REHABILITATION PROGRAM

Susanne Colligon, FNP-BC, MBA, CRRN, OCN®,
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Patient Education and Safety

Many oncology patients experience side effects of weakness and fatigue at diagnosis and during treatment. Increasing strength and endurance with education will improve quality of life and cancer free survival. The purpose was to Implement an Oncology Rehab Program that will focus symptom control with the use of exercise to increase stamina with a promotion of a healthy lifestyle though education and therapy. Thereby, allowing the cancer survivor to become physically and mentally resilient to withstand further chemotherapy/radiation treatments and improving quality of life during their disease trajectory. With main focus on comfort care and improving overall quality of life. Prior to admission prospective patients are reviewed by a multidisciplinary team consisting of therapy, pharmacy, physical medicine physician, nursing and case management to see if patient would perform well in our program. Once admitted the patients receive education Monday through Friday about medication, community resources, nutrition and conservation management. Through the use of the MD Anderson Symptom Inventory Core Items Scale (MDASI) patients self-rate their symptoms on admission and at discharge. This survey uses 19 Likert scale questions from 0–10 (0= not present to 10= as bad as you can imagine). The evaluation assess pain, fatigue, nausea, depression, sleep,

SOB, memory, appetite, drowsiness, dry mouth, and neuropathy. 12 oncology patients have completed the Oncology Rehab Program. 9 of the 12 patients were diagnosed with cancer over 5 years ago. Patients entered into program were often end stage cancer patients or had a remote history of a cancer diagnosis. Overall, education and therapy had little impact on patient symptoms and improvement of MDASI. Due to these results, admission criteria was changed to a recent cancer diagnosis in the last 6 months or less. In addition we started using the FACT-G questionnaire instead of the MDASI and a short three questions survey after each educational session to evaluate if the education was useful. The FACT-G form is more concise and focuses more on the patient's wellbeing. We learned that individualization of the treatment of the cancer symptoms along with education and therapy is needed to have a more multi-faceted approach to improve quality of life and symptom control.

IMPROVING CODE RESPONSE TIME THROUGH STRATEGIC POSITIONING OF NURSING HOUSE SUPERVISORS: A PRELIMINARY ANALYSIS

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Coordination of Care

Reducing the critical window of time between when nursing staff are first alerted of a potential emergency (known as a “code”) and arrival on the scene is essential for achieving good outcomes. Attempt to shorten this window through staff training have been described extensively in the literature, but interventions using data on code frequency to determine the optimal placement of nursing first responders in the oncology setting have received little, if any, attention. The purpose of the nurse-led quality improvement project was to determine if an intervention involving use the data on code frequency and location to strategically reposition Nurse House Supervisors (NHS, who act as nursing first responders in our institution) to areas with the highest code volumes could reduce mean code response times. Data on code volume, type, distance and estimate response time (in min) before and after strategic repositioning was collected by staff over a 238-day period occurring between September

3, 2019 and April 28, 202, and analyzed to identify the locations with the highest code frequency. Using this a starting point, NHS were repositioned and code response times were tracked to determine the effect on mean response times. Over an eight-month period, NHS in our ambulatory cancer center responded to 64 total codes. Approximately half (51.2%) these were related to patients with deteriorating clinical status, and more than a third (36.1%) were related to non-patient injuries. Prior to repositioning, more than three quarters of codes (77.3%) codes required NHS to travel to a different building and through at least one floor and/or departments to arrive at the code. After strategic repositioning, mean code response times at our center fell from 3.4 ± 0.7 min, on average, to 1.5 ± 0.6 min ($p < .001$). Improvements in code response times and distance travelled were observed regardless of code type, staff responded to the code or time of day. Results suggest that a data-driven strategy for determining where to place first-responders in the building-based code frequency and location may be useful way for centers to optimize code response times. Additional research will be needed to determine whether the benefits of strategic positioning.

OUR JOURNEY TO APEX ACCREDITATION: THE RADIATION ONCOLOGY NURSING ROLE

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Patient Education and Safety

Promoting a culture of safety is an important goal for healthcare organizations. Radiation oncology departments build on this culture of safety to provide high-quality patient care. Specialty accreditation is a way to demonstrate this commitment to excellence and delivery of safe, high-quality care. The American Society for Radiation Oncology (ASTRO) launched the Accreditation Program for Excellence (APEX®) in 2015. This quality program comprehensively evaluates a radiation oncology program for quality and safety and recognizes the roles and responsibilities of each team member. Accreditation is based on compliance with 16 quality and safety standards from five pillars: the process of care; the radiation oncology team; safety; quality management and patient-centered care. The process to accreditation includes a self-assessment that encompasses medical records review and identifying policies and procedures to support compliance with the standards; a facility visit and ultimately a determination of accreditation. The purpose was to obtain APEX® accreditation for the radiation oncology program in a large academic comprehen-

sive cancer center by involving all members of the department's radiation oncology team, recognizing the important nursing role in patient care. Nursing has been represented on the department's policy and quality committees. From these committees, a multidisciplinary group, including a nurse practitioner and registered nurse, was formed to begin the journey to accreditation. Nursing participated in the self-assessment and chart abstraction processes, the review and development of policies and procedures, and obtained and developed documents to support compliance with the standards. Medical Records reviews were conducted by nursing to assess for documentation of current medications, allergies, pain assessments and interventions, time-out prior to procedures, and patient education regarding potential side effects and their management. Areas for improvement were identified in the pain assessment documentation and the patient education process. New procedures in these areas of improvement were developed, implemented and evaluated. Current policies for job descriptions, new staff on-boarding and annual competencies were evaluated and updated to ensure compliance with the accreditation standards. The radiation oncology practice obtained APEX® accreditation in February 2020. Nursing played an integral role in achieving the accreditation. Policy review and chart audits are on-going to evaluate continued compliance with the standards for reaccreditation in four years.

USING MUSIC TO MAKE BONE MARROW PROCEDURES MORE TOLERABLE IN ADULT ONCOLOGY PATIENTS

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Symptom Management and Palliative Care

Bone marrow procedures cause anxiety and pain in adult patients with cancer. Music is a safe, inexpensive, noninvasive intervention that is easy to implement and well-received by patients and providers. It has displayed multiple positive results in patients with cancer and during procedures. The purpose of this quality improvement project was to develop, implement, evaluate, and sustain a music protocol during bone marrow biopsy and aspiration procedures in adult patients with hematological malignancies. Additionally, this project sought to decrease pain, anxiety, heart rate, and blood pressure in patients undergoing these procedures. The project coordinator collected baseline data over 4 months regarding toleration of bone marrow procedures. Then the project coordinator implemented a music protocol during these pro-

cedures over a 6-month intervention phase. Comparison variables included pain, anxiety, heart rate, blood pressure and subjective impressions; other variables such as medication use and length of procedure were measured as well. Clinical improvements were found in anxiety, heart rate, length of procedures, medication use, and overall patient and provider experience. Results were not statistically significant. Providers can mitigate symptoms such as pain and anxiety during bone marrow biopsies with a safe, inexpensive, noninvasive alternative that is easy to implement: music. A music protocol resulted in positive psychological and physiological patient outcomes during bone marrow procedures without having any adverse effects. All patients who used the music intervention indicated they would use it again. This project demonstrated that incorporating a music protocol during bone marrow procedures is feasible and well-received by patients and providers. This simple implementation can help patients cope, thus improving patient and provider experience. It is recommended that the music intervention be incorporated into routine care and offered to all patients.

IMPROVING NURSE CONFIDENCE AND FREQUENCY OF PATIENT EDUCATION IN ONCOLOGY

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Patient Education and Safety

Nurses recognize patient teaching as a significant nursing component. Factors impeding nurses' teaching ability are lack of confidence, competence, and resource limitations. A new medical oncology unit opened in January 2016 with only 2 oncology experienced nurses. The high number of new-to-oncology nurses with possible lack of awareness for quality patient education resources, or lack of knowledge and confidence in patient teaching, comprised the majority caring for a range of complicated oncology patients. The project aim was to create a visible source of oncology education materials, increase nurse confidence with patient education and in turn, increase education frequency. A pre-post survey design was utilized measuring confidence and frequency of education on oncology topics. The unit Shared Governance Council generated 14 topics based on perceived importance. Nurses were emailed a Likert scale survey measuring confidence from 1 (Not At All Confident) to 5 (Very Confident), and frequency from 1 (Never) to 5 (Very Frequently). The survey was adapted from 'Questionnaire of Nurses Comfort Education and Frequency

Delivery Patient Education on Heart Failure'. Educational materials from OncoLink and hospital intranet on surveyed topics were displayed prominently in a wall-mounted display rack by the nurses' station. Shift-change huddles and e-mails notified nurses. Forty of 61 nurses responded pre-survey. Forty-two of 62 responded to the 3-month post-intervention survey. Post intervention confidence and frequency of education increased an average of 7% and 6% for all topics. Oncology support resources, radiation skin care, immunotherapy and tumor lysis syndrome rated least confident and least educated pre-survey and increased an average of 16% and 15% post-survey. Sixty-eight percent of nurses utilized the materials. Oncolink utilization increased 10%. Patients and caregivers also independently utilized the materials. Providing nurses accessible education materials facilitates quality and frequency of oncology patient education. Pre-survey, nurses identified less comfort with immunotherapy. Immunotherapy educational materials at appropriate health literacy levels were unavailable. Given expansion of immunotherapy/biotherapy, opportunity exists for educational material development. Opportunities exist for expansion to all oncology units. Patient education, often performed by nurses, is critical and receives much focus. However, less considered is education of those performing this education. Focusing on methods of educating nurses with evidence-based topics, nurses are able to educate patients more skillfully and frequently.

ADDRESSING ONCOLOGY NURSES' COMPETENCE AND CONFIDENCE IN CHEMOTHERAPY DESENSITIZATION

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Oncology Nursing Practice

Allergy to specific chemotherapies can result in the discontinuation of first-line, curative therapies for oncology patients, and lead to a decreased life expectancy. With lives on the line, desensitizing patients to chemotherapy has been used to solve this medical issue. An academic facility in Southern California has a well-established desensitization protocol that has been used for eight years. Registered nurses have a crucial role in desensitization and take a majority of responsibility when caring for these critically ill individuals. It is required that these nurse be experienced in chemotherapy and biotherapy administration, and have an understanding of adverse reaction management in order to ensure patient safety. It is

noted, however, that the nurses at this facility do not receive any formalized classroom training in desensitizing patients, and it was evident that nurses felt under prepared in. There is an abundant amount of research on the safety and efficacy of desensitization procedures, however there is no available evidence that measures the confidence and knowledge of the front line nursing staff administering these desensitization protocols. Our purpose was to create a training process that would ensure the confidence in our staff's ability to perform a desensitization and measure those outcomes through survey based research. Two routine root-cause-analyses were performed on patients who had anaphylactic reactions during chemotherapy desensitization. After each event, the unit's nursing staff were invited to complete a survey to measure the needs of the nurses that participate in desensitizing. It also measured their baseline knowledge of chemotherapy treatments and management of chemotherapy-related hypersensitivity reactions. The goal of this proposed project is to increase nurse-reported confidence and knowledge in desensitization/reaction management, and to ensure appropriate administration of desensitization chemotherapy 100% of the time by two months. A volunteer, anonymous, electronic survey was conducted to collect baseline data on RN confidence and knowledge in administering a chemotherapy desensitization protocol. After training that same survey was re-distributed to the staff and the data was compared. Data for this project is currently still being collected.

THE ONCOLOGY DISCHARGE CHECK LIST: BRIDGING THE COMMUNICATION GAP FROM INPATIENT TO OUTPATIENT CARE

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Patient Education and Safety

Bridging the continuity of care from inpatient to outpatient for newly diagnosed oncology patients can be a challenging and vulnerable period that can adversely affect patient outcomes. Often patients will arrive post inpatient discharge to the outpatient setting anxious and unprepared for their treatments. The development of a standardized oncology discharge checklist of tasks can facilitate and reassure that patients receive adequate education on post care and a smooth, safe transition to the outpatient setting. According to the literature deficits in communication at hospital discharge are common. Accurate information on essential aspects of care is often inadequately communicated to the patient, their caregiver,

and outpatient providers, which may adversely affect patient outcomes including re-hospitalizations. This collaborative study will successfully bridge the gap from inpatient to outpatient oncology care leading to positive patient outcomes, increased patient satisfaction, and improved quality of life. Newly diagnosed inpatient oncology patients will have an individual education session on discharge follow-up care. The discharge oncology checklist will reinforce that the patient received all the necessary teaching to transition successfully to the outpatient setting. The inpatient team will keep a current list of new oncology patients discharged. The outpatient nurses will follow-up with a phone call to confirm that all discharge instructions were accurately conveyed. A Lickert scale will be used to evaluate the effectiveness of the educational teaching. This project supports the importance of collaboration of care in providing proper education upon hospital discharge and follow-up care in the outpatient setting. An intervention such as a brief, comprehensive discharge checklist restores confidence that the patient has received the education necessary to successfully transition their care to the outpatient setting. The consequences of inadequate discharge planning include the risk of rehospitalizations, economic issues, and treatment delays. Results pending.

EMPOWERING CLINICIANS IN MANAGING PATIENT DISTRESS FROM COGNITIVE DEFICITS ASSOCIATED WITH CANCER THERAPY

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Survivorship

While cognitive deficits associated with cancer therapy vary in reported prevalence and severity, it is a phenomenon that is anecdotally well known and distressing to patients. Up to 78% of cancer patients experience a change in cognition from treatment, which can affect self-esteem, social relationships, work ability and overall quality of life. Surveys of Stanford Health Care (SHC) gastrointestinal medical oncology clinicians (advanced practice providers, nurses and physicians) who provide chemo-teaching and symptom management was conducted to better understand the prevalence of patients with cognitive deficits in their practice; the need and benefit of an evaluation and management pathway. After Humans Subjects Review approval, a pre-intervention quantitative survey with was conducted and stored in RedCap. 50% (9/18) of chemo-teaching clinicians in gastrointestinal medical oncology responded. All cli-

nicians reported a high prevalence of patient reported cognitive deficits with associated moderate to severe perceived distress during chemotherapy. Further, the clinicians rated the need for management strategies as high. Using NCCN guidelines, a management pathway and print patient education of evidence based recommendations and compensatory strategies were developed and shared with the clinicians. A post-intervention survey assessed the interventions' effects and next steps. Preliminary results from the post-intervention survey demonstrate 100% of responding clinicians (4/18 to date) use the patient education to discuss cognitive changes during chemo-teaching and symptom management. Additionally, 100% state they will use the management pathway for evaluation. Mature data will be shared at time of presentation. Evidenced based patient education and management strategies empower clinicians to recognize, evaluate and manage chemotherapy induced cognitive changes. While this quality improvement study is conducted in one oncology specialty in a single institution, the approach can be amplified to provide further benefit from acknowledging, evaluating and educating patients regarding treatment-related cognitive deficits. Next steps are to implement a management pathway in breast oncology and create standard phrases for electronic medical records.

EVIDENCE-BASED PATIENT EDUCATION FOR LYMPHEDEMA PRECAUTIONS AND AWARENESS

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Patient Education and Safety

Lymphedema is a common side effect of cancer treatment. Incidence of lymphedema varies depending on disease site, treatment modalities, and other modifiable and non-modifiable risk factors. A 2016 meta-analysis found lymphedema incidence of up to 21.4% following breast cancer surgery. Other studies have shown lymphedema incidence following surgery for gynecological cancers to be 37% and 25% following melanoma excision with lymph node dissection. New York State Public Health Law Section 2803-v requires hospitals and clinics to distribute information to patients who are at high risk of developing lymphedema. Nursing leadership opted to develop patient education materials specific to the institution rather than utilizing state-authored ma-

terials. The purpose was to create evidence-based educational materials for patients who are at risk for the development of lymphedema. These materials will meet the requirements of the state and the needs of the institution, and will be uploaded into Patient Education Handouts on our institutional intranet and then into StayWell in EPIC for ease of distribution to patients. A review of the literature was performed within CINAHL and PubMed databases and industry white papers. Existing lymphedema patient education materials were reviewed within the Patient and Family Education Committee. Interdisciplinary input was garnered to create new documents to comply with state requirements and to update existing disease-specific documents. Institution-wide coordination to operationalize rollout is currently ongoing. The goal of lymphedema awareness is to increase patient knowledge about precautions that can reduce risk and help identify the condition early, when it is easier to manage. This project sought to utilize up-to-date evidence in order to provide education that empowers patients to advocate for their health rather than instilling them with fear. Increased collaboration amongst practice settings to educate patients about lymphedema results in a more coordinated approach throughout the organization with the goal of improved patient outcomes. A team of interdisciplinary reviewers approved the new documents which have been uploaded onto the intranet. Next steps include translation of the documents into additional languages and their incorporation into EPIC/StayWell. Continued coordination throughout this multi-site institution is necessary to educate clinicians about the state mandate and document access.

IMPACT OF TELEPHONIC FOLLOW-UP IN PATIENTS INITIATING ANTINEOPLASTIC TREATMENT IN THE AMBULATORY SETTING

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Patient Education and Safety

Antineoplastic therapy initiation is linked to high risk disease onset, disease recurrence, or disease progression. The stressful context of treatment initiation can interfere with a patient's understanding and re-

tention of important treatment-related side effects, safety protocols, supportive therapy adherence, and triaging resources. This is particularly challenging in the ambulatory setting, as return visits may range from 8 to 28 days after initiation of treatment. During this time patients are at risk of experiencing toxicities associated with treatment and may develop questions related to symptoms, upcoming appointments, or resources. Evidence suggests comprehensive patient education leads to improved safety and quality outcomes and increased patient satisfaction. The objective is to implement a nurse-driven educational intervention for patients initiating intravenous antineoplastic treatment in the genitourinary oncology clinic at the University of California San Diego Moores Cancer Center. The purpose of the intervention is to compliment and reinforce education provided in the clinic, early symptom detection, review resources, ensure appropriate follow up, and improve patient satisfaction. A systematic standardized measure to proactively communicate with patients via a nurse-driven phone encounter 24 to 48 hours after a patient's initial infusion treatment will be implemented. A Registered Nurse will assess pre-intervention patient knowledge utilizing Leuven's Questionnaire. This questionnaire includes ten items measuring patient's understanding of treatment goals, administration schedule, potential side effects, lifestyle modifications, and triaging resources. During the telephonic interview the Registered Nurse will reinforce treatment-related education, confirm supportive therapy compliance, and ensure upcoming appointments are scheduled. After completion of the telephonic interview, a post-intervention Leuven's Questionnaire and patient satisfaction survey will be sent to all participants. Patient knowledge will be measured by comparing the pre-intervention to the post-intervention Leuven's Questionnaire score to quantify patient's education retention of treatment related side effects, triaging resources, and supportive therapy adherence. A supplemental patient satisfaction survey will also be included to measure satisfaction with the proposed intervention. Evidence supports the preemptive use of telephonic follow up for post-discharge or post-operative patients. However, a gap in the literature exists for proactive triage and education reinforcement in patients initiating antineoplastic treatments. Introducing an evidence-based measure to patients initiating antineoplastic treatment can lead to earlier interventions, mitigate toxicities, and enhance patient experience and satisfaction.

EARLY RESULTS: IMPACT OF 4R (RIGHT INFO/CARE/PATIENT/TIME) CARE SEQUENCE PLANS, PROVIDED TO PATIENTS BY ONCOLOGY NURSES, ON TIMING AND SEQUENCE OF GUIDELINE RECOMMENDED CARE

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Coordination of Care

4R (Right Info / Care / Patient / Time) care delivery model enables patients and care teams to manage timing and sequence of interdependent, time sensitive care with a multimodality 4R Care Sequence plan (NCI ASCO Teams Project; Trosman, JOP 2016). A Care Sequence is a one page, personalized care project plan, a patient-facing care roadmap, used by the team to plan and deliver care. Oncology nurses and surgeons implemented 4R Care Sequence plans for patients with breast cancer as a quality improvement project at a community hospital. 4R Care Sequences were provided to stage 0–III breast cancer patients (4R cohort, N = 28) at first consult with oncology nurses and breast surgeon. We surveyed the patients who receive 4R Care Sequences (4R cohort) and a baseline control cohort of patients who received care at same centers pre-4R, Sept '19 to Aug '20. Analyses of patient-reported survey data compared the 4R cohort to a baseline control cohort of patients who received care pre-4R (baseline cohort, N = 49). Analyses used simple frequencies and Fisher's exact test. The breast cancer patient survey results from comparing those who received 4R Care Sequences to those before 4R resulted in an improvement in care provider referrals/recommendations on 8 guideline metrics. The improvements in immunizations, dentist before starting treatment, managing weight, and obtaining nutritionist consult are trending significant. Early results showed that 4R care sequences improved referral of interdependent guideline recommended breast cancer care for all metrics. While none of the improvements are quite statistically significant, due to small sample size, the trend is encouraging. The team will continue using 4R care sequences, and collecting patient surveys on experience, to further improve the

content on the patient care sequences and to assess impact. The team will share results with other cancer programs using 4R Care Sequences for their patients with breast cancer. The 4R model incorporates recommendations for patient-centric care pathway plans from the Institute of Medicine, Medicare's OCM, and NCCN's guidelines including: multi-modality planning from diagnosis to survivorship, specifying clinical team; identification of therapy and side-effects, and supportive care. Additionally, 4R addresses challenges coordinating timing and sequencing of interdependent care events.

BUILDING A COMMUNITY-BASED GYN ONCOLOGY SERVICE LINE: STREAMLINING SURGERY SCHEDULING

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Coordination of Care

Tennessee Oncology, the largest community-based private practice group of medical oncologists and hematologists in Tennessee, had the opportunity to expand their care model to include a gynecological oncologist in 2017. Adding a physician with an established practice brought on its own set of challenges and growth opportunities. One such challenge was merging a surgeon's work flow in to the already established medical oncologist workflow. Traditionally, all scheduling of procedures, scans, and appointments was done by a non-clinical patient service representative, and prior authorizations were handled by a team of prior authorization coordinators. It was quickly realized that this model would not work for surgical procedures. Someone clinical was needed to catch the nuances in patient education, pre and post-operative instructions, and to fully answer questions for prior authorizations. In the beginning the task of scheduling surgeries was given to the RN assisting the physician. This nurse also had the task of telephone triage, assisting with in-office exams and procedures and patient education on the surgeries. However, as the practice rapidly grew, and insurance companies increased the number of procedures that required prior authorization, surgery scheduling became a full-time job and a backlog began to develop. To help alleviate this backlog and prevent patient delays, it was decided that the new role of clinical surgery scheduler would be created, to be staffed by a medical assistant. Having a clinically trained surgery scheduler allowed for one person to focus on all things related to surgery, including patient education, scheduling of surgery as

well as pre and post-op appointments, and prior authorization management. With the appropriate organization and resources, the backlog of surgeries that needed to be scheduled was alleviated, prior authorization approvals were completed in a timely manner, and the RN was available to assist the physician with in-clinic procedures and monitor telephone triage.

CLOSING THE LOOP: STANDARD WORK FOR THE MANAGEMENT OF FEBRILE NEUTROPENIA ACROSS THE CANCER CONTINUUM

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Oncology Nursing Practice

Febrile neutropenia (FN) is dose-limiting toxicity of chemotherapy and associated with high rates of morbidity, and mortality. It is considered an oncologic emergency requiring prompt recognition and management to ensure the best patient outcomes. As our oncology unit is relatively new, it is imperative that we implement a standard workflow to manage patients with FN. The purpose was to develop and implement evidence-based standards of care for patients with FN across the cancer continuum in our community hospital. The Joint Commission's Leading the Way to Zero Initiative envisions a future of zero harm in health care and is committed to helping make it a reality. In our Commit to Zero Harm hospital culture, we developed standard work processes to improve the quality, safety and efficiency of oncology patient care. As standard work can occur on a single unit or across several. Work on FN began in the Emergency Department (ED) and has evolved to include our cancer center and inpatient oncology unit. These workflow processes involve collaborations between the ED, Cancer Center, and Oncology Inpatient Unit: 1) meeting national guidelines for 1-hour time to antibiotic administration (TTA) in the ED; 2) direct admissions from our cancer center to our oncology inpatient unit; 3) transferring patients out of the ED for inpatient admission once their workup is complete; and 4) providing ongoing evidence-based management of FN while monitoring for development of potential sepsis in the inpatient setting. Leadership approved the workflow changes and staff in all departments underwent education on FN management. Data collected includes

time points for ED triage, TTA, and inpatient admission. Current reduction in time from ED to admission is 70%, pre-intervention average 9.42 hours to less than 3 hours post-intervention. TTA has improved with 70% of patients receiving antibiotics within one hour; opportunities for improvement have illustrated system issues (i.e., pharmacy delays). Monthly reports are provided to all departments reflecting on current process and improvement opportunities. The collaboration of staff between the cancer center, ED, and inpatient unit has made the workflow initiative successful. Next steps are to include ED staff in Oncology classes and competencies. The workflow processes have greatly improved patient outcomes and can easily be adapted in other cancer center and hospital settings.

KEEPING IT REAL: IMPLEMENTING A CLINIC DELAY TRACKING SYSTEM

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Coordination of Care

The most common complaints from patient/families regarding ambulatory services are wait times and lack of communication. Within a busy cancer center, ambulatory areas often operate in silos despite the fact they are interdependent on each other's services. This causes delays and lack of communication regarding the patient's care. Due to each area having a different leadership structure the communication of delays/issues was complex and a need for a streamlined approach was warranted. The purpose of this quality improvement project was to increase customer/patient confidence, satisfaction and brand loyalty by providing customer interaction and service recovery in a real-time manner. An electronic form was developed to submit any delays/issues to a central location. The form was placed on the internal webpage making it readily accessible to all front line staff. Training was provided to all staff, including physicians, on how to locate the form, when to use the form and expectations of staff related to the form. Once a delay/issue was entered all key leaders within the organization were notified via a text page and the appropriate leader would respond providing follow up in real time. The form is also used to help track issues/delay and to identify trends which allowed for rapid process improvements changes. The form was implemented

January 2020. Many projects have resulted from the data collected including changes to scheduling and empowerment of the staff to report delays/issues in real time. Leadership of the ambulatory areas have a better handle on the actual delays that are occurring in clinic and are able to provide service recovery at the time of the event instead of after the fact when the patients/customers are upset. The communication among departments related to patient care continues to improve and wait times related to clinic delays are better communicated throughout the patient experience. Wait times and communication are patient satisfiers that all organizations strive to improve. By implementing a tracking mechanism for real time feedback allows for process improvement to be completed in a more timely fashion. Data from the tracking can be used to keep key leaders informed of the most common delays/issues within the clinical area.

IMPROVING PSYCHOSOCIAL DISTRESS SCREENING IN PATIENTS WITH PROSTATE CANCER UNDERGOING STEREOTACTIC BODY RADIATION THERAPY

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Psychosocial Dimensions of Care

Stereotactic Body Radiation Therapy is an optimal treatment for men with prostate adenocarcinoma. Evidence has shown that patients diagnosed with prostate cancer are at high risk for psychosocial distress during treatment and as a survivor. Psychosocial distress that is not cared for properly can lead to poor outcomes and decreased quality of life. Optimizing our psychosocial screening tool has been a high priority to our nursing department. We worked on adding to our workflow the proper tools to detect which patients are at high risk of developing psychosocial distress. Our goal is to identify patients at high risk, provide proper interventions and referrals in an effort to improve patient's quality of life. The oncology nurse is a part of a committee with the oncology social worker for the development of a psychosocial distress screening tool. The screening tool developed assesses distress based off a 5-category problem list and with the use of a distress thermometer. The distress thermometer is scored with a 0-10 analog scale, where 0 means "No distress" and 10 means "Extreme Distress". The tool is given to every patient at the second day of their treatment and followed up with at all visits thereafter. The RN makes referrals whenever they are needed. At consultation, the RN performs a

suicide screening for each patient. The RN at every appointment and once weekly while on treatment conducts a depression severity measure. When appropriate the RN makes referrals to the Oncology Social Worker, Financial Services, Spiritual Care as well as other support services. A multidisciplinary approach has been successful. We have been met with positive feedback from our patients. Due to verbal feedback from a few of our patients requesting a social worker referral, we developed a tool to identify patients at high risk for psychosocial distress. EPIC has enabled the RN to perform suicide screening and depression severity measures. The information the RN gathers from the screening questions and psychosocial distress tool helps us provide patients with holistic cancer care. These tools have facilitated the improvement of patient educational materials. The standardization of these tools has been effective in providing high quality care.

TRANSITIONING FROM HEPARIN TO SALINE LOCKS FOR CVADS IN CANCER CARE

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With effective maintenance, central venous access devices (CVADs) provide cancer patients with safe and reliable venous access for months to years during long term treatment. Occlusion is a common complication that may be prevented by using evidence-based practices for flushing and locking. Based on emerging literature indicating the equivalence of saline to heparin as a lock solution in maintaining patency of CVADs, nurses in the ambulatory care areas of a large NCI-designated comprehensive cancer center changed the CVAD flushing policy and conducted an evidence-based practice /quality improvement (EBP/QI) project. The purpose of the project was to: 1) analyze quality data to determine whether a significant difference in CVAD patency was associated with a practice change from heparinized saline (HS) to 0.9% sodium chloride (NS) use for locking CVADs; and 2) to evaluate the effects of a nurse developed mentoring intervention on oncology nurses and patients perspectives about making an evidence-based practice

change to NS use for locking CVADs. Peer nurses were trained to conduct a mentoring intervention consisting of a 2-minute instructional video demonstration of the CVAD locking procedure, individual discussion and demonstration, and nurse and patient information cards summarizing and referencing evidence to support the new policy. Results supported current research indicating that NS was as effective as HS in maintaining patency of CVADs, and indicated that peer nurse mentoring had a positive impact on both nurses' and patients' attitudes about changing CVAD flushing practices, as well as on nurses' confidence in implementing EBP. Carefully planned mentoring promotes evidence-based practice and quality improvement in oncology nursing practice related to CVAD maintenance, and increases nurse confidence. As nurses' attitudes change, their patients change similarly. Improving practice based on evidence ensures quality outcomes, including costs of care. This project is an exemplar of how EBP and QI studies combine to answer challenging clinical questions in a complex ambulatory oncology care environment.

UTILIZING "5 WHYS" TO ANALYZE FALL EVENTS IN A HUDDLE FORMAT

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[Patient Education and Safety](#)

Staff members huddle at the time of a patient fall event to review details of the fall and document the conversation on a Fall Huddle Form. The purpose of the huddle is to identify any breaches in policy and to prevent future falls. At our institution, the fall huddle was dated and did not elicit thoughtful conversation about how to prevent future falls; the form was only a documentation burden. The quality department recently instituted the "5 whys" format to review serious events within the institution and later proposed using a similar format to improve the existing Fall Huddle Form. The "5 whys" format encourages critical thinking about the cause of the event and prevention of similar events in the future. The purpose of this quality improvement project was to standardize the format in which staff reports fall events and elicits critical thinking about the cause of and prevention of fall events. This format allows staff to drill down to the most basic cause(s) of the fall by asking "why" questions. The quality and nursing departments completed "5 whys" training and drafted a fall huddle form

for staff to review. The form was presented to the fall prevention committee and one unit was designated as the pilot unit. All unit staff and supervisors were trained on the “5 whys” fall huddle form and the pilot began with the review of five patient falls. At the end of the pilot, the form was reviewed and updated based on feedback from staff. After the pilot, the form was revised based on staff feedback. More information was added as cues for the staff to complete. Education of the form was also revised to include a sample of the “5 why” questions being completed. During the pilot, the staff thought critically about the falls and identified common cause themes, like IV poles and their contribution to patient falls. A standardized approach for review of serious events, including falls, can lead to process improvement and safer care for the patients. Using a “5 whys” format not only documents the circumstances of the fall but encourages the staff to think through the entire process of why the patient fell and how to prevent future fall events within the organization.

NURSE LED TELEPHONE CALLS FOLLOWING FIRST CYCLE OF CHEMOTHERAPY AND IMMUNOTHERAPY

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[Oncology Nursing Practice](#)

Oncology Nurse Navigators (ONNs) play an important role in the care of patients receiving chemotherapy and immunotherapy in the outpatient setting. Nurse-led follow up phone calls to patients receiving treatment reduce symptom distress and increase patient satisfaction with care and confidence in symptom management. However, there is no standard approach to implementation and documentation. In an NCI-designated comprehensive cancer center in the Northeast, the Genitourinary (GU) Malignancies Center team designed a quality improvement project to provide proactive symptom management through follow-up phone calls provided by ONNs. The purpose of the project was to develop and evaluate the effectiveness of a template for conducting ONN-initiated follow-up phone calls to patients within 72 hours of receiving initial chemotherapy and/or immunotherapy treatments. The GU team sought to provide a more proactive approach to symptom management. Seven ONNs collaborated on the development of a call template within the electronic medical record and conducted calls to all patients in GU receiving their first infusion during the month of February 2020. Outcome measures were the

number of successful phone calls made, the amount of time spent on each phone call, nurse satisfaction with the call template, patient satisfaction with the call, adverse symptoms identified, and interventions provided as a result of the calls. During the 29 days of the study, 17/21 (81%) of patient calls were successful within 2 attempts. Fatigue was the most common adverse symptom reported, followed by nausea and/or vomiting. ONNs provided evidence-based interventions in collaboration with the team. All patients receiving the phone call felt the call was helpful. Nurse satisfaction with the template was highly positive, and the average time frame for completing a call was 8.8 minutes. ONNs found the incorporation of the follow-up phone call using the template a feasible and effective means of communicating with patients at home at the start of a new treatment. The project transformed follow-up care for GU patients and provided ONNs with a useful and consistent means of patient communication and follow-up to address symptom distress.

THE ESCAPE ROOM: SUPPORTING THE EMOTIONAL WELL-BEING OF ONCOLOGY NURSING PRACTICE

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[Oncology Nursing Practice](#)

Compassion fatigue, a well-known issue among oncology nurses, triggers a psychological response of overtiredness, which can lead to the abandonment of the profession. Stem Cell Transplant (SCT) staff are at risk for burnout due to work-related distress and anxiety, which affects the immediate well-being of the staff member. Leadership rounding and staff input identified a need to combat stress associated with caring for the oncology patient population. On a large inpatient SCT unit, a quality improvement project was created called “The Escape Room” (TER). TER established a space for nurses to decrease overall stress, improve emotional health, and find balance in a hectic work environment, with the overall goal of reducing compassion fatigue. Staff were encouraged to reflect on their great but difficult work, practice mindfulness, and escape the daily stress for 10-15 minutes during their shift. TER sessions were held monthly and provided oncology staff with therapeutic relaxing environment away from the patient care area. TER’s oasis was assembled for both shifts by the SCT Clinical Nurse Leader along with retention committee members. The room was equipped with healthy refreshments, aromatherapy, and automated massage equipment. Each participant was asked to complete

Cohen et al.'s Perceived Stress Scale (PSS) to evaluate stress levels prior to utilization of the space. Participants were surveyed again 3 months later to identify if TER aided in stress reduction. Fifty-four staff members participated in TER. Collected data shows the average score for baseline PSS was 22 points out of 40 possible points with the highest recorded score being 40. After 3 months PSS scores dropped to an average of 18 points with the highest recorded score being 32. After 6 months, staff were surveyed on their preferences for TER times and frequency. Majority of respondents requested TER be offered twice a week. Prior to implementation of changes, the program was halted after 9 months due to infection control precautions related to COVID-19. The implications for oncology nursing practice include nursing leadership proactively supporting the emotional well-being of staff through recognition of compassion fatigue and burnout. In response to staff's positive feedback, preparation began for increased frequency, however, was interrupted by COVID-19. Nursing leadership is highly motivated to reconvene TER when safe to do so.

IMPLEMENTATION OF AN EVIDENCE-BASED CLINICAL PRACTICE GUIDELINE FOR ROUTINE LABORATORY ANALYSIS IN THE INPATIENT CHEMOTHERAPY POPULATION

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Oncology Nursing Practice

Oncology patients admitted to the hospital for chemotherapy undergo routine laboratory testing despite medical stability. Repetitive laboratory testing of hospitalized patients is inefficient, time-consuming, contributes to increased healthcare costs, medical waste, risk of hospital-acquired anemia and infection, and finally; results in unnecessary downstream testing and procedures. These daily labs are infrequently utilized to guide patient care and are not associated with improved patient outcomes. Our advanced practice clinicians (APC) currently do not have a clinical practice guideline to reference for decisions regarding routine laboratory analysis. The purpose of the quality improvement project is to implement an evidence-based clinical guideline for routine laboratory analysis for oncology patients admitted to the hospital for chemotherapy. Establish trends in provider laboratory ordering practice by conducting a retrospective data analysis to identify how frequently daily labs are ordered, and subsequent interventions needed (i.e., blood transfusions, electrolyte replacement, and development of nephrotoxicity from chemotherapy).

This information will be utilized to create a clinical practice guideline for providers to make clinical decisions regarding laboratory analysis. The quality improvement project outcomes, including changes in provider lab ordering practice, feasibility, usability, and satisfaction with the guideline, will be measured through prospective data review post guideline implementation. Evaluation of change statistics for the pre and post-implementation data. Descriptive statistics for participants will be reported regarding provider attitude and rationale for laboratory ordering practice. Implementing an evidence-based clinical practice guideline will help reduce unnecessary phlebotomy by providing APCs with a standardized tool to guide chemotherapy patients' care. This guideline reduces inconsistencies among providers, reallocates time for both nursing and providers, and, if successful, the guideline could be expanded to the general medical oncology population. This QI project addresses gaps in provider practice and will provide a consistent tool for clinical decision-making. This guideline will prompt providers to reconsider ordering daily labs on our chemotherapy patients unless they meet the guideline's criteria. In the future, the electronic medical record (EMR) system will have this guideline built-in, and it will automatically populate best practice alerts if the evidence-based guideline does not support ordering practice.

IMPROVING QUALITY AND SAFETY WHEN SENDING PATIENTS HOME WITH CHEMOTHERAPY

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Patient Education and Safety

Our organization identified a quality and safety issue involving home infusion of fluorouracil, prompting the creation of a service line tracking tool. Three months of data was collected, 744 home pumps with fluorouracil were prepared by pharmacy, connected by nurses, and sent home with patients. 21 incidents of pump malfunction or leaking from tubing occurred at 4 of our 5 hospitals. A team of physicians, nurses, and pharmacists analyzed the data, identified factors contributing to the problem, and found: (a) Inconsistencies in pharmacy preparation of pump and priming of tubing and inconsistencies in the connection of the pump by nurses. (b) Inconsistency in sending pumps that do not infuse properly back to company for test-

ing and replacement product. (c) Lack of standardized and effective patient education and educational materials. (d) Defective port needles with tubing leaking and cracking. (e) Departments not recognizing the pump and tubing contained chemotherapy. The purpose of this project was to decrease the incidence of issues related to home chemotherapy by 40%, improving the overall safety and quality of home infusion of fluorouracil. Interventions: (a) Pharmacy and nurse re-education and competency on preparation of the pump, priming of tubing, and connection. (b) Collaboration with our organization's strategic sourcing to address product malfunctions. (c) Creation of a patient educational video utilized in our infusion centers and provided as a link for patients to view at home with standardized patient education. (d) Standardized labeling with "Caution: Chemotherapy" stickers, placed on patients' port dressings. The team is currently collecting post intervention data, tracking number of pump incidents until 10/1/2020. Preliminary data demonstrates improvement and we anticipate meeting our goal of 40% reduction of incidents at all sites. This project uncovered a gap in reporting and addressing quality and safety issues specific to home chemotherapy within our organization. We developed a systemwide comprehensive approach to solving the problem. The interventions were inclusive of nursing, pharmacy, and patients. The tracking of three months of data allowed us to identify and address all potential issues. The tracking form and process for reporting has been standardized across all 9 outpatient infusion centers. Our patient educational video, created by our infusion nurses, provides an opportunity for visual learning during the visit in the outpatient center and at home.

IMPLEMENTATION OF A WALKING PROGRAM FOR HEMATOLOGY PATIENTS

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Patient Education and Safety

Cancer related fatigue (CRF) is one of the major side effects from cancer treatment and it has been found that exercise can reduce the effects of CRF while patients undergo treatment. Research shows that 60-100% of cancer patients will experience fatigue at some point due to treatments or cancer itself. The RN staff who care for patients on the hematology unit at City of Hope National Medical Center recognized de-

creased ambulation by patients during their hospitalization in addition to an increase in fall rates and a decrease in documentation of patient ambulation in the electronic medical record. Staff decided to implement a walking program for patients to increase ambulation and decrease patient falls. The intervention introduced to the unit consists of a new walking program with goals to increase patient ambulation, decrease falls, and ultimately improve patient outcomes. The walking program consists of educational brochures provided to patients upon admission, walking charms for the patient to collect for each milestone walked, and inspirational posters throughout the unit to help keep patients motivated and moving. An educational component will also be introduced to the staff to increase knowledge on the importance of ambulation to combat fatigue and side effects of treatment. Patient feedback will be gathered regarding the walking program and its perceived impact on patient reported fatigue. The use of charms will help to determine ambulation milestones met and patient fall rates will be monitored to evaluate the efficacy of the walking program in decreasing falls. Patients who participate in the unit based project and are motivated to ambulate could potentially see less loss of strength and need for rehabilitation post hospitalization and treatment.

MORAL DISTRESS IN ONCOLOGY NURSES

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[Oncology Nursing Practice](#)

Oncology nurses often find themselves in difficult situations regarding futility of treatment, end-of-life decisions, and as a result report higher levels of moral distress than in other fields of nursing. Experiencing moral distress as a nurse can cause burnout, decreased job satisfaction, and decreased empathy. It can have a negative impact on staff engagement and retention, as well as patient satisfaction and safety. The purpose of this initiative was to assess the frequency and level of moral distress among the oncology nursing staff and to provide interventions to alleviate the impact of distressing situations. The Moral Distress Scale-Revised (MDS-R) was administered to 19 oncology nurses on an inpatient Oncology and Bone Marrow Transplant unit before interventions were implemented. The interventions included debriefing after critical incidents, Code Lavender kits, Healthy Nurse Challenge, and education on grief and difficult conversations. Our findings indicated that moral distress is present within the nursing staff as a result of specif-

ic situations nurses experience. Specifically, the majority of nurses that reported moral distress related it to patients frequently being given a false sense of hope and treatment that is often continued past the time of being beneficial to the patient's quality of life. Based on initial MDS-R findings, interventions are needed to decrease the negative impact of moral distress on nursing staff. Preliminary subjective data has shown a positive impact on reported moral distress after critical events. The MDS-R will be administered to quantify the frequency and level of moral distress at the conclusion of the eight week intervention period. Measuring moral distress among oncology nurses and providing tools to manage the effects is not commonly acknowledged. Since research has shown the necessity of providing resources for oncology nurses, our hope is that this can be incorporated into nursing practice.

INCREASING DISCHARGE PLAN ORDER ENTRY USING EPIC CHART REVIEW AND EMAIL COMMUNICATION

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Coordination of Care

Discharge planning is a cornerstone of quality patient care and a priority of Centers for Medicare & Medicaid Services (CMS) and The Joint Commission. The Mount Sinai Hospital requires comprehensive discharge planning to begin at the time of admission. Implement Discharge Plan (IDP) orders are a part of the discharge process that serves to notify nurses of anticipated discharges in the next 24–28 hours. This allows nurses and other members of the care team to begin preparing patients for their transition to home or a care facility. The purpose of this project was to increase compliance of IDP order entry. The intervention consisted of daily chart audits to identify patients missing IDP orders and subsequent emails to advance practice providers responsible for order entry. The emails contained the names and MRNs of patients missing orders, a request for orders to be placed, and a request for confirmation of order placement. The email was sent out on a daily basis to the nurse practitioners (NPs) and physician's assistants (PAs) responsible for entering IDP orders, and compliance rates were tracked. Prior to the intervention (January 1, 2020–July 21, 2020), IDP order entry rates averaged 40%. After implementing the email notification intervention on July 22, 2020, the rate of IDP orders entered increased to an average of 74% from July 22,

2020 through September 12, 2020. A secondary analysis of this project's effect on Discharges Before Noon (DBNs) revealed an increase in early discharges from an average of 17% to an average of 21%, between pre- and post-intervention rates. Adequately preparing patients for discharge is an integral aspect of Mount Sinai Hospital's commitment to quality patient care.

STANDARDIZED EVIDENCE-BASED PRECAUTIONS FOR THE NEUTROPENIC PATIENT

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Oncology Nursing Practice

Patients who are neutropenic, defined as having an absolute neutrophil count of 1000cells/uL or less, are immunocompromised and exceptionally vulnerable to infection. Neutrophils make up the majority of the circulating white blood cells and are the primary defense in fighting infection. Neutropenic patients are being admitted to the hospital without proper precautions in place. Evidence-based neutropenic precautions reduce infection risks and ensure patient safety. Nurses may be unaware of the most up-to-date practice in caring for this patient population. Specifically, a lack of knowledge has been identified in the care of patients experiencing febrile neutropenia. Due to the increased risk of infection, sepsis and ultimately death, there needs to be greater vigilance in care for neutropenic patients across the hospital. Ultimately, the goal was to improve knowledge of the bedside nurse caring for a neutropenic patient through standardized education and resources. To effectively address patient safety, education and formal implementation of neutropenic precautions needed to include non-oncology nurses and inpatient units where neutropenic patients may still present. This quality improvement project was presented to the Interdisciplinary Partnership Council (IPC), our hospital shared governance, which is comprised of nurse managers and chair members of each unit-based council. Education was also provided to the Charge Nurse Committee, which included all Charge Nurse leaders in the hospital. Standardized neutropenic precaution

signs were developed and dispersed to each inpatient unit. Each sign listed clear imperative interventions on the front side and more detailed evidence-based interventions on the back side. IPC members and nurse leaders were guided through the sign with an educational emphasis on neutropenia identification, infection prevention standards, and the clinical importance of provider notification during febrile neutropenia. Through pre- and post-education assessments, preliminary data shows that caregivers across the hospital have a better understanding in identifying and caring for a neutropenic patient, as well as feeling more confident in managing a neutropenic population. The positive effects of standardized evidence-based precautions and education will continue to provide increased patient safety to neutropenic patients admitted across the hospital.

ASSESSMENT OF AN EDUCATIONAL BINDER FOR NEWLY DIAGNOSED ONCOLOGY PATIENTS

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Patient Education and Safety

Newly diagnosed oncology patients have complex educational needs. These needs can be affected by stress, age, health literacy, and culture/ethnicity. It is important to take these factors into account when developing and evaluating patient health information. It is imperative that oncology patients are provided with quality health information to ensure that they are able to participate in shared decision making, thereby improving patient outcomes. A new patient binder has been developed for patients seeking cancer care at the Benefis Sletten Cancer Institute. It is important that this educational tool be evaluated for readability, understandability, and actionability. The Patient Education Material Assessment Tool and the Flesch Reading Ease formula are two proven methods to evaluate patient health information. These tools will be used to evaluate the newly developed new patient binder at the Sletten Cancer Institute. The results of the evaluation will be shared with the developers of the educational tool and leadership team. The continual evaluation of patient health information materials is essential to ensure that patients are receiving information that will meet their needs. The Clinical Nurse Leader can play an important role by acting as an educator, patient advocate, team leader, and expert clinician to ensure that patients are receiving high quality patient health information.

PANDEMIC PATHWAY FOR ONCOLOGIC SURGERY PATIENTS

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COVID-19

The COVID-19 pandemic has been disruptive to day to day operations at healthcare organizations across the country and the world. At a large academic medical center COVID-19 caused a significant challenge for the operating room and only essential surgeries could be performed. Essential was defined as the patient's survival or permanent function would be compromised if delayed. Oncologic surgery was deemed a high priority. Given the vulnerability of the patient with cancer a need to create a COVID minimal pathway was necessary to minimize nosocomial spread. The COVID minimal pathway was designed for the unique needs of the cancer patient and to provide shielding from areas of the institution that posed a risk to compromised patients. An interdisciplinary group convened and a procedural based pathway was created for our most vulnerable patients beginning with parking and ending at discharge. The pathway consists of step by step processes designed to segregate the patients during all phases of their admission, perioperative and discharge processes. The key components to the COVID minimal pathway are focused on 4 main areas; patient, process, location and staff. The patients were all tested within 72 hours of admission for COVID-19 and then screened again in a separate location upon arrival. A designated space was made for oncology patients in the perioperative area as well as designated operating rooms and recovery space. All oncologic surgery patients were admitted to private rooms on a designated unit separated from COVID-19 care areas. Staff caring for patients self-monitored for COVID-19 symptoms twice per shift and were designated to care for patients only in oncology where all patients were negative for COVID-19. The state of Connecticut was widely impacted by COVID-19 early in the trajectory of disease spread and caused an influx of bed utilization in the hospital. With efforts to segregate oncology patients undergoing surgery at multiple points in the care delivery system there were no known cases of nosocomial COVID-19 infection amongst this population. The process can be emulated by other care delivery systems and amended to meet needs of the individual institution. The pathway has become a cor-

nerstone of the pandemic recovery process and has been adopted by the department of surgery as a best practice from the department of oncology.

RESEARCH CLOSE CALL KNOW IT ALL

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Coordination of Care

When there are deviations in specimen collections that occur with research patients this can keep a trial from reaching an important endpoint or could lead to repeating the work required for FDA approval which is an added expense. Research staff depend on ancillary departments to support this function. When specimens are fully missed there is reporting that occurs. However, when there are near misses that are caught and collected by research staff, these become unaddressed trends that lead to additional work and stress on the research teams. The purpose of this project was to collect the data on near miss research collections to allow proactive solutions by addressing trends. Interventions: (a) Collect data for near miss situations that Research staff collect before the sample becomes a true deviation. (b) Foster communication between departments regarding research patients. (c) Analyze data to develop improved process. Evaluation: (a) Identify trends. (b) Utilize electronic systems to support the collection of research specimens. (c) Decrease near misses and deviation from research protocols, (d) Develop clear escalation pathways for reporting trends. Discussion: Developing a sense of ownership in ancillary departments for research specimen collections. The integrated approach to implementing clinical trials processes within ancillary departments will shape the future of supporting clinical trials and advancing the care we provide our patients.

EXPERTS MAKING IMPACTS: DECREASING CLABSIS IN NON-ONCOLOGY PATIENTS

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Patient Education and Safety

The significance of our project stemmed from a formatting change in our hospital-wide daily huddle in which all unit leaders report on unit-specific information. This format change added meaningful informa-

tion such as: central lines, foley catheters, pressure injuries, and new hospital-acquired infections. The new information helped us realize that there are many central lines and CLABSIs on non-oncology units. In our academic hospital, central lines are used in all patient populations for a variety of treatments. Unfortunately, CLABSI rates continue to significantly impact patient mortality, morbidity, and a patient's quality of life. Oncology nurses are the identified experts of central line care and the focus of central line education has historically been within the oncology service-line. However, while less-frequent, many non-oncology nurses use central lines in patient care. The purpose of this project was to support non-oncology nurses with central line care, documentation, and education. By meeting these goals, we hope to ultimately reduce the incidence of CLABSIs. We began by building a report in our EMR that pulls all central lines in the hospital to one list. Simultaneously, we sent a survey to all hospital leaders to determine central line knowledge, comfort level with care, and educational gaps. We then created a "consult" central line service which includes all inpatient oncology leaders. To assist in awareness, we created fliers that were distributed to all units. The results of the survey showed that most non-oncology units did not feel comfortable with central line care and maintenance. Due to COVID, the service had a very slow start. In March 2020, we proactively began weekly rounds on implanted ports in patients on non-oncology units and provided real-time feedback and education to the front-line staff. Shortly after, we began including Hickman catheters. After rounds, we sent a detailed report to nurse leaders in the hospital. The weekly rounds have definitely impacted the awareness of central line care, and has also increased the use of our email hashtag. We have created many educational tools that we use in our central line in-services and in CLABSI huddles for both oncology and non-oncology units. We are now beginning to utilize a chatting function within our EMR to clarify central line indication and questionable documentation.

ESTABLISHING AN ONCOLOGY PATHWAY: A QUALITY IMPROVEMENT PROJECT TO REDESIGN THE ORIENTATION PROGRAM FOR NURSES NEW TO ONCOLOGY INFUSION

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Professional Development

Oncology infusion is challenging work facing constant pressure for safe yet efficient care. Proficient

knowledge and the ability to communicate with interdisciplinary team members are keys to success. Understandably, nurses without prior experience in oncology infusion reported feeling overwhelmed. Accordingly, staff turnover was common. The goal of this project was to redesign our orientation program and enable nurses to build a strong foundation in oncology. The aim was two-fold. By the end of orientation, each nurse was to have the documentation of all relevant competencies in oncology nursing. Additionally, each nurse was to obtain enough nursing continuing professional development (NCPD) hours required for initial oncology certification. Unit-based outcome measures included an increase in the number of oncology certified nurses and a reduction in staff turnover. To obtain buy-in, the educator created and shared a project introduction video with the nurse director and other unit leaders. Education standards from various oncology organizations were reviewed. A cause-and-effect analysis investigated staff concerns. Changes to the orientation program included dedicated time reserved for weekly didactic learning and extended orientation period from six weeks to twelve weeks. Preceptors were provided with structured guidance, such as weekly orientation plans for didactic and hands-on learning. To ensure feasibility and sustainability, outside resources were considered for didactic education. Competencies were validated weekly and documented on checklists. Since the start of the project in the fall of 2019, three nurses with no previous medical oncology experience completed a revised orientation. Each nurse obtained more than twenty NCPD hours. Throughout the orientation, preceptors and/or the educator verified and documented all competencies on the checklists. As of August 2020, all three nurses continue to work full-time at our infusion unit. Their everyday work and leadership in unit-based projects clearly show their proficiency in oncology. A further improvement should be made to promote oncology certification. Although the nurses will have enough oncology hours to take the certification exam in the near future, none of them have expressed interest. Certification would further accentuate their role in the cancer center and help them contribute to providing high-quality oncology care.

IMPROVING ACUTE LEUKEMIA CAREGIVER EDUCATION THROUGH A CAREGIVER CLASS

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Coordination of Care

An important aspect of oncology nursing is patient and caregiver education. The intent of this quality improvement project was to ensure acute leukemia (AL) caregivers receive the education necessary to address the unique needs of AL patients. Newly diagnosed AL patients are educated throughout their hospital stay and the process for educating caregivers was inconsistent. The treatment trajectory for an AL patient includes hospitalization for induction chemotherapy followed by multiple cycles of consolidation chemotherapy. Stem cell transplant may also be an option. The importance of support from caregivers is vital and literature was reviewed to confirm that knowledge is empowering to oncology patients' caregivers. To ensure education reached caregivers, the idea to offer a caregiver education class was posed. The time from diagnosis to start of treatment for AL patients is quick and patients are bombarded with new information and caregiver presence can be inconsistent. Having a class specifically for caregivers allows them dedicated time to learn about the diagnosis and information needed for a safe patient discharge. The class was developed in collaboration with staff nurses, AL Clinical Nurse Specialist and the AL Unit Nurse Manager. The class reviews the following topics: overview of AL, complete blood count, general medication side effects and precautions, procedures and our institution's AL team structure. Participants completed pre and post surveys on their perceived level of understanding related to each topic using a 5-point Likert scale. Looking at the survey results, it was easy to see a reported increase in knowledge for each topic after the class. Participants have also expressed appreciation for the class. Shortly after the class was developed, the COVID-19 pandemic hit and all group gatherings were cancelled. During this time when hospital visitation is limited, we found innovative ways to provide the information virtually to make sure caregivers were continually informed and educated. Currently, the class is emailed to caregivers, along with the pre and post surveys for review and completion. This process has allowed us to be confident that regardless of if the caregiver is able to visit their loved one in the hospital or not, they are being provided with education necessary to safely assist the patient once discharged.

HYPE THE WIPE! A CLEAN PROTOCOL TO STOP THE SPREAD OF CLOSTRIDIUM DIFFICILE ON A HEMATOPOIETIC STEM CELL TRANSPLANT UNIT

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Oncology Nursing Practice

According to the Centers for Disease Control and Prevention (CDC), *Clostridioides difficile* (*C. diff*) is a bacterium that causes diarrhea—transmitted via spores in feces. *C. diff* rates are twice as high in the oncology population. Literature shows the most effective interventions, resulting in up to 85% reduction in *C. diff*, include twice daily disinfection of high-touch surfaces. Disinfecting high-touch surfaces in inpatient oncology units showed significant reduction in hospital-acquired *C. diff* infection (HA-CDI). The Hematopoietic Stem Cell Transplant (HSCT) unit had 25 cases of HA-CDI in 2018, 15 cases in 2019, and 9 cases from January-June 2020. The evidence-based “Clean Protocol” standardizes the practice of disinfecting high-touch areas and educating patients on hand hygiene and protective personal equipment (PPE) to reduce HA-CDI. To reduce HA-CDI by 20% within 3 months of implementation of the Clean Protocol with greater than 90% cleaning compliance on a 16-bed HSCT inpatient unit in an academic medical center. The Clean Protocol focuses on 5 high-touch surfaces: I.V. pole & pump, call bell, television remote, patients’ phone, bedside table, and bed rails. In addition to those high-touch surfaces, Environmental Services (EVS) disinfects light switch, doorknobs and toilet handle. Cleaning occurs twice daily, at 11AM and 11PM with germicidal disposable wipes. Bleach disposable wipes are used on *C.diff* positive patient surfaces. Patients, visitors, and staff are educated on proper hand hygiene and PPE. Nurses and EVS complete documentation on the Clean Protocol checklists. The Clean Protocol began in July 2020. On the 16-bed HSCT unit, 1 container of wipes lasts 8 days. There are 65 wipes per container; if the unit census is 100%, 130 wipes are used. Nursing and EVS monitored weekly compliance and averaged 71%. Since implementation, the unit has had 2 cases of HA-CDI; one which had a prior history of *C-Diff* and thought to be colonized. National shortage of disinfection wipes has negatively impacted unit compliance. Leadership support and ongoing education are essential to improve compliance of this initiative. Nursing plays a pivotal role in the standardization of

disinfecting high-touch surfaces to stop the spread of HA-CDI. The initiative has the ability to spread to both oncology and non-oncology units.

IMPROVING CARE COORDINATION FOR PATIENT RECEIVING CONCURRENT CHEMOTHERAPY AND RADIATION

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Coordination of Care

With multimodality treatment being common in oncology care, it requires a concerted effort on behalf of the oncology team, to ensure a smooth and successful treatment process. Head and neck, lung, esophageal and gynecological cancers comprise the most common disease sites that benefit from combined therapy. In November of 2019 our Cancer Center identified frequent information and scheduling barriers for oncology patients receiving concurrent chemotherapy and radiation. Upon diagnosis and treatment planning, additional support was needed. An estimated one in five new patients experienced some degree of interruption related to navigation and coordination of scheduling. Our team identified multiple opportunities to improve coordination and patient preparedness for those requiring concurrent chemo and radiation therapy. Given the 270 known visits spanning close to 12 months, the patients receiving concurrent chemo and radiation required focused multidisciplinary strategies to optimize this process. The team consisted of the Cancer Center Nurse Manager, Cancer Center Operations Manager, Radiation Manager, Chief Therapist and Nurse Navigator. This team needed to (1) Identify patients planned for concurrent therapy. (2) Align treatment start times between departments. (3) Create mechanisms to supportively navigate the patient to identified treatment areas in proper sequence. Weekly team meetings identified patients and focused on the sequence of the visits, with the team members able to change and manage treatment times. Direct patient interventions included reminder calls, treatment focused patient education, and a copy of the after visit summary with upcoming appointment dates and times. The immediate impact of these measures yielded excellent results. Patients arrived on time to their treatments in the respective departments. At the time of this abstract patient satisfaction scores increased by 3% and data

collection is still ongoing. This multidisciplinary team continues to manage this coordination for patients as well as mediate issues to be addressed real time and serve as a conduit between the practices to avoid fragmentation of care. Communication and coordination of oncology care is fundamental to the efficiency of operations and patients successfully completing treatment. This established team identified barriers and crossed through departmental silos and is now able to collaborate to further enhance the patient experience.

THE IMPACT OF TELEHEALTH NURSING CARE COORDINATION ON OUTPATIENT GI MEDICAL ONCOLOGY

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Coordination of Care

Oncology care requires care coordination for patients, especially for those with comorbidities and health disparities. Telehealth can level the playing field these patients. Historically, telehealth has been underutilized within this large academic cancer center, like other benchmark national programs. However, the COVID-19 pandemic provided impetus for increased telehealth utilization leading to the observation that care coordination was needed within oncology services. To describe telehealth coordination initiatives aimed to: increase patient satisfaction; decrease clinic volume and promote safety; decrease no-show rates; and meet/exceed the 20% benchmark for telehealth as a percentage of total encounters in the Gastrointestinal Medical Oncology Program. The role of telehealth nurse care coordinator was created in response to meet patient healthcare needs through their cancer trajectory. Baseline data was obtained examining telehealth utilization prior to COVID to determine healthcare patterns. Using this data, the coordinator created procedures for determining patient telehealth eligibility, telehealth scheduling, and receiving external test results. In addition, the coordinator provided training for providers, nurses, and support staff on telehealth processes, care coordination, and EHR integration of virtual platforms. Data collection includes: patient satisfaction scores, clinic volumes, telehealth volumes, and patient no-show rates. Analysis of baseline data (pre-COVID) of the GI Medical Oncology Program revealed: clinic encounters averaged 1153 patients per month; none by telehealth. The volume in the GI clinic was nearing maximum capacity, warranting concern of safe staffing ratio concerns. The no-show rate for patients was approximately 5%

and patient satisfaction scores were 96%. Current telehealth initiatives are on target to meet/exceed the organizational goals specifying 20% of all oncology encounters should be by telehealth. The GI medical oncology telehealth initiative is successful in meeting patient health care needs and reducing unsafe clinic volumes. This role can be translated to other oncology specialties within this cancer center and at other intuitions. The utilization of a registered nurse as the telehealth coordinator ensures that fiscal benchmarks never eclipse the importance of patient safety and satisfaction.

CLEAR-FACED MASKS FOR HEARING-IMPAIRED PATIENTS

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Psychosocial Dimensions of Care

There are 48 million hearing-impaired Americans. One major communication method this population relies on is lipreading. Lipreading requires a direct view of the speaker's mouth, which cannot be seen through a procedure mask. Hearing-impaired patients have reported feelings of frustration, isolation, and fear over not understanding masked healthcare providers. Clear-faced masks have the potential to allow for clearer communication while maintaining proper infection control precautions, but little evidence exists regarding their use in clinical settings. The purpose of this project was to determine the effect of clear-faced masks on speech perception in hearing-impaired patients. Pre-surveys were administered to establish baseline speech perception among six hearing-impaired patients. Staff were instructed to wear clear-faced masks rather than traditional masks in patient rooms over a two-day period. Post-surveys were administered to assess changes in speech perception. This project saw a decrease in patients "almost always" or "often" having difficulty understanding staff speech (100% to 33%). There was also an increase in patients "almost always" or "often" participating in conversations with staff (83% to 100%), and an increase in patients perceiving staff as "extremely trustworthy" or "trustworthy" (66% to 100%). Patients reported positive feelings toward the clear-faced masks, stating "love the masks," "much better than before," and "able to see faces with expressions... now I can see their smiles." These results suggest that using clear-faced masks among the hearing-impaired patient population may improve speech perception. The study was limited by small sample size due to a restricted number of clear-faced masks. Further re-

search is needed to assess how clear-faced masks affects speech perception on a larger scale. The increase in trust level also suggests a psychosocial benefit to viewing faces of healthcare providers, and this should be explored among the hearing-impaired and normal hearing patient population in a bona fide clinical trial. This study was done in a pre-COVID-19 setting but now has more far-reaching implications. There will be a generation of patients who, for the foreseeable future, only see providers through a mask. Accommodating the hearing-impaired population is necessary to prevent patient distress due to communication barriers. Healthcare facilities must acknowledge the impact visual speech has on communication across the population and make adaptations, such as providing clear-faced masks, to allow patients to adequately communicate with their providers.

IMPLEMENTING CLINICAL SYMPTOM MANAGEMENT GUIDELINES: A MULTI-PRACTICE PDSA COLLABORATION TO IMPROVE CONSTIPATION MANAGEMENT

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Symptom Management and Palliative Care

Constipation, frequent in many individuals with cancer, is a problem for almost 60% of patients. Furthermore, opioid-induced constipation (OIC) is the most frequent side effect in patients with advanced cancer taking opioid analgesics. Despite its high incidence, clinical assessment and treatment can be challenging. The ONS Guidelines for Constipation recommend educating at-risk patients starting opioid analgesics about strategies to prevent or minimize OIC. While incorporating guidelines into oncology nursing practice is challenging, such efforts have the potential to decrease complications from constipation and enhance quality of life (QoL). This project was designed as a multi-practice quality improvement project to examine practical implementation of the ONS Constipation Guidelines, considering potential barriers and enhancers, and the potential to improve constipation management in patients with cancer. The Plan-Do-Study-Act (PDSA) iterative, four-stage,

problem-solving model guided this project. The nurse participants worked at 4 practices in 3 distinct geographic locations in the United States. A baseline assessment identified rates, documentation, and patient perceptions about constipation. The PDSA process was extensively reviewed with nurse participants before cycles were initiated to address identified practice gaps. A post-project assessment is planned. A retrospective sample of patient visits (N=7,599, across all practices) identified an overall constipation rate of 10%. Each site had different documentation processes and standards for side effects/symptoms. A detailed chart review of patients reporting constipation (N=30 per site) identified almost 30% reporting OIC. No site had a standard process for educating patients about risks for OIC when starting a new opioid prescription. In addition, constipation was reassessed at follow up visits only 54% of the time. The team identified practice gaps in OIC education for patients new to opioids and increasing follow-up assessment. Two PDSA cycles were conducted: the first involved educating patients about OIC with a new, written patient education tool developed by the team members and including standard follow-up. The second involved expanding the education to all patients with or at risk for constipation. A post-assessment will be conducted at two time points following the PDSAs. Despite the availability of evidence-based recommendations, constipation remains a frequent, troublesome, and potentially serious problem for many cancer patients. Multi-practice, interprofessional collaborative projects are feasible and may ultimately enhance patient QoL and decrease anticipated complications.

IMPROVING OUTPATIENT INFUSION SCHEDULING PRACTICES FOR EFFICIENCY AND PATIENT EXPERIENCE

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Coordination of Care

When the Dan L. Duncan Comprehensive Cancer Center transitioned from a private practice, physician-operated clinic, to a hospital-based clinic/infusion center; Scheduling and flow of patients through infusion became an opportunity for improvement. The transition identified processes that were implemented for efficiency of time, for the patients and the nurses, therefore enhancing patient satisfaction. The purpose of this project was to address scheduling practices, better the flow of the infusion appointment,

and to improve chair utilization and efficiency. Several interventions were implemented which ultimately created a better patient experience. Leadership performed a professional practice evaluation, and it was first decided to make practical changes that could be implemented right away. This included scheduling all injection appointments early morning, or late afternoon, leaving the nurses uninterrupted to take care of the patients receiving chemotherapy during high volume clinic hours. In doing this, it also allowed the clinic to stagger the nurses' arrival, having the first nurses start at 0700, with more nurses coming in at 0800, and finally at 0830. This allowed patients to come as early as 0700, to get an injection, prior to going to work. Patients were also asked to come in the day before their appointment, or an hour prior to his or her infusion treatment to see the doctor, and have labs drawn. Ideally, by the time the doctor visit is over, and the patient is ready for treatment, lab results are available. The nursing and pharmacy staff work together the day in advance, reviewing orders for the next day, and clearing any treatment concerns that may delay care the next day. Understanding the pharmacy's needs as well, and including pharmacy staff in the infusion staff meetings, has improved teamwork, and increased collaboration with the two units that must work very closely to ensure the timely production of chemotherapy for our patients. In addition, the unit Educator has helped in minimizing the chemotherapy treatment time by creating awareness amongst staff regarding compatibilities between medications. A Performance Excellence Coordinator position was created who is currently following the patient from check in to the end of treatment, identifying waste in accordance with LEAN principles. To assess our implemented changes, patient feedback was necessary. Patient experience survey results are monitored for opportunities for improvement.

IMPLEMENTING ELECTRONIC DOCUMENTATION FOR CANCER CLINICAL TRIAL SPECIMEN PROCESSING

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[Professional Development](#)

In 2019, the (Vanderbilt University Medical Center) VUMC Core Processing lab processed 14,128 patient samples, primarily for patients on cancer clinical trials in the Vanderbilt Ingram Cancer Center (VICC). Each sample's information was written manually on the sample and specimen tracking forms. This process could take up to 10 hours a day to complete one

form, depending on the clinical trial complexity of the clinical trial. After the form was finished for shipping purposes, it would then have to be manually entered and scanned into VICC's Clinical Trial Management System, OnCore, for billing purposes. The entry of these forms into OnCore was taking 2 hours/week and 10 hours/month per staff member. Upon review of this process, there were multiple data entry inaccuracies being made which led to additional time having to correct the fallacies. The purpose of this project was to (a) implement a process of billing samples in real-time to reduce time spent entering the same information multiple times and (b) increase accuracy and decrease need for resources to correct fallacies. Interventions: (a) Assessed current practice of manually inputting information on the sample and specimen tracking forms. (b) Audited the forms for accuracy. (c) Reviewed timeliness of billing. (d) Build a sample and specimen tracking form in OnCore that would pull over billing information in real time and allow the forms to be printed off as paper forms for source documentation to decrease deviations. Evaluation: (a) Need for effectively streamlining the process of billing samples has been identified to appropriately cut down on unnecessary time spent entering the same information multiple times. (b) Decreased data entry inaccuracies by using the electronic form. Implementing a sample tracking form within OnCore would help streamline the process across research teams. It would cut down on the manual errors and allow for a smoother sample collection process. This process would also allow for clinical staff and the billing department to access sample collection information in real time, if needed. This approach to a streamlined process of sample collection has not been practiced at VUMC but would be vital to ensuring adequate adherence to the research protocols. This improved process would decrease deviations, billing queries, and clinical staff member questions. We will begin piloting the electronic forms within a week.

EFFECTS OF ANTIMICROBIAL PERIPHERALLY INSERTED CENTRAL CATHETERS IN THE LEUKEMIA POPULATION: A NURSE DRIVEN INITIATIVE

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Oncology Nursing Practice

Leukemia patients commonly receive Peripherally Inserted Central Catheters (PICC) for intravenous access as part of their treatment for initial chemotherapy induction, consolidation cycles or supportive care. Up to 11–38% of patients with hematological malignancies experience blood stream infections. Leukemia patients in particular are at increased risk of developing Central Line Associated Blood Stream Infections (CLABSI's) as they often experience extended periods of neutropenia, require prolonged hospital stays, and have increased numbers of central-line days. CLABSI's are the leading cause of hospital acquired infections and are associated with substantial morbidity and mortality. CLABSI's cost hospitals an estimated \$48,108 not reimburse by insurance companies. Despite meticulous line care, use of best practices, ongoing education, biannual central line validation for nursing staff, and thorough patient education 9 Pavilion West observed a rise in CLABSI's. In 2017 the CLABSI rate was 0.75 per thousand device days. In 2018 9PW CLABSI's rate was 1.3 per thousand device days. The purpose of this project was to explore how use of a PICC-bonded with a chlorhexidine solution on the intra- and extra-catheter surfaces compares to current non-chlorhexidine impregnated PICC with regard to CLABSI rates within the leukemia population, over a six month period. Chlorhexidine-impregnated PICC's were placed in 49 Leukemia patients who required central line placement during the pilot period (April 2019 to October 2019). The central line infection rate was 0.38% during the pilot period, compared to 1.17% during the same period the previous year. Some nurses reported increased difficulty changing caps on the chlorhexidine PICC's. This challenge was addressed with the product manufacturer who offered additional education and product support. Oncology nursing staff identified an area of opportunity to improve outcomes for the vulnerable leukemia population. After comprehensive review of the scope of the problem, a plan addressing the unique challenges of the leukemia population was developed and an interdisciplinary team was formed. The interdisciplinary team combine focused provider/nurse education with the use of antimicrobial technology in PICC's resulting in a decrease in central line infections. CLABSI's dropped by 67.52% during the April–October 2019 pilot period compared to April–October in 2018.

CHEMOTHERAPY GOAL OF TREATMENT AS PART OF THE CONSENT PROCESS

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Patient Education and Safety

Patients consenting for chemotherapy require a clear understanding of the goal of treatment (curative vs palliative) to make an informed treatment decision reflective of their own goals and values. Previously identified barriers to patient understanding of the intent of treatment included a lack of basic information on the consent form and the use of ambiguous language by providers. The importance of patient understanding is highlighted by ASCO/ONS best practices and part of ASCO's Quality Oncology Practice Initiative (QOPI) certification. Prior to this project, the chemotherapy consent form at our institution did not include the goal of treatment. Furthermore, baseline chart audits revealed less than 20% of clinical notes included the goal of treatment. The purpose of this quality improvement project was to implement a chemotherapy consent form that incorporates goal of treatment and evaluate if documentation of the goal of treatment improves and whether patients have a better understanding of their goal of treatment. A multidisciplinary committee met to determine how to incorporate goal of treatment as part of the consent form. The committee decided to include three goals of treatment: curative, palliative, and palliative/life-extending. Definitions of these three goals using plain language were included to ensure consistency across providers in how these terms were defined for patients during treatment discussions. Patient surveys were developed to evaluate perceived satisfaction with the information provided during the consent conversation related to the diagnosis, available treatments, and goal of treatment as well as the patient's own perceived goal of treatment. The new consent form went live mid-September; it is expected documentation of the goal of treatment will be 100%. Concordance between the documented goal of treatment and the patient's perceived goal of treatment will be determined. Additionally, correlation between concordance and the following variables: patient satisfaction, providing a copy of the consent form, and whether the patient was alone at the time of consent will be evaluated using statistical analysis. Goals of treatment are a vital part of consent conversations for patients to make an informed treatment decision

regarding chemotherapy. Including goal of treatment as part of the consent form creates opportunity for meaningful, in-depth goals of care conversations and can be a take-home reference for patients.

THE DEVELOPMENT OF AN INPATIENT ONCOLOGY NURSE NAVIGATOR AS A PERFORMANCE IMPROVEMENT PROJECT

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Coordination of Care

Currently, no formal guide for the role of inpatient oncology nurse navigator (IONN) exists. Although, the organization has an orthopedic navigator in a similar role, it inhabits a different patient population and needs. In fact, the role of the nurse navigator varies in responsibilities and expectations throughout the country and different health care systems. Oncology patients continue to endure gaps in patient care at different access points in the healthcare continuum. The purpose of the project is to develop the standardization of the IONN role in the health system, and identify if patient outcomes improve with role clarity and standardization. Development of the role will improve the implementation process at other organizations through a structured framework. IONN worked with management to identify goals to develop interventions that focused on patient education, discharge planning, data collection, and role development. Patient education interventions included specifically tailored daily education sessions and education folders. IONN attended daily interdisciplinary rounds, provided earlier identification of potential discharge barriers that could lead to increased LOS. IONN also arranged growth factor and follow up appointments with primary oncologist, provided discharge phone calls to troubleshoot gaps in discharge plan that could lead to readmission. Role development interventions included monthly meetings with leadership to discuss progress of role development and metrics. IONN dedicated one day a week to data collection and interpretation. Reevaluating the purpose and direction of the IONN position will lead to a structured framework that will improve patient outcomes and assist other healthcare system implement this role. Patient outcomes will be collected and presented include: (a) Patient satisfaction scores referring to patients' perception of readiness for discharge/ perception of education received. (b) Decreased LOS. (c) Decreased readmission and emergency department visits. Nurse Navigators, professionals whose backgrounds primarily specialize in patient care, need to develop their

business and financial skills to validate the position. Once the position is validated, another obstacle starts with development of the role with varying practices at different health systems and needs, formal standardization of the role may not be immediately achievable. Organizations and conferences such as this are critical to help the journey of a new inpatient oncology nurse navigator.

IMPLEMENTING AN ADVANCE CARE PLANNING PROTOCOL FOR THE BONE MARROW TRANSPLANT PATIENT AND FAMILY

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Symptom Management and Palliative Care

Advance care planning (ACP) is a process that guides critical conversations between patients, their families, and clinicians about healthcare options during times of medical crisis. Early ACP is crucial for at-risk populations with complex illness and disease progression. Patients undergoing hemopoietic stem cell transplants have a high rate of morbidity and mortality associated with treatment. Still, they are less likely to have any ACP as part of care. This gap leaves these patients at risk for prolonged end-of-life interventions regardless of patient values or preferences. The purpose of this quality improvement project is to implement a standardized advance care planning protocol using the Respecting Choices model, for the Intermountain Blood and Marrow Transplant/ Acute Leukemia Program located at LDS Hospital in Salt Lake City, Utah. A critical part of ACP is provider engagement and familiarity with ACP protocols. This will provide quality care for pre-transplant allogeneic patients by training providers using Respecting Choices model of advance care planning. Training will include methods on initiating ACP conversation, scripting to overcome discussion hesitancy, and communication techniques on difficult conversations. Respecting Choices model of clinician training has demonstrated increased motivation, confidence, preparedness, and skill in initiating advance care planning discussion per several studies on provider outcomes. Project success will be evaluated using data from pre and post clinician surveys and patient record reviews of advance care planning documentation. The evaluation will measure the effectiveness of the ACP intervention, including usability, feasibility, and clinician satisfaction. An expected measurable outcome of this ACP quality improvement project is an increase

in the number of initiated and completed advance directives found in the EHR. Advance care planning is a dynamic process supported by principles of advocacy, compassion, and respect of the individual. The method of ACP promotes the rights, needs, and overall benefit of the patient and provides a way for clinicians to practice quality patient care at the end-of-life. For the stem cell transplant patient, ACP increases their understanding of their prognosis, treatment plan and facilitates communication between provider, patient, and the family. This project will improve the quality of patient care for the BMT/AL program and provide an example of standard approaches generalizable for other oncology programs.

THE EFFECTS OF TELEHEALTH ON PATIENT SATISFACTION AND INFORMATION RECALL FOR BREAST CANCER SURVIVORS DURING COVID-19

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Survivorship

The coronavirus (COVID-19) pandemic has changed how cancer survivorship care is delivered. To protect vulnerable breast cancer patients during this pandemic, health care providers are moving towards telecommunication such as telephone, video, and secure messaging (electronic mail) versus in-person visits to connect with their patients. Breast cancer survivorship visits can be safely deferred from in-person visits to telehealth visits. This doctoral project examines the impact of transitioning from in-person to telehealth (telephone or video) visits on patient satisfaction and recall of information for breast cancer survivors reviewing their Survivorship Care Plan (SCP) at an oncology clinic in Northern California. This is a quality improvement project to determine if telehealth can be successfully utilized now and post the COVID-19 pandemic. The initial survivorship visit post treatment is a 40 minute visit which covers a summary of their treatment(s), reviews cancer staging and type, follow up appointments/labs/scans, long term side effect management, healthy life style suggestions, and provides any further resources for the patient. This type of educational visit can be done remotely as it does not require an exam. All breast cancer patients after their initial survivorship visit from the Diablo Service Area (DSA), which includes three medical centers, were given a post visit survey from April to December of 2020. The survey included questions regarding patient satisfaction and information recall of their visit.

IMPROVING HEALTH LITERACY OF TRANSPLANT AND CELLULAR THERAPY TREATMENT CONSENTS

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Patient Education and Safety

Hematopoietic stem cell transplant and cellular therapies (TCT) are complex treatments requiring thorough patient education and consent. The current work is a quality improvement project to improve the literacy, readability, and effectiveness of TCT program treatment consents. Nearly one third of adult Americans have difficulty understanding and using health information due to low health literacy. Nine out of 10 adults struggle to understand and use health information because it is unfamiliar, complex, or filled with jargon. Most health literacy standards aim to have health education written at or below a 6th grade reading level. An analysis of 14 TCT program treatment consents utilizing the Fry readability formula showed an average reading level of 10th grade, with multiple consents reading above a college level. The health literacy and clinical teams collaborated to revise all program treatment consents to replace common difficult-to-comprehend terms with plain language, define medical terms, and create white space to improve literacy, readability, and effectiveness. After review and revision, the consents averaged a 7th grade reading level. Health literacy initiatives have been shown to improve health outcomes, lower readmission rates and help decrease patient medical costs. The new health-literate versions of the TCT consents were implemented in 2020. Continuing research will look at treatment compliance rates and re-admission rates to determine the effectiveness and impact of the new consents.

THE EFFECT OF EARLY GENETIC COUNSELING ON LENGTH OF TIME TO SURGERY AMONG WOMEN WITH A DIAGNOSIS OF BREAST CANCER

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Coordination of Care

Surgery is an essential treatment for most breast cancers. Unfortunately, length of time between diagnosis

and surgery has steadily increased over the last two decades. This prolonged time interval has occurred due to expanded testing and pre-operative consults. Despite the need for additional testing and consults, increased time to surgery (TTS) is associated with inferior survival, specifically among those with stage I and stage II breast cancer. Additionally, treatment delays may adversely impact patients psychologically, socially, and economically. Currently, no established benchmark exists for TTS among patients with breast cancer, but it should be expedited without hindering pre-operative and diagnostic work-up. Each day of delay in surgical treatment can have a negative clinical impact. Genetic counseling plays a significant role in surgical decision making, but can also delay TTS if not implemented early in a patient's diagnosis. On average, genetic testing takes 14 days for results. Facilitating timely referral of genetic testing could improve inconsistencies and decrease TTS. The purpose of this project was to examine the effect of early genetic counseling on length of time to surgery among women with a diagnosis of breast cancer. Time from breast biopsy to surgery (lumpectomy or mastectomy) in days is measured pre- and post-intervention. Usual practice is to refer patients to genetic counseling at time of initial surgeon visit (average 11 days from biopsy). The intervention tested in this study requires patients to be referred to genetic counseling within 48 hours of diagnosis. Following confirmation of a diagnosis, the breast imaging nurse notifies the nurse navigator of a positive biopsy. The nurse navigator establishes that the individual meets National Comprehensive Cancer Network (NCCN) criteria and discusses genetic testing with the patient. If the patient agrees to an early referral, appointments are scheduled with the genetic counselor. Days from biopsy to surgery will be measured pre- and post-intervention. Data will be compared. TTS prior to the intervention (M=54, SD=24). Post-intervention data is pending. Research is ongoing.

IMMUNOTHERAPY TOXICITY TRACKING

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Symptom Management and Palliative Care

Immune related adverse events (IrAEs) are unfavorable and unintended signs, symptoms, or diseases associated with immunotherapy. IrAEs can occur in as high as 10% of patients treated with a single agent immunotherapy drug and up to 20% of patients treated with combination immunotherapy drugs. Immunotherapy leaves all organ systems vulnerable and increases the

risk of morbidity and mortality. The unpredictability of IrAEs indicate the need for methods of determining which patients are at highest risk for IrAEs. Because immune related adverse events fluctuate in onset and prolonged duration, frequent patient assessment is needed. A quality improvement project was initiated at Intermountain Cancer Center-St. George. Oncology experts including an immuno-oncologist, registered nurses, and a data analyst formed a team to determine how to best detect and manage IrAEs. A plan was developed to collect and analyze data. Fourteen months of information has been gathered to date. In June 2020, after 11 months of data collection, there were 170 new patients on immunotherapy and 201 immunotherapy regimens in the data base. Unfortunately, 81% of treatment regimens have been associated with IrAEs. Only 19% of patients have not experienced an immune related adverse event. Information regarding patient patterns for reporting toxicities was also collected. The data showed that patients were often waiting until their follow up appointment with the medical oncologist to report IrAEs, two, three, four, or even six weeks after experiencing the symptoms. As IrAEs can be life threatening, this was not acceptable patient care. Ideally the data should reflect front-line caregivers (infusion nurses, nurse navigators, and medical assistants) are receiving reports of IrAEs from the patient in real time. A pilot program was instituted where oncology nurse navigators (ONN) call patients at home to complete a nursing assessment one week after their first immunotherapy treatment and at two-week intervals for the duration of time the patient is on immunotherapy. The goal of the program is to catch IrAEs and treat them as soon as possible thereby improving patient outcomes. Thus far, data reflects positive patient outcomes related to consistent monitoring and the development of the immunotherapy toxicity quality improvement project.

CLABSI PREVENTION IN HIGH RISK CANCER PATIENTS

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Oncology Nursing Practice

Systemic chemotherapy treatment is standard care for most cancers often necessitating central line access which in turn increases risk of infection. These CLABSI's are a cause of mortality in cancer patients. By reducing CLABSI to zero, preventable mortality due to infection can be eliminated which in turn reduces

hospital stay and presents a cost incentive for the hospital. Evidence correlates that head and neck cancer patients are at highest risk for CLABSI compared to other solid tumor types. The goal of this study is to reduce central line associated bloodstream infections (CLABSI's) to zero on an adult medical oncology unit by identifying high risk CLABSI cancer types and to use "special strategies" considered to reduce CLABSI risk, in addition to standard bundles in patients. The charge nurse team turned to evidence to implement special Standard of Care bundles to reduce CLABSI risk. Nurses extended their education on CLABSI in head and neck cancer patients to a new level. With a review of literature, evidence supported nurses to include "special strategies" for added CLABSI prevention when risk for undesirable outcome is high. Nurses are educated on high risk for CLABSI cancer types, and charge nurses surveillance admissions to identify these patients and report out at safety huddle. Once identified, nurses use the "take action" approach to determine line necessity, apply bundle interventions and utilize interdisciplinary teams for further risk assessment. With the implementation of the High Risk for CLABSI Standard of Care bundle, developed based on evidence from an oncology professional organization, CLABSI was eliminated on a medical oncology unit for 14 month period evaluation after 4,000 central line days. Staff accountability and engagement are essential for preventing hospital acquired infections. Accountability is the link between the science and implementation. Having clinical nurse leaders engaged in evidence based processes to reduce CLABSI is vital to impacting positive patient outcomes.

ACUITY BASED SCHEDULING

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[Oncology Nursing Practice](#)

Evidence exists to demonstrate nursing assignments in outpatient infusion departments are linked to patient flow and departmental efficiency. Implementation of an Acuity-Based Scheduling (ABS) template has been identified as an effective method of nursing assignment in ambulatory infusion centers and was the quality improvement project piloted in Memorial Sloan Kettering (MSK) Monmouth's outpatient chemotherapy department. Before implementing the PDSA for quality improvement, the process of patient assignment was random and did not consider the number of patients or acuity level that a given nurse treated. By conducting a PDSA cycle for change, this project was developed to identify if assigning patients

utilizing an ABS template would improve operational efficiency and patient satisfaction. The goal was to test a small test of change with the implementation of ABS to see if outcomes improved. Evaluation of effectiveness was based on patient wait times two-weeks prior to implementation of ABS versus the patient wait times during the two-week post-implementation phase. Press Ganey satisfaction scores for the last quarter of 2018 and the first quarter of 2019 were also evaluated. Patient's overall satisfaction showed a 1% increase, however there is no way to assess any direct link between this and ABS implementation. After the implementation of ABS, there was an increase in patient wait times which was linked to the larger volume of patients being treated in the post-implementation phase. Clinical implications for ABS include the opportunity to increase department efficiency in response to increasing patient volume in the outpatient infusion setting. This first PDSA cycle did not show an improvement in wait times or satisfaction scores at this time, but continued efforts to monitor the change will be completed with additional rapid cycle PDSA.

CREATING AN ONLINE EDUCATION TOOL FOR USE IN VIRTUAL CHEMOTHERAPY TEACHES FOR BREAST CANCER

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[Patient Education and Safety](#)

The importance of providing chemotherapy education has been well established in the literature. Patients gain a better understanding of their disease and the expected side effects of treatment when they receive a dedicated educational session on these topics. When chemotherapy education is delivered prior to the first cycle, it can help to reduce patients' anxiety levels and empower them to manage side effects more effectively. Traditionally, chemotherapy teaches have been conducted in-person with printed materials at our institution. When in-person visits were reduced and the capacity for virtual visits increased due to the COVID-19 pandemic, we identified an opportunity to improve the quality of chemotherapy teaching for the virtual visit. We formed a task force of oncology nurse practitioners, nurses and pharmacists who met weekly to develop education tools which could be accessed vir-

tually by patients and families. Our goal was to utilize these resources as visual aids during virtual visits. We further envisioned that patients would reference the materials later at their convenience. Our first step was to create a dedicated education section on our Breast Oncology Department website where virtual materials would be housed. We then used information from our existing printed educational materials, as well as evidence based information from ONS and NCCN, to create easy-to-navigate Power Point presentations on the most common chemotherapy and endocrine therapy regimens utilized in our clinic, along with their accompanying side effects and management strategies. We identified further educational needs in our patient population beyond chemotherapy education. Side effect management presentations were added for mucositis, and for gastrointestinal and skin toxicities. Finally, we created an instructional video for self-injection technique. Presentations were created in teams and their content reviewed weekly by this group to ensure accuracy and readability. Once finalized, presentations were uploaded to our website. Feedback has been extremely positive from patients and families, who enjoy being able to visually reference the educational materials while they meet with our staff virtually. Currently, we are developing voiceovers that will guide patients in reviewing the presentations again after the virtual teaching session. The breast cancer treatment online education tool has been an innovative and useful improvement to the patient experience for virtual chemotherapy teaching visits.

PREMEDICATION PRIOR TO BLOOD TRANSFUSION: THE EVIDENCE BEHIND THE PRACTICE

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[Coordination of Care](#)

Data supporting Tylenol and Benadryl as pre-transfusion medication originates from the 1950's when it became routine practice. Over the past 70 years transfusion medicine has changed, including product manipulation and changes in blood storage standards. Estimated pre-medication rates range from 50–80%. However, are the side effects of Benadryl and Tylenol necessary? At this author's previous oncology infusion center pre-medications were not part of standard practice. Why was the practice different and what does the evidence say? The purpose of the project was to assess the evidence either supporting or not supporting pre-medications prior to blood transfusions and educate oncology physicians and

nurses of the current practice recommendations. After a thorough literature review, prophylactic administration of Tylenol and Benadryl was found to not reduce the incidence of reaction. A change in practice was implemented where pre-medications were no longer administered as standard of care prior to blood transfusions. Education was disseminated to oncology physicians and nursing staff prior to the implementation occurring. Blood transfusion data was collected prior to implementation in April 2019 and assessed at the one year post implementation date of April 2020. The data showed: (a) Pre Implementation: 22% of patients were not prescribed pre-medications prior to blood transfusion. (b) Post Implementation: 55% of patients were not prescribed pre-medications prior to blood transfusion. At the time of implementation, current patients receiving recurrent blood transfusions did not have their pre-medications removed from blood therapy plans. This intervention was started on new blood transfusion patients moving forward. Due to this, it may have affected the data collected, however we continue to trend in the appropriate direction. The institute continues to provide education and blood transfusion data updates to the providers at Disease Management Team Meetings and to the infusion nursing staff at staff meetings. In the author's institution, recurring blood transfusion plans were previously built with Tylenol and Benadryl pre-selected for the patients. Many times providers would not uncheck these boxes. By collaborating with the EPIC nursing informatics team, EPIC order sets were modified to remove the pre-selected boxes from Tylenol and Benadryl. Providers now need to select these medications if they choose to order for patient's receiving blood transfusion.

TEACHING A RESILIENCE-BUILDING COMPETENCY FOR THE NEW GRADUATE REGISTERED NURSE (NGRN) IN AN ONCOLOGY SETTING

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[Professional Development](#)

The transition from nursing student to NGRN is challenging for most new oncology nurses. Data indicates that nursing students have high stress levels with significant interactions between resilience, stress,

and well-being. Therefore, moving into an oncology NGRN role with exposure to patient deaths, high acuity situations, and working in an area with high responsibility may augment previous school weariness. The purpose of this QI program for NGRNs is to provide an individualized tailored teaching intervention with the goal of building resilience in NGRNs. Previous NGRN education content included stress management, however personal methods to build resilience were not discussed. Data in previous NGRN cohorts indicated higher than desired stress levels and lower professional satisfaction. Also, the last NGRN cohort during the COVID-19 crisis seemed less engaged with discussions of resilience management. The new QI program will encourage each NGRN to create and own an ongoing personalized plan for building resilience based on individualized insight of biologic, cognitive, and emotional responses to stress. The National Academy of Medicine Action Collaborative on Clinician Wellbeing and Resilience will serve as the framework for the program and focus on personal factors, skills and abilities. The program consists of an intervention in four time periods: 12 weeks, 12 weeks-6 months, 6 months, and 12 months. Time period 1 includes a lecture on building resilience with the goal of creating a personalized resilience-building plan. Time period 2 includes a 1:1 mentoring session with professional practice staff to review the personalized plan. Time period 3 consists of a second lecture reviewing key content followed by a support group format discussion. Time period 4 consists primarily of data collection at year end. Resilience will be measured by the Brief Resilience Inventory. Professional quality of life will be measured by the ProQOL Scale. The Casey-Fink Experience Survey will measure communication, transition to practice, professional satisfaction and stress. Attrition will be measured at one year. New grad satisfaction with the program will also be measured throughout the program. Oncology nursing is a stressful profession and NGRNs can be impacted because of previous personal and professional vulnerabilities. This QI program seeks to improve the professional life of new oncology nurses and teach ongoing resilience management based on personalized insight.

“SMARTPHRASE” DEVELOPMENT FOR CHEMOTHERAPY-IMMUNOTHERAPY PRE-ADMINISTRATION DOCUMENTATION: A QUALITY IMPROVEMENT PROJECT

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[Coordination of Care](#)

Barriers to quality cancer care delivery exist and may impact safety, treatment administration, and patient outcomes. Detailed documentation of cancer treatment administration is key to improving patient safety in oncology. Systems that promote the creation of “SmartPhrases” within electronic health records (EHR) may promote consistency in documentation with rapid replication. The purpose of this quality improvement project was to create and integrate a standardized “Smartphrase” chemotherapy-immunotherapy pre-administration documentation note. The EHR documentation adheres to administration considerations defined within the Oncology Nursing Society’s chemotherapy-immunotherapy guidelines and established organizational accreditation goals. After patient assessment and completion of the “SmartPhase” template in the EHR by an oncology nurse, pre-administration safety checks were performed by two oncology certified practitioners to identify appropriate protocol deviations and/or confirm orders and dosages. Verification was co-signed electronically and visible to all practitioners throughout the course of treatment. Nine components defined within the ONS guidelines to assess completion of chemotherapy-immunotherapy pre-administration checks were analyzed; these include diagnosis, drugs, protocol, route, schedule, consent, accurate height & weight/body surface area (BSA), labs within parameters, patient education and intravenous (IV) access assessment. Six components resulted in 100% compliance; two components resulted in a 6% decrease; and a 3% increase was noted in the final component. Treatment response and tolerance were documented within the EHR note per encounter or from shift to shift. The “SmartPhrase” approach electronically documented individualized treatment planning, tolerance, and minimized the possibility of incorrect dosages. The utilization of a “Smartphrase” in chemotherapy-immunotherapy pre-administration documentation has the potential to foster safe and seamless patient-centered care throughout inpatient and outpatient settings. Development of a pre-administration template or “SmartPhrase” in the EHR promoted rapid access to critical information based on individualized

plans of care and response to treatment. Transdisciplinary collaboration between multiple stakeholders, including clinical informatics and a clinical care team, enhanced the quality of the design workflow. Information was clearly documented reflecting evidence-based practice and standards of care.

RN LIAISON: CARE COORDINATION AND TRANSITION MANAGEMENT

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Coordination of Care

Ineffective communication is the primary deficit causing discontinuation in transitional care from inpatient to outpatient settings. This has led to patient safety issues ranging from prolonged admissions, readmissions, pending test results, adverse drug reactions, and medical errors. Engagement of patients and collaboration with interdisciplinary healthcare team members in both inpatient and outpatient settings through utilization of a RN liaison will increase the fluidity of transitions, decrease readmissions, improve clinical outcomes, and improve patient satisfaction. Development and execution of RN Liaison position to identify gaps and deficiencies in care, attend daily inpatient nursing rounds, physician rounding (oncology, hematology), attend weekly inpatient length of stay leadership meetings, coordinate and schedule outpatient treatment plans with pharmacists, MD clinic RNs, and outpatient infusion clinic. Establishment of a transitional care coordination model needs to be instituted for inpatient units with patient populations who frequently receive continued care in outpatient settings. The intervention of an RN liaison resulted in a downward trend is evident in patients missing outpatient chemotherapy appointments. Consistency remained in numbers of same day add on appointments in the outpatient clinic, and inpatient length of stays remained unchanged and below administrative target goal. Loss of continuity of care for patients may be caused from a plethora of factors including new diagnosis/consults for patients assigned to service teams with rotating staff, physician unavailability during interdisciplinary nursing rounds, incomplete or missing physician notes, hospitalists unaware of specialists follow-up plan, and/or post discharge facilities unaware of outpatient appointments. These instances of ineffective communication have a negative impact on quality outcomes for patients. Established roles and responsibilities of nurses is key in planning and managing the process to ensure the optimum transition of care across healthcare settings Nurse leaders are key

in care coordination and management roles. Utilization of a RN liaison for transitional care coordination as part of the discharge planning process is an innovative way to promote continuity of care, improving the safety and quality of patient care.

WHEN TISSUE IS THE ISSUE: HELPING UNDIAGNOSED PATIENTS NAVIGATE THE ACADEMIC HEALTH CARE ONCOLOGY SETTING

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Coordination of Care

Accessing an academic medical center during the initial phases of a cancer diagnosis is challenging. Providers within an academic setting are highly subspecialized which makes scheduling appointments difficult for patients without a confirmed diagnosis. General oncologists are not available to help quarterback a patient's work-up, and appointments with a subspecialized oncologist are reserved for patients with tissue confirmed diagnoses. The oncology nurse navigators (ONNs) at Penn Medicine's Abramson Cancer Center learned patients were being turned away when calling for appointments due to lack of biopsy. This barrier led to delays in care, poor patient experience, and a financial loss for the health system. Subsequently, the "Tissue is the Issue" project was born. The "Tissue is the Issue" initiative formally began in March of 2020 as a quality improvement project to increase access to oncology care, decrease time to biopsy and treatment, improve the patient experience, and increase patient retention within the health system. The Plan Do Study Act (PDSA) methodology was utilized. Currently, the ONNs implement several strategies to triage patients' needs to timely pair them with the correct oncology specialist. The ONN follows the patient through to their confirmed diagnosis and assists in scheduling with the appropriate treating physician. Data collection is ongoing to assess the impact of the interventions. The barrier was identified anecdotally by the ONNs- many had spoken to frustrated patients or call center staff who were unsure how to navigate the undiagnosed patient. To date, the ONNs have worked with 312 patients to triage, coordinate care, educate, and support through the initial stages of their cancer diagnoses. Interventions include collaboration and referral with oncology surgeons, interventionalists, and advanced practice providers to facilitate biop-

sies, presenting cases at tumor boards to gain insight from the interdisciplinary teams, collaborating with primary care providers to obtain the correct work up (i.e. labs, imaging). ONNs are vital in identifying and removing barriers to care. The ONN team's clinical knowledge, assessment skills, and expertise of the Penn health system have closed a gap in care while increasing patient satisfaction, patient retention, and downstream revenue. The ONNs leadership has directly enhanced the diagnostic process and timeliness to care for patients newly effected by cancer.

MANAGING PATIENT-SUPPLIED MEDICATION USE ON AN INPATIENT UNIT

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Coordination of Care

With the increasing use of oral chemotherapy drugs and the high costs associated with them, it has become common for patients to bring their own supply of medications when admitted to the hospital. This alters normal workflows for managing patient belongings and storing medications, creating an opportunity to misplace them. When these medications are lost, the situation results in delay in treatment, high cost for the institution, decreased patient and staff satisfaction, and an impact to patient safety. The purpose of this project was to create a standardized workflow for managing patient-supplied medications (PSMs) on an inpatient unit. The aim was to have no PSMs reported as lost after implementation. A workgroup was formed with representation from frontline nursing, pharmacy, informatics, policy and procedure, and performance improvement. Frontline staff were interviewed and surveyed about their current process for PSMs, and a root-cause analysis was completed. A standardized process was then developed for documenting, storing, tracking, and returning these medications during the inpatient stay. The process was piloted on key units to ensure that it addressed the root causes identified. Following implementation, the staff were surveyed and observation audits were completed on a weekly basis to ensure compliance with the process. In the two years prior to implementation, approximately \$20,000 was spent by a single inpatient unit replacing PSMs that were lost during hospitalization. During the pilot, three medications were reported as missing after transfers to other units or discharges, but were all able to be located using the documentation and tracking tools developed as part of the project. This resulted in a cost savings of approximately \$19,000, as

well as patient and staff satisfaction with the outcome. There were no incidents of lost medications during the pilot. Next steps for this project include extending the process to other units in the institution for increased continuity of care. A standardized workflow for managing patient-supplied medications in the inpatient setting can reduce delays in treatment, decrease costs for the institution, increase patient and staff satisfaction, and an impact to patient safety.

INCREASED IDENTIFICATION OF PATIENTS WITH A HISTORY OF IMMUNE CHECKPOINT INHIBITOR THERAPY AT A LARGE COMMUNITY HOSPITAL

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Oncology Nursing Practice

Immune checkpoint inhibitors are rapidly becoming standard of care treatment for many cancers. However, these medications are associated with various immune related adverse events (irAEs) affecting multiple organ systems and can occur up to a year following discontinuation of therapy. Rapid identification of patients receiving these medications is important for initiating appropriate treatment of irAEs. Patients may not be aware they have been treated with an Immune checkpoint inhibitor and non-oncology providers may not be familiar with the adverse effects of these medications. The purpose of this project was to improve admission documentation to identify patients with a history of immune checkpoint inhibitor therapy. Immune Checkpoint Inhibitors (ICIs) can cause immune related adverse events (irAEs) which affect multiple organ systems and may be delayed up to a year from the last dose. Rapid identification of irAEs with prompt initiation of appropriate treatment leads to better outcomes. Admission history documentation in the electronic medical record (EMR) was updated to include the option of selecting "immunotherapy" as the patient's cancer treatment along with the timeframe of last dose. Once selected, a pharmacy consult for immunotherapy review was generated which allowed an early assessment if admission was related to an irAE. An immunotherapy wallet card was

created to provide to patients receiving an immune checkpoint inhibitor at our institution. Education related to the identification and management of irAEs was provided to ED nursing staff, ED physicians, and clinical pharmacists. Adult patients presenting to the ED between February 2020 and October 2020 who received an immune checkpoint inhibitor within one year prior to admission were included in the analysis. An immunotherapy card was created and will be distributed to patients starting new therapy which will better inform providers. The primary outcome was the number of immune checkpoint inhibitor therapy consults generated after documentation changes. There were 208 consults generated from admission documentation during the evaluation period. Enhanced documentation allowed for increased identification of patients receiving immune checkpoint inhibitors and initiation of timely interventions via guideline-based recommendations. Interdisciplinary development of an electronic documentation tool that triggers automatic consults to pharmacy for patients with a history of immune checkpoint inhibitor therapy. As a result of this quality improvement, prompt initiation of appropriate treatments may now be provided to oncology patients.

COLORECTAL CANCER SCREENING: USING NEW TOOLS FOR NEW BARRIERS

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Screening, Early Detection, and Genetic Risk

Colorectal cancer screening remains a challenge across the country, especially in underserved and black communities. Our institution currently has a 69.4% rate of patients up to date with colorectal screening and has been met with the added challenges of a local hospital closing and the COVID-19 pandemic. Established colorectal screening programs must regularly reevaluate patient barriers to adapt interventions to meet the population's needs. Our institution has a well-established colonoscopy navigation program in which the Oncology Nurse Navigator (ONN) identifies patients via case-finding and direct referral. Additional partnerships were formed with community faith-based and civic organizations to encourage patients to undergo colorectal cancer screen-

ing. Patients are assessed for barriers and receive support with scheduling, education, prep coaching, free prep materials, and transportation assistance if needed. Along with known barriers compounded by the recent changes, program leaders identified increased delayed and canceled screenings. In response to the current challenges, a multidisciplinary team comprised of Primary Care, Gastroenterology and Oncology Services collaborated on a plan of action and secured funding for the expansion of the colorectal screening program. Before the pandemic, our primary focus had been navigating patients to colonoscopy only. We recently included Fecal Immunochemical Tests (FIT) as an additional screening tool and broadened the program's catchment area to include the zip codes previously covered by the closed hospital and additional zip codes of underserved black communities in the local area. The ONN connects with patients with outstanding colonoscopy orders greater than six months, triages the high-risk patients to colonoscopy and average-risk patients are offered FIT. Patients triaged to the average risk group are mailed a FIT at no cost; if positive, the ONN navigates the patient to colonoscopy. The ONN also covers GI oncology and is well-positioned to develop rapport and provide support to patients facing multiple barriers to care and should a cancer be identified, can continue to coordinate next steps in oncology care. The goal is to fully integrate FIT into the navigation program by December 2020 and to reach more patients for screening this year. Program assessment and evaluation are ongoing. ONNs are crucial in developing strategies to ensure patients receive care and support to meet their health goals equitably and safely.

HOW A SPECIALIZED ONCOLOGY RESEARCH UNIT IMPROVES PATIENT AND STAFF SATISFACTION

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Oncology Nursing Practice

In 2016 the Clinical Research Unit (CRU) had extremely low patient satisfaction scores. Our "likelihood to recommend" was no higher than 30%. The unit also had unengaged staff due to the numerous challenges related to clinical research protocols. The extra requirements created long visits and due to limited space, we had long patient wait times. The patient complaints put extra pressure and stress on staff. Due to our increasing volume, we were gifted a donation to remodel another unit on our campus and with that unit came the strategic initiative to improve

our patient satisfaction scores, specifically the “likelihood to recommend.” Our new remodeled space didn’t open until November of 2018 (FY19), but our volume continued to increase. It wasn’t unusually for a patient to wait 2-4 hours. To ensure we improved the satisfaction scores, we also had to ensure we changed the current environment of the unit, so we didn’t just move the same challenges and issues into a new unit. While the new structure was being remodeled, we defined the unit’s purpose to build engagement in the unit. The CRU purpose was to support clinical research and meet the needs of patients enrolled on a clinical trial. As we lost nurses from dissatisfaction, we changed our hiring expectations to meet the needs of the units and openly shared the challenges and need for flexible staff. We implemented new training to engage the nurses in research. In order to really make the new unit work, we had to address our patient and staff dissatisfaction. We wanted patients in decisions (a modified patient centric model): Infusion chair choices, bed choices, and food options. To create a more relaxing atmosphere due to the many long treatments (up to 12 hours). We added: aroma therapy delivered by our trained nurses; a volunteer group that provide hand massages, and facials; and a volunteer that provided Reiki. We advocated for research schedulers to report into our structure to allow for engagement and directed training. Creating a unit with the patient and staff needs in mind helped us to increase both patient and staff engagement. We met our initiative of improving “likelihood to recommend,” and increased our final FY19 4th quarter percentage to 99%.

OUTPATIENT ONCOLOGY FALLS PREVENTION QUALITY IMPROVEMENT INITIATIVE

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Patient Education and Safety

Falls are known to be one of the most common preventable adverse events. A high incidence of falls was reported on patients with cancer. With the rising incidence of cancer in older adults who may be at greater risk for falls, attention to falls will be essential to meet the clinical needs of this growing population. The inpatient oncology fall prevention protocols are widely described in the literature. However, there is a lack of information about outpatient oncology fall prevention strategies. The outpatient treatment center consists of 10 disease-specific clinics and infusion treatment centers with high patient volume and ac-

ity. To date, nine patient falls were reported in various areas treatment center areas, raising concerns about fall prevention protocol. This paper describes the outpatient oncology falls prevention committee’s establishment and plan to eliminate the number of falls in 6 months in an outpatient oncology treatment center. Interventions: (a) Identified interdisciplinary falls prevention champions from various areas of the treatment center, (b) established a charter and committee meetings, (c) set up education sessions for staff, (d) established routine identification of high fall risk areas early in the day, (e) established routine identification of patients for high risk for falls, (f) fall prevention champions educated staff on fall prevention interventions, and (g) created the Fall Assessment Note for office practices in Electronic Medical Records (EMR). The treatment center had nine falls from January to June 2020. The intervention started in September 2020, and data will be collected until April 2021 for post-intervention evaluation. The staff/patient education and standardized outpatient fall prevention protocol are vital in reducing falls. Interdisciplinary collaboration and fall prevention awareness are essential in eliminating the falls. Creating the outpatient fall prevention committee and involving champions from various areas of the treatment center helps prevention of patients from falling.

IMPLEMENTING AN INTERDISCIPLINARY HUDDLE TO REDUCE DEVIATIONS OCCURRING ON CYCLE ONE DAY ONE FOR NEW PHASE I STUDIES

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Oncology Nursing Practice

Cycle one day one visits for phase I oncology clinical trials are consistently the most demanding visits of very complex studies with intense requirements including frequent vital signs, pharmacokinetic (PK), and pharmacodynamics (PD) blood draws, electrocardiograms (ECG), extensive lab requirements, and very detailed drug administration guidelines. Protocol deviations occur if any of these items are not complet-

ed within the protocol parameters. Minimizing protocol deviations is critical to ensure the accuracy of data collection and patient safety. A pre-cycle one day one interdisciplinary huddle consisting of infusion nurses, research nurses/coordinators, and in some circumstances, an investigational drug pharmacist was instituted. The goal was to utilize the phase I nursing team's expertise to proactively reduce deviations that can occur when enrolling the first patient on a new phase I study. The 30-minute huddle, conducted in the Phase I unit, occurred within a week of the first patient starting on a phase I study. At the huddle, the Phase I nursing team reviewed the protocol requirements, including research specimen collection, ECGs, and vital sign time points, ensuring the accuracy and clarity of the investigational drug orders and nursing documents. The investigational drug administration parameters were reviewed by nursing staff, and adequate on-site drug supply was confirmed. A total of 42 instances of the first patient starting on a newly opened phase I study in the Phase I unit were reviewed, 21 instances before huddle implementation, and 21 visits after huddle implementation. These huddles resulted in a 24% reduction in deviations associated with cycle one day one of the new studies. The most considerable reduction in deviations that was noted was in the area of missed or out of window specimen collection with a 50% reduction. This reduction could be attributed to the expertise of the highly trained and experienced Phase I nursing staff reviewing key study documents prior to patient enrollment on trial. The phase I nurses are required to meet specialized practice standards, including certification in oncology nursing and phase I clinical trials orientation reviewing clinical trial design, protocol overview, and pharmacokinetics principles. The phase I nursing input in the pre-enrollment huddles has contributed to a reduction in protocol deviations, increased data accuracy, and increased patient safety.

INTERDISCIPLINARY UNIT-BASED CLABSI PREVENTION TEAM TO REDUCE NON-MBI CLABSIS

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Patient Education and Safety

On a 36-bed leukemia unit, newly diagnosed leukemia patients have an average length of stay of 28 days while receiving an induction cycle of chemotherapy. During this admission, the patients' immune

systems become severely compromised. Visitors are prohibited and nursing staff utilize personal protective equipment when caring for the patients. Patients are to remain in their rooms until their neutrophil counts recover. The increased length of stay along with increased central line days puts the patient at risk for a non-mucosal barrier injury (non-MBI) central line-associated bloodstream infection (CLABSI). In addition, the unit's CLABSI prevention initiatives such as daily hygiene and line care practices remained inconsistent. The purpose of this initiative was to create an interdisciplinary CLABSI Prevention Team facilitated by a Clinical Nurse Leader (CNL) and Lead Unit Champion. The aim of the initiative was to decrease the non-MBI CLABSI rate by 50% from September 2016 to September 2020. The unit's CLABSI prevention initiatives and barriers were assessed by the CNL in August 2017. Frontline staff were observed while performing line cares and their knowledge was evaluated through root cause analysis discussions. Product availability and use were also investigated. A unit-based CLABSI Prevention Team, comprised of the CNL, an Infection Preventionist, a Lead Unit Champion and CLABSI Champions (clinical nurses and ancillary staff), implemented a team collaborative initiative that focused on evidenced-based CLABSI bundle interventions. These interventions followed the Iowa Model's "Implementation Strategies for Evidence-Based Practice." These strategies were utilized and evaluated by the team for success and sustainability. In 2016, there were a total of 14 non-MBI CLABSIs with a rate of 1.35 per 1,000 central line days. After 36 months of implementation, the initiative reduced the number of non-MBI CLABSIs to 1 with a rate of 0.10 per 1,000 central line days. This is a reduction of 92.6%. The average cost of one CLABSI is approximately \$60,000. This unit's initiatives had an estimated cost savings of \$780,000. Collaborative efforts of a unit-based CLABSI Prevention Team has shown to influence nursing practice and patient outcomes. The project increased staff engagement, teamwork, and patient safety while reducing healthcare costs. This strategy may be used in many different quality improvement initiatives.

GREEN, YELLOW, AND RED QUALITY PRIORITY BOARD USE ON INPATIENT HEMATOLOGY UNITS

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Oncology Nursing Practice

Inpatient hematology units are inherently complex and may be at risk for working in silos, which may impact communication, clinical practice, and lead to clinical practice drift. Clinical practice drift may lead to high healthcare costs for hospitals, decreased patient and staff satisfaction, and impact patient safety. In addition, frontline staff may experience data fatigue which may result in complacency and drift. Displaying data in a simple and transparent manner may improve staff's ability to focus on opportunities for improving clinical practice and patient outcomes. The purpose of this project was to identify process measures (PM) that outline clinical practice associated with nurse sensitive indicators (NSI) and to create electronic observation tools for standardization of leadership observations. The aim of this project was to have a standardized method for observing clinical practice, reporting structure, and action planning across the inpatient hematology units. A workgroup that included frontline leukemia, stem cell and cellular therapy, lymphoma/myeloma leadership and the hematology nursing director was developed. The workgroup outlined PM to capture nursing practice as well as alignment to institutional policy and procedure. The PM were entered in Qualtrics to develop on-the-go observation tools. Unit leadership completed real-time observations of frontline staff performing nursing interventions associated with the NSIs. Unit leadership and the observed clinical nurse entered the observation data together which created a mutual environment for learning. Unit leaders reported observation data weekly and developed Green, Yellow, Red (GYR) priority boards. The findings and priority quality focus for the week were shared with frontline staff during daily huddles. The Plan-Do-Study-Act (PDSA) methodology was utilized with this project. PDSA cycles occurred weekly. The standardized observation tools reduced variability in leadership observations and enhanced communication. The GYR priority boards were well received and provided a nonpunitive approach to illustrate opportunities for improvement as well as a visual aide to frontline staff. The implementation of the leadership observation tools, reporting structure, and GYR priority boards demonstrated an improvement with unit leaderships

ability to standardize nursing practice across the hematology units. In addition, the GYR priority boards provided the frontline staff with a visual representation of the overall quality performance of their unit.

RESEARCH

ARE WE GETTING WHAT WE REALLY WANT? A SYSTEMATIC REVIEW OF CONCORDANCE BETWEEN PHYSICIAN ORDERS FOR LIFE-SUSTAINING TREATMENT (POLST) DOCUMENTATION AND SUBSEQUENT CARE DELIVERED AT END-OF-LIFE

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Aging

Physician Orders for Life-Sustaining Treatments (POLST) paradigm is an advance care planning tool that is designed to facilitate End-of-Life (EoL) care discussions between a medical provider and a terminally ill patient (e.g., persons living with terminal cancer). With an increased utilization of the POLST paradigm in various healthcare settings, including cancer centers, along with continued dissemination of the program across the nation, it is critical to examine whether documented wishes on POLST are concordant with subsequent care delivered at EoL. Systematic Review. Peer-reviewed articles were searched using PubMed, Embase, CINAHL and PsycInfo databases. The PRISMA guideline was followed. Of 1,406 articles identified, 10 articles met inclusion criteria. Together, included studies represent 5,688 POLST forms reviewed from individuals residing in a total of 126 nursing care facilities, 9 elderly care centers, 4 community settings, and 2 hospitals. Preference for cardiopulmonary resuscitation and actual delivery/withholding of resuscitation was the most observed intervention in study of concordance (n = 8). It is also where highest concordance rate (97.5%) was reported. Seven studies compared care provided during EoL and the level of medical intervention requested on POLST forms (91.17% concordance). Preference to use artificial nutrition/hydration, and actual delivery was 93%, and antibiotics use preference and delivery was 96.5%. Published literature evidence suggests that EoL care wishes documented on POLST forms were largely concordant with subsequent care delivered. Terminally ill, frail cancer patients are among the largest group of individuals utilizing POLST as advance care planning tool. Our findings inform a

communication-based, and well-structured advance care planning tool, POLST, can be highly effective in the delivery of goal-concordant care at EoL. This presentation will incorporate both visual learning, and hands-on learning of POLST forms. A sample POLST form will be distributed to the audience, and s/he will be able to learn about POLST, state of science, and what's known about POLST and its effectiveness. This presentation and contents are innovative, as this is the very first research study that reports concordance between POLST documentation and care delivered in both clinical and non-clinical care settings. In addition, it is geared towards not only for terminally ill cancer patients, but any individuals who are living with serious illnesses.

AN INTEGRATIVE REVIEW OF COLORECTAL CANCER SURVIVORS: DEVELOPMENT OF A CANCER SURVIVORSHIP MODEL

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Survivorship

Over the past 25-years, advancements in cancer treatment and care have increased cancer survival rates leading to a paradigm shift such that cancer is a chronic disease. Major attention has been directed towards increasing the number of cancer survivors and research focused on understanding survivorship and its complexities. However, there are no models that guide our understanding of cancer survivorship, the course of time from cancer diagnosis to end-of-life, and the salient factors that impact the survivors' health and quality of life. The paper's purpose is to introduce the Cancer Survivorship Model (CSM) and demonstrate its application to colorectal cancer (CRC) survivor population during cancer survivorship. A comprehensive search of the literature (published between 1985–2020) was conducted using the following databases: CINAHL, MEDLINE, PUBMED, and Google Scholar. Search terms included cancer, cancer survivor, and cancer survivorship, to identify concepts and salient factors that affect the survivor along their cancer survivorship continuum across multiple cancer diagnoses. CRC survivors' cancer survivorship experience reveals the individual process and confounding influences (e.g., physical, psychological, spiritual, and socioeconomic) that may affect their health and quality of life, as well as their family, friends', and caregivers' quality of life. The CSM depicts survivors' predisposing factors (e.g., family his-

tory, lifestyle behaviors, and socioeconomic status), cancer survivorship phases (e.g., acute, extended, and long-term), influencing factors of treatment and maintenance (e.g., medical and psychosocial care), well-being domains (e.g., physical, psychological, and social), defining characteristics (e.g., life-changing experience, uncertainty, prioritizing life, wellness management, and collateral damage), and social relationships (e.g., family, friends, and caregivers) that may affect their symptom burden, quality of life, and health outcomes. The CSM has the potential to inform clinical practice and research to promote survivors' health and quality of life by overcoming negative cancer consequences (e.g., unmanaged symptoms, financial toxicity, and social isolation). CRC survivors' cancer survivorship and quality of life affect the longevity of health maintenance and survival rates, which depends on a multitude of salient factors (e.g., predisposing factors, cancer survivorship phases, influencing factors, and symptom burden). The CSM has the potential to guide the understanding of cancer survivorship, generate new clinical practice and knowledge about survivors' lived experiences, symptom burden, and influencing factors to promote an improved quality of life and health outcome.

LITERATURE REVIEW OF ADOLESCENT AND YOUNG ADULT (AYA) CANCER SURVIVOR TREATMENT RELATED CARDIOVASCULAR COMPLICATIONS

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Survivorship

There are currently over 678,420 adolescents and young adult (AYA) cancer survivors (ages 15–39) with almost 90,000 new cancers diagnosed in this population this year. Cancer survivors are living longer, increasing the risk for late and long-term effects of their treatments including acute and chronic cardiovascular complications. This includes left ventricular dysfunction, cardiomyopathy, heart failure, myocardial infarction, pericardial disease, valvular disease, vascular disease, and stroke. Cardiovascular disease (CVD) development is the second most common negative co-morbidity for this population only behind secondary malignancies. The purpose of this literature review is to describe AYA cancer survivor treatment-related cardiovascular complications. This literature review was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. PubMed was

searched for studies conducted in English from January 1, 2010 to March 31, 2020 that focused on the AYA cancer survivor population experiencing cardiovascular complications from cancer treatments. Eighty-five articles were identified; all were screened by title and abstract with 41 articles fully reviewed; five articles met the inclusion criteria. All five articles were retrospective cohort studies using publicly available data sets for analysis. Sample sizes ranged from 134-235,641 participants in the AYA cancer survivor population. Each article found an association between cancer treatment and latent cardiovascular effects in survivors. Depending on type of cancer, type of cancer treatment, and time since treatment, there was more than 2-fold increased risk for developing cardiovascular disease (CVD). That rate increased to 11-fold if there were existing cardiovascular risk factors (CVRF). In addition, one article reported the standardized mortality ratio (SMR) for CVD was 1.55 compared to the matched control group, and these associations can be present for more than 20 year after the completion of treatment. Several articles indicated a linkage with increased risk for CVD and gender, race and socioeconomic class post cancer treatment. There is a clear relationship between cancer treatment and an increased risk of cardiovascular complications in AYA survivors. Findings suggest that additional research is required to determine the best surveillance methods for ensuring AYA cancer survivors are properly screened for CVD. In addition, research on how to mitigate this increased risk through modifiable factors such as promotion and implementation of healthy behaviors are needed.

CORRELATES AND IMPACTS OF COGNITIVE FUNCTION IN ADULTS WITH ACUTE MYELOID LEUKEMIA: A SYSTEMATIC REVIEW

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Survivorship

Chemotherapy is an essential treatment for patients with acute myeloid leukemia (AML). Due to the advancement of treatments, patients with AML are living longer. However, multiple factors, including socio-demographic, genetic, biological, and even can-

cer treatments themselves, may be associated with cancer-related cognitive impairment (CRCI). CRCI may hinder survivors' social connections, work performance, and quality of life (QOL). Unfortunately, we have limited understanding of CRCI among patients with AML. This review synthesizes literature on CRCI, including its correlates and impacts in adults with AML. Following Preferred Reporting Items for Systematic Reviews and Meta-Analyses, PubMed, CINAHL, Embase, PsycINFO, and Google Scholar were searched. Studies were included if they 1) were full-text published in English 2) used quantitative and/or qualitative methods 3) included participants aged ≥ 18 years and 4) reported cognitive function results in a sample of adults with AML or a mixed sample of adults with AML or myelodysplastic syndromes who were treated with chemotherapy. The articles were screened by two reviewers and data were extracted using an Excel template. The search yielded 922 studies. Twenty-three studies with fourteen longitudinal, three cohort, four cross-sectional, one randomized controlled trial, and one non-randomized trial were included. The majority of studies reported mean or median scores of cognitive function at each time-point. Seven longitudinal studies examined change of cognitive function over time and found no significant findings. Correlates of CRCI were tested across studies; however, only education and emotional distress reported significant correlations. Additionally, two studies observed a negative impact of cognitive function on physical performance. Four studies tested the effect of cognitive function on mortality with one reporting significant negative impact while three did not. This is the first review to comprehensively explore cognitive function in adults with AML. In practice, negative impacts of cognitive function on health outcomes highlight the necessity of assessing cognitive function and implementing early intervention in this patient population. In research, although mixed results were identified across studies, this review provides critical knowledge about CRCI in adults with AML and identifies research gaps on assessment tools and older patient populations. Future research using cognitive function-specific measures to assess CRCI, test correlates, and understand the impacts of CRCI in older adults with AML is needed.

PLAYING IT SAFE: ALTERNATE STAFFING/SCHEDULING AND WORKFLOWS IN A RURAL ONCOLOGY PRACTICE

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COVID-19

Recruiting experienced, qualified, trained/certified nurses into rural areas is complex necessitating increased lead time for hiring/on-boarding. Protecting current, specialized staff was imperative during the COVID-19 pandemic related to limited resources. The Oncology Service Line included 28-chair oncology and 10-chair hospital infusion suites, and a vascular access department (VAD) supporting two hospitals, one being critical access. Creating staffing plans/workflows to protect patients, caregivers, and oncology nurses was necessary to continue administering treatments; ill/quarantined staff would result in inadequate staffing. Nearest oncology centers faced similar challenges and were two-five hours away. The purpose of developing alternate staffing/scheduling, and screening workflows was to protect a vulnerable oncology population, caregivers, and specialized nursing teams to continue cancer treatments. Alternate staffing plans/workflows, schedules, and oncology COVID-19 screening algorithms were created. All specialty nurses were split into A and B balanced skill-mix teams and placed on rotational schedules. Team A started with 14-days working followed by a 14-day quarantine rotation. Team B started with 14-days quarantine followed by a 14-day working period. Creating two teams in each clinical area ensured half the staff would be protected from potential exposure/cross-contamination preventing closure of the department. Patient schedules were consolidated and non-essential treatments were initially delayed. COVID-19 screening algorithms were modified to identify cancer/treatment symptomatology and allow patients' facility access for treatment. Departments were able to initiate and sustain infusion treatments. Non-essential therapies, initially delayed, were resumed. The VAD was team able to support in/outpatient areas for both hospitals. A/B Teams remained throughout the three month alternate scheduling period and no staff members became ill with COVID-19. Learning opportunities were abundant in applying safe staffing/scheduling models, engaging oncology providers, nurses, and scheduling teams in rapid change management, while constantly reviewing evolving COVID-19 literature for the oncology population. Collaborative relationships developed between independent, multidisciplinary oncology teams that previously functioned in silos. All, including patients and caregivers, were educated and empowered to assist in risk reduction of COVID-19 which contributed to the success. Rural oncology cen-

ters should consider elements of these interventions when creating safe staffing plans when facing a pandemic or critical staffing shortages.

IMPACT OF COVID-19: RESILIENCY OF ONCOLOGY HEALTHCARE PROFESSIONALS

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COVID-19

The purpose of this study was to explore the perceived impact of the COVID-19 on Oncology Health Care Professionals actively working during the pandemic. The COVID-19 pandemic was both unpredictable and unprecedented. The resiliency of oncology healthcare professionals was challenged with the subsequent difficulties and frequent changes affecting them personally and professionally. A mixed methods study designed was used and included a 21-item quantitative survey and an in-depth semi-structured qualitative interview. Purposeful sampling techniques were utilized for recruitment for oncology healthcare professionals actively practicing during the pandemic. Descriptive statistics were used to analyze quantitative survey data using SPSS. Qualitative data were coded by independently by four team members and then discussed until a consensus was reached. Data was then entered into Atlas.ti. Thirty participants completed the full interview. The mean age was 40.69 (SD=13.53) and most participants were female (n=25; 83.3%), White (n=24; 80%), not Hispanic/Latino (n=25; 83.3%); nurses (n=21; 70%), Bachelor's prepared (n=20; 66.7%), and worked in the outpatient setting (n=17; 56.7%). Forty percent of the participants stated they experienced a shortage of personal protective equipment during the pandemic and 33% considered themselves high risk for contracting COVID-19. Common themes included the disruption of on personal life COVID-19 (e.g., COVID-19 infection, safeguarding high-risk family members, juggling work with homeschooling children, anxiety, and postponing vacations and time with family and friends) and the resiliency of overcoming changes of the oncology professionals' employment position due to COVID-19 (e.g., working less hours, force paid time off, being pulled to other clinics or hospital units, and adjustments to frequent changes in protocols). Despite the personal and professional challenges, oncology healthcare professionals displayed resiliency and adapted to the fluidity of

COVID-19. This largely included the adaptation of safe practices for their home environments and for patient care at work. Understanding the impact of COVID-19 on oncology healthcare professionals can guide both employees and employers in mitigating the influence of future pandemics.

THE THEORY OF CHRONIC STRESS RESPONSES AND POSITIVE EMOTIONS IN CAREGIVERS OF ADULTS WITH ADVANCED CANCER

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Palliative and Psychosocial Oncology Care

Caregivers of patients with advanced cancer are at higher risk for stress related symptoms (anxiety, depression, fatigue) and illness (cardiac disease) compared to non-caregivers. Recently, positive emotions and their beneficial effects for caregivers have been described. However, the current literature lacks a theory that encompasses the processes through which positive emotions can protect caregivers' health in the context of chronic stress. We utilized rigorous theory synthesis methods that combine best practices in systematic review and Avant and Walker's three steps to theory synthesis (step 1, specify and define focal concepts that comprise each of the theories for synthesis; step 2, identify related focal concepts and the linkages between these concepts; and step 3, construct an integrated representation of the synthesized theory) to combine with the Broaden-and-Build Theory of Positive Emotions and the Psychoneuroimmunology (PNI)-based paradigm. We identified and defined 5 focal concepts from the PNI-based paradigm (person co-factors, psychological responses to stress, neuro-biological responses to stress, immune-biological responses to stress, and health) and 5 focal concepts from the Broaden-and-Build Theory of Positive Emotion (positive emotions, broadening, building, health, and upward spiral). In step 2, we determined similar concepts between the two theories, identified 876 unique articles from the systematic review process. Of these unique articles, 36 were included in the final concept relationship evaluation. In step 3, we created a model of the new theory and revised it through expert review. The Theory of Chronic Stress Responses

and Positive Emotions in Caregivers of Adults with Advanced Cancer is comprised of six focal concepts: caregiving context, day-to-day caregiving-related demands, psychosocial processes, biological processes, health, and upward spiral (i.e. how positive emotions and broaden and building functions of those positive emotions lead to more experiences of positive emotions). The synthesized theory provides guidance for testable relationships in research and intervention development for preventing and reducing stress in caregivers of adults with advanced cancer. This work is the first to present a rigorously conducted theory synthesis for the study of caregivers of advanced cancer patients.

TREATMENTS FOR CANCER GIVEN ORALLY: PATIENTS' PERCEPTION OF DISTRESS DUE TO FINANCIAL TOXICITY

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Implementation/Improvement/Team Science

For adult participants who have received or are receiving treatment for hematologic and solid tumor malignancies given orally, this study describes the relationship between participants' experience of financial toxicity (FT), the participants' perception of distress associated with FT, and participants' self-identified adherence to prescribed treatments in the context of FT. FT has emerged as an additional source of distress for cancer patients. The costs of treatments given orally can be prohibitively expensive for patients. Therefore, these patients may experience considerable distress and may not adhere to treatments as prescribed. Descriptive cross-sectional correlational design study of a sample of adult cancer patients treated with therapy given orally. Study data was analyzed using descriptive and bivariate correlation statistics. Data from 136 participants included participant perceptions of FT, distress and adherence at seven days and six months post start of treatment. At both timepoints, patients had moderate scores for FT, according to COST instrument data. At both timepoints for distress, 39-42% of patients had high distress scores related to FT. There was no correlation between FT and distress. Responding to specific COST instrument questions, 80% of participants responded that they feel they have no choice about the cost of care. At seven days post start of treatment, 67.1% of patients reported that OOP expenses were higher than anticipated. At six months post start of treatment 59.4% of patients reported that OOP expenses were higher than anticipated. Most correla-

tions among variables were weak with the exception of a strong correlation between help from pharmaceutical companies/foundations and percentage of financial help from those funding sources ($r = .869$, $p = <.001$). Based on data from this sample, FT was not established as a predictor of distress or adherence to treatment. Despite this sample data showing minimal statistically significant correlations, FT has clinical significance. Nurses can mitigate the impact of FT on patients and caregivers by including FT assessment as a component of clinical assessment, referring patients to healthcare FT experts and resources and providing patients and families with support to alleviate FT as a patient stress.

A LITERATURE REVIEW OF HEALTH BEHAVIORS IN ADOLESCENT AND YOUNG ADULT (AYA) CANCER SURVIVORS: ADHERENCE AND BARRIERS

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Survivorship

There are currently over 678,420 adolescents and young adult (AYA) cancer survivors (ages 15–39) with almost 90,000 new cancers diagnosed in this population this year. It is recommended that cancer survivors, as well as the general public, adhere to recommended health behaviors lead a healthy life. The recommended positive health behaviors include being physically active, eating a healthy diet with 5 servings of fruits and vegetables, limiting alcohol consumption, having a healthy body mass index (BMI), not smoking and other risky behaviors. The purpose of this literature review is to describe the health behaviors of AYA cancer survivors and identify barriers to adherence. This literature review was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. PubMed was searched for studies conducted in English from January 1, 2010 to February 1, 2020 that focused on the AYA cancer survivor adoption, maintenance, and barriers of health behaviors. Ninety-nine articles were identified; all were screened by title and abstract with 36 articles fully reviewed; 10 articles met the inclusion criteria. These articles were varied in type: three qualitative, one mixed-methods, three cross-sectional, two retrospective cohort studies, and one randomized control trial. Sample sizes ranged from 25–7,619 participants. All 10 studies reported one or more health behaviors of AYA cancer survivors as

poorer than the general population, siblings, or aged match controls. More female AYA cancer survivors smoked compared to controls (27% to 14.3%), >50% of AYA cancer survivors were not meeting the physical activity recommendations, all had lower fruit and vegetable intake, and at least 15% were participating in risky behaviors. Limitation include self-reported survey answers, unknown causal effects on the lack of physical activity, poor diet, and other health behaviors. AYA cancer survivors are not adhering to all recommended health behaviors. Adopting and maintaining positive health behaviors has been shown to improve quality of life and allow for a decrease in some acute and chronic conditions. AYA cancer survivors need to be educated about health behaviors including understanding the negative impact cancer is having on their post treatment life, guidance on how to adopt the health behaviors, need for readily available age-appropriate life style information, identifying resources, and support for maintain adherence.

THE LIVED EXPERIENCE OF FINANCIAL TOXICITY OF A CANCER DIAGNOSIS AND TREATMENT FOR PATIENTS IN ITALY

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Symptom Science

Cancer-related financial toxicity (FT) is a matter of global attention in oncology. First described in the US related to out of pocket cost of cancer therapies, FT has recently been demonstrated also in Italy, in a universal health care setting, and is associated with poorer quality of life and survival outcomes. This study aims to describe the perceptions and experiences of FT in patients with cancer in Italy. This study is part of national project aimed at developing a patient reported outcome instrument for assessing for patients with cancer in Italy. setting is being described in countries with different health care. Semi-structured face-to-face interviews were conducted with consenting cancer in- and outpatients by nurses in three participating in 3 hospitals in south, central and north Italy. An interview guide was used and included open-ended questions and probes about medical and nonmedical costs incurred

as a result of cancer and the impact on the lives of patients and their families. Interviews were audio-recorded and later transcribed verbatim. Three researchers independently coded the transcript text and abstracted categories, then met and discussed codes and categories and generated common themes. 27 pts were interviewed from September 2018–March 2019 with different socio-demographic characteristics in terms of gender, age, cancer type, economic status and geographical distance from the hospital. Out of pocket costs were related to private medical visits/nursing care, diagnostic tests, drugs/preparations/creams needed to treatment toxicities, medical supplies, transportation, personal assistance. Patient or caregiver loss of income contributed to economic hardship. Keeping a balance between cost and time, how financial toxicity enters a household and remains, and the new normal of constant negotiation between needs and resources were ways patients described living with FT. Italian patients with cancer experience of FT is that it is pervasive and requires continuous negotiation for its management. Priorities for nursing studies are to assess and describe FT from diagnosis onward, identifying what patients are at risk, understanding the impact of FT on decision making, applying knowledge of symptom science to FT, applying knowledge and theory of self-care, caregiver burden and care dependency to the exploration of FT.

THE SUSTAINED EFFECT OF MINDFULNESS-BASED STRESS REDUCTION ON PSYCHOLOGICAL DISTRESS AMONG CANCER PATIENTS AND SURVIVORS: A LITERATURE REVIEW

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[Symptom Science](#)

Cancer patients and survivors often suffer from psychological distress. As a consequence, the use of Mindfulness-Based Stress Reduction (MBSR) interventions to improve their psychological status has increased over the past years. The objective of this review is to examine whether there is data available to conclude a sustained effect of MBSR on psychological problems among cancer patients and survivors. Electronic Databases were searched, including CINAHL, PubMed, and PsycInfo. Eleven randomized control trials designed to examine the effect of the 8-week MBSR program on the stress, anxiety, depression, and psychological distress in cancer patients and survivors were included. Of the reviewed studies, seven

studies were limited to women with breast cancer; Although the studies demonstrated positive immediate psychological outcomes related to reducing stress, anxiety, depression, and psychological distress, the studies revealed that there were mixed results regarding the duration of effect of MBSR. There was an over-representation of female and breast cancer patients in the reviewed studies, and a variety of measures were used to quantify outcomes. Findings from this review suggest that MBSR may lessen psychological symptoms, including stress and psychological distress, among cancer patients in the short term. The effect of MBSR on anxiety and depression is mixed with some finding symptom improvement and not change in others. The greatest improvement in psychological problems occurred immediately after the 8-week program, indicating that MBSR might be used effectively to reduce cancer's psychological burden in the short term. However, the sustained effect varied, and additional research is warranted to examine the long-term effect of MBSR. Also, the lack of studies that include patients with types of cancer other than breast cancer supports the need to examine the sustained effect of the 8-week MBSR program in a heterogeneous cancer population.

WORK-RELATED STRESSORS IMPACTING END OF LIFE CARE IN HOSPICE: A FOCUS GROUP STUDY

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[Palliative and Psychosocial Oncology Care](#)

The demand for hospice services for patients requiring professional supportive care at end of life (EOL) for chronic life-limiting conditions such as cancer has grown substantively in the current healthcare environment. Caring for hospice patients is recognized to be worthwhile but also demanding for those committed to caring for patients facing death and their family members. Optimizing EOL care relies upon seamless coordination of an engaged interdisciplinary team to ensure that patients facing death and their families do so with dignity, support, and comfort. Despite the role of the interdisciplinary team and need for inter-professional engagement, few studies have engaged a team methodology to elicit hospice workers perspectives of their work environment. Thus,

the purpose and associated innovation of the current study was to elicit interdisciplinary team members' perceptions in a diverse group format relative to the positive and challenging aspects of hospice work, experiences with burnout and stress management, and discussion of strategies to support hospice caregivers. Using Krueger and Casey's Focus group framework to guide the study, six focus groups and one semi-structured interview were conducted with mixed groups of nurses(n=5), social workers(n=3), managers(n=3), aides(n=2), chaplains(n=2), support staff(n=3), and one physician(N=19) from urban and rural settings with varying years of experience. Findings depicted rewards but also stressors associated with hospice caregiving. Benefits included intrinsic satisfaction from making meaningful differences in the lives of patients at EOL and their families, receiving positive feedback, and teamwork. Stressors reflected issues with workload, technology issues, administrative demands, travel-related problems, communication and care interruptions, difficulties with taking time off from work maintaining work-life balance, and coping with witnessing grief/loss. Workload and administrative demands were associated with perceived stress, rather than being engaged with patients/family facing death and dying. Participants reported episodic short-lived burnout, and taking actions to alleviate these perceptions. Effective high quality hospice care is reliant upon engaged interdisciplinary teams who synchronize delivery of a variety of services to ensure that patients' last days are spent in dignity with attendance to cultural needs and freedom from suffering. At an organizational level, a multipronged approach that includes both personal and occupational strategies is needed to support hospice professionals across disciplines and for mitigating perceived stressors associated with this essential work.

A CLOSER LOOK: ASSESSING THE CONTENT OF BREAST CANCER SURVIVORSHIP PRINT MATERIALS FOR YOUNG WOMEN

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Survivorship

Young women (18 – 45 years of age) breast cancer survivors (YWBCS) face unique challenges when establishing a sense of normalcy post treatment. Managing the physical and emotional side effects of treatment can be challenging for women in the midst of raising young children or planning families, pursuing education and career goals, and seeking financial stability. Because the frequency of oncology visits significantly declines post-treatment, the YWBCS may rely upon print materials to improve their sense of well-being and quality of life. However, most survivorship print materials target women much further along the lifespan continuum (mean age 61), and lack information specific to the needs of the YWBCS. The purpose of this study was to assess the educational content specific to YWBCS within commonly distributed breast cancer survivorship print materials. We used stratified random sampling to survey seven outpatient clinics for breast cancer survivorship materials during an environmental scan. We included print materials pertaining to breast cancer survivorship, breast cancer genetic testing, and materials routinely distributed to patients. Brochures, drug advertisements, surgery-related information, palliative care, and general cancer materials were excluded. Qualitative content analysis following the four domains (physical, psychological, social, and spiritual well-being) of health-related quality of life framework was used to assess the content specific to YWBCS. The environmental scan yielded 56 survivorship materials; seven met inclusion and exclusion criteria. The most frequently covered topics included maintaining weight and routine screenings (physical domain), anticipatory anxiety and emotional sequelae (psychological), and interpersonal relationships (social). Content areas with the least amount of information included financial stress/planning (social domain), body image (psychological), and spirituality (spiritual). The environmental scan revealed a lack of content addressing YWBCS needs pertaining to financial stress/planning, body image, and spirituality. While these issues are not necessarily unique to YWBCS, currently available material does not thoroughly address such concerns. Oncology nurses will need to supplement material with providing extra resources – through using online, video, or smartphone apps. Additionally, nurses and oncology team members need to continually reassess specific needs throughout survivorship especially as

appointments become less frequent. Meeting and responding to the needs for YWBCS is an evolving and continuing process.

INCIDENCE AND DYNAMICS OF ANXIETY AND DEPRESSION IN PATIENTS WITH LOCALIZED PROSTATE CANCER: LITERATURE META-ANALYSIS

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Palliative and Psychosocial Oncology Care

The psychological health of newly diagnosed prostate cancer patients remains inadequately understood. The D'Amico risk classification offers patients risk-based active surveillance/watchful waiting (AS/WW) or active treatment (AT) with radical prostatectomy or radiation therapy. The diagnosis as well as the symptom burden of disease and treatment side-effects may place psychological pressures on the patient. Anxiety and depression commonly manifest and with time could lead to decisional regret. The present analysis estimated the incidence of anxiety and depression in patients undergoing AS/WW versus AT. We also examined their status changes with time based on the disease management choice. A systematic PubMed literature search for study-reports between 2000-2020 rendered 182 results that were further refined to select 13 reports for the final analysis using the following eligibility criteria: (1) validated anxiety and depression measurements, (2) availability of incidence data or the anxiety and/or depression scores at baseline and after follow up. The incidence frequencies were compiled and the % change in status over time was computed based on scores for anxiety and depression reported at baseline and follow up. Mann-Whitney test for difference in medians between study groups and Pearson's correlation test were used to determine statistical significance of observations at $p \leq 0.05$. Psychological assessment tools varied across studies. The median first follow-up time for change in anxiety and depression status in these studies was 12mo. The median incidence of anxiety and depression was comparable between AS/WW versus AT groups (anxiety 16% in both; depression 9.9% vs 15% respectively). When we looked for the magnitude of change with a median follow-up time of 12mo since baseline, the median change in anxiety showed a higher degree of improvement (12.5% in AS/WW and 16% in AT), than in depression (1.9% in AS/WW and 4.2% in AT). A greater reduction observed in anxiety

(16%) as compared to depression (4.2%) in the AT group, reached a statistical significance ($p=0.0373$). Our findings demonstrate the incidence of anxiety and depression regardless of the study group, AS/WW or AT, which if unaddressed, may persist over time. A timely psychosocial or psychoeducational intervention may reduce the symptom burden and prevent decisional regret. Given the close involvement of nurses in patient care and through survivorship of prostate cancer, a nurse-led intervention would be optimal.

IMPLEMENTATION AND ONCOLOGY NURSING IMPLICATIONS OF NO-COST, UNIVERSAL NEXT GENERATION SEQUENCING FOR PATIENTS WITH ADVANCED SOLID TUMORS AND LYMPHOMAS: THE OCHSNER EXPERIENCE

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Implementation/Improvement/Team Science

Next generation sequencing (NGS) simultaneously tests hundreds of gene mutations in a single, small tumor specimen. NGS is invaluable in identifying somatic driver mutations with therapeutic importance helping to individualize personal treatment plans. Additionally, NGS stratifies patients into clinical trials, driving drug development. One challenge of NGS is access, as testing is expensive and often not covered by insurance. In collaboration with Strata Oncology, Ochsner Health offers patients with advanced cancers free genetic tumor profiling through an observational trial using a customized NGS panel (retail \$4,800). Here we compile the results of this trial and explore NGS testing as it relates to oncology nursing. Data from patients enrolled in the Strata Trial from November 2017 to December 2019 at Ochsner Health were collected retrospectively. Nurse practitioners and nurses helped identify and enroll potential patients. All adult patients with locally advanced or metastatic solid tumors/lymphomas or any stage pancreatic cancer, glioblastoma, or rare tumors were eligible. FFPE blocks or unstained slides were sent for StrataNGS using a 429-gene assay to detect mutations, microsatellite instability, tumor mutational burden, and PD-L1. During this time, 1,306 patients underwent StrataNGS with 1,185 reports issued. 80 (6%) specimens were rejected and 36 (3%) had insufficient tissue. Of the evaluable specimens, 520 (44%) had actionable alterations or variants of interest. Due

to StrataNGS testing at Ochsner Health, 78 (7%) patients have been matched to clinical trials and 3 enrolled to Strata Oncology trials. Turnaround time averaged 10 days. The rate of NGS testing at Ochsner Health substantially increased with an average of 20% of cancer patients qualifying. Through StrataNGS, advanced cancer patients at Ochsner Health have received personalized medicine based on individual genomic sequencing, saving them thousands of dollars and with faster turnaround than commercial NGS. This allowed for more precise, targeted therapies with higher efficacy, clinical trial matching, and lower risks of side effects. With precision medicine rapidly expanding, oncology nurses must be well versed in the concepts and implications of NGS to individualize treatments and provide patient education.

ASSESSMENT OF THE LEVEL OF SPIRITUALITY AND HOPE OF CANCER PATIENTS

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Palliative and Psychosocial Oncology Care

In becoming ill with cancer, the spiritual dimension allows patients to develop hope, a meaning for the disease and a purpose and meaning for life, which favors personal maturation, integrity and coping with the situation experienced. The way the patient faces the illness and its repercussions can be influenced by spirituality, in addition to serving to assign meanings to the illness and the complications experienced in the treatment trajectory. The objectives were to assess the level of spirituality and hope of cancer patients undergoing treatment at a general hospital in Macaé and to evaluate the relationship between them. A clinical study was carried out on the profile of hope and spirituality of cancer patients in the hospital that performs public oncological treatment in the city of Macaé, Rio de Janeiro - Brazil, between August and November 2019. The Hope Scale of Herth and the Pinto e Pais-Ribeiro Spirituality Scale that were filled out through individual interviews. The study was approved by the Research Ethics Committee of the Federal University of Rio de Janeiro. 65 patients with a mean age of 59 years \pm 12.39 participated, with different tumor topographies, with an average score of 16.98 of 20.0 (maximum value) for spirituality and 41.25 of 48.0 (maximum value) for hope. The variables showed a positive correlation between them ($r = 0, 324$). The present study contributes to the science of

health in the sense of reaffirming the importance of recognizing spiritual factors in the lives of patients with chronic illness, as in the case of cancer, aiming at comprehensive assistance, being understood as a coping strategy since it is known that cancer patients can present several comorbidities that negatively influence the response to treatment, such as depression. Hope does not heal, but it can encourage the patient to continue to fight for his improvement. This feeling influences the subjects' perception about their quality of life, as well as physical, psychological and social relationships, and can positively modify their view of the situation in which they find themselves.

ARE LYMPHEDEMA PRECAUTIONS AFTER BREAST SURGERY EVIDENCE-BASED?

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Survivorship

The objective of this project was to determine whether limb precautions (including avoiding blood pressure measurement and venipuncture in the ipsilateral arm) decrease the incidence of lymphedema in patients who undergo breast cancer removal surgery with axillary lymph node dissection (ALND) or sentinel lymph node biopsy (SLNB). More than 20% of women who undergo breast cancer surgery will develop lymphedema; the risk is greatest in the first two years after surgery. SLNB reduces risk (approximately 5% compared to 20-30% following ALND). In most institutions, limb restrictions are enforced for all patients after breast cancer surgery, regardless of procedure performed and timing. Adherence to these restrictions can result in delay of care, invasive procedures to establish access, increased risk of infection and VTE, increased healthcare spending, and increased inconvenience to patients. The purpose was to evaluate the scientific basis of limb precautions in

breast cancer patients at risk of developing lymphedema. A rapid critical appraisal practice was used to evaluate the evidence found through a search of the online databases PubMed, CINAHL, and Cochrane Library. 15 articles were rapidly appraised; 6 articles were critically appraised. 3 clinical practice guidelines were also included. There is no high quality evidence that blood pressure measurement or venipuncture in the ipsilateral arm increases risk of developing lymphedema after breast cancer removal surgery with ALND or SLNB. Evidence levels ranged from level IV to level VII. The evidence does not support broad limb precautions for all patients after breast cancer removal surgery with ALND or SLNB. Despite this, national guidelines and patient education materials from many comprehensive cancer centers recommend avoiding blood pressure measurement and venipuncture in the ipsilateral arm. One limitation is the lack of high-level evidence available. Further research is therefore needed before broad practice recommendations can be made. At our comprehensive cancer center, a work group has been formed to update the clinical practice guidelines. Findings from this group will be shared.

PARTICIPANTS, CHARACTERISTICS, AND EFFECTS IN PHYSICAL ACTIVITY INTERVENTIONS IN COLORECTAL CANCER SURVIVORS UNDERGOING TREATMENT: A SYSTEMATIC REVIEW

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[Healthcare Delivery](#)

As treatments improve for colorectal cancer, an increased need for behavioral interventions to improve quality of life and decrease long term effects are needed. Little is known about the most effective interventions to increase physical activity and what the benefits of such interventions are for colorectal cancer survivors during chemotherapy. The purpose of this project was to synthesize intervention characteristics and effects of physical activity interventions for colorectal cancer survivors receiving treatment. A systematic literature search was conducted following PRISMA guidelines. Two researchers independently

reviewed titles and abstracts, then full text to identify studies for inclusion. Data related to study characteristics and outcomes was extracted and evaluated across seventeen studies with a collective sample size of 1,184 to provide a synthesis of this body of literature. Studies included mostly college educated, married, White, 50–60-year-old men and women. Most studies included supervised physical activity of various modes, frequencies and intensities. Most studies have focused on feasibility of physical activity interventions during chemotherapy for colorectal cancer, concluding that they are well received by this population and have promising effects on several psychosocial and physiological outcomes. Particularly promising effects are noted on distress, anxiety, depression, fatigue, sleep, physical function, performance and fitness. Physical activity is feasible and beneficial during chemotherapy for colorectal cancer. Additional research to test fully powered physical activity interventions, conducted in diverse samples are needed. Most efforts to increase physical activity have focused on the post-treatment phase of cancer survivorship. These study findings inform how physical activity may be incorporated earlier in the cancer trajectory, to optimize patient outcomes both during and beyond treatment.

THE INCIDENCE OF CHEMOTHERAPY EXTRAVASATION IN THE INPATIENT AND AMBULATORY INFUSION AREAS OF A COMMUNITY CANCER CENTER

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[Symptom Science](#)

Morris and Holland (2000) recommended that the frequency of chemotherapy extravasations should be less than 1%. Jackson-Rose et al, (2017) reported an incidence for extravasation events among National Cancer Institute (NCI) designated cancer centers in the ambulatory setting as 0.09%. Although a national benchmark for extravasation has been established in the ambulatory settings of NCI-designated cancer centers, only 19% of cancer care is delivered in that setting (NCI, 2013). Moss-Ferrer, et al. (2019) reported an extravasation rate of 0.05% in the ambulatory and inpatient settings of a tertiary hospital in Spain. A benchmark for the incidence rate of extravasation in the ambulatory and inpatient settings of non-NCI designated cancer centers has not been established. This retrospective, observational study was conducted in order to establish a benchmark for the incidence of chemotherapy extravasation in both inpatient and

ambulatory areas at a non NCI-designated community cancer center. In addition the causative agents, severity and iatrogenic factors were identified. The number of intravenous antineoplastic agents including vesicants, irritants and irritants with vesicant potential dispensed by pharmacy to the inpatient and ambulatory settings over a calendar year was determined. The number of extravasations, the severity of the events and iatrogenic factors were obtained from electronic medical records and the event reporting system of the institution. A total of 18,256 intravenous antineoplastic agents were dispensed with 17,301 administered within the ambulatory area and 955 within the inpatient unit. The number of vesicants, irritants dispensed to the ambulatory setting was 12,872 and 612 to the inpatient unit. Twenty two extravasation events occurred with 21 in the ambulatory setting and 1 in the inpatient unit. The extravasation rates for both areas was 0.001%. The incidence is below the industry benchmark. Ninety percent of extravasations were determined to be level 2 severity (patients exhibited symptoms) with 18% having an antidote administered (Level 3). The most common agent to extravasate was docetaxel accounting for 64% of the events. Three patients had two events and one patient had 3. All of the extravasations occurred via the peripheral route. This study provides a benchmark for the rate of chemotherapy extravasations and identifies the iatrogenic factors associated with the events in the inpatient and ambulatory areas at a non-NCI designated community cancer center.

PROTECTING OUR ONCOLOGY PATIENTS (POOP): DECREASING HOSPITAL-ACQUIRED C. DIFF

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Annually 500,000 people are found to have *C. diff* in the US, and nearly 30,000 of these patients die within 30 days. The oncology population are especially susceptible to *C. diff* infections due to their exposure to antibiotics, serious underlying illness, immunocompromising condition, long lengths of stays in the healthcare setting, and advanced age. A potential source for bacterial transmission in the hospital setting are high-touch surfaces within the patient's environment. In 2018 and 2019 the Medical Hematology/Oncology unit at a Magnet-designated academic medical center had 13 and 10 annual nosocomial *C. diff* infections, respectively. The purpose of this project was to decrease the incidence of nosocomial Clostrid-

oides difficile (*C. diff*) by using a standard protocol to clean high-touch surfaces in the hospitalized patient's environment. From January 1, 2020 through June 30, 2020 five high-touch surfaces were cleaned by RNs or Nursing Assistants twice daily using antimicrobial wipes and included: bedside table, call bell, hospital or cell phone, side rails, and IV pump and pole. Staff provided education to patients and their families on hand hygiene and *C. diff* precautions. Staff self-reported cleaning compliance on tracking sheets. Incidence of nosocomial *C. diff* rates was evaluated. During the trial period there were two nosocomial *C. diff* infections, compared to four in 2019 during the same timeframe. Self-reported cleaning compliance averaged 20.2% (0%–66.67%). January had the greatest average cleaning compliance (36.5%), with steady decrease in compliance to 7.6%. Day shift reported more frequent cleaning of high-touch surfaces than night shift (25.9% vs. 14.5%). Cleaning high-touch surfaces in patient rooms may help decrease nosocomial *C. diff* infections. Limitations of the study include: low morale and high burnout on the unit at the start of the study; staff reported cleaning surfaces but forgetting to document on the tracking sheets; and the COVID-19 pandemic. Beginning in March, staff were more acutely aware of cleaning high-touch surfaces, but the unit patient population changed. Staff were floated to other units, non-oncology patients were admitted to the unit, and at times census was as low as 13.3% occupied. Physical and mental stress from working in a hospital during a pandemic likely negatively influenced self-reported cleaning compliance.

THE ROLE OF MICROBIOTA IN EPITHELIAL OVARIAN CANCER: A SCOPING REVIEW

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[Genetics/Genomics/Biosignatures](#)

Annually 23,000 women are diagnosed in the United States with ovarian cancer and 14,000 women die of the disease. Epithelial ovarian cancers (EOCs) are the most common type accounting for 90% of all cases. High grade serous ovarian carcinoma (HGSOc) is an aggressive epithelial subtype associated with late-stage diagnosis and low survival rates. HGSOc originates in the fallopian tubes as microscopic lesions undetectable with conventional screening. Through advances in DNA sequencing technology, microbiome research has become an emerging field for investigating contributions to diseases including cancer. Understanding potential microbiota influences in ovarian cancer can inform research and practice.

The purpose of this scoping review is to examine the comprehensive role of microbiota in epithelial ovarian carcinogenesis. A search of PubMed, Cumulative Index of Nursing and Allied Health Literature, and Embase databases was conducted using combinations of key terms. Prospective, retrospective, observational, and experimental human and animal studies were included that investigated the relationship between the microbiome consortium and ovarian cancer. Human study inclusion criteria were: (1) subjects ages 18 years and older; (2) EOC histologic subtypes confirmed by tissue biopsy, and (3) EOC tumors of any stage. Animal study inclusion criteria were those that used epithelial ovarian cancer mouse models. Critical appraisal tools were used to assess study quality. A total of 10 international studies (human n=8; animal n=2) were included with total samples sizes varying from 16 to 580. Mean/median ages of women with EOC were 50.5 to 66 years and controls were 47.3 to 56 years. Compared to the ovaries and fallopian tubes of women without disease, tissue collected from women with EOC were characterized by unique proportions of bacterial phyla Actinobacteria, Bacteroidetes, Chlamydiae, Firmicutes, and Proteobacteria. Intestinal depletions and reduced diversity of genera Lactobacillus and Bacteroides accelerated ovarian tumor growth in the animal studies. Cytomegalovirus and Human Papillomavirus types 6, 16, 18, and 45 had a significantly higher prevalence in women with EOC representing up to 70% of cases with the HGSOC subtype. Activation of inflammation-associated signaling pathways was observed in EOC cases. The EOC tumor microenvironment harbors distinctive microbiota. Specific microbial biosignatures may hold an important link between inflammation and early ovarian cancer onset. Microbiome research could provide novel approaches for advancement in ovarian cancer prevention and early detection.

PALLIATIVE CARE COMPETENCY: CROSS-SECTIONAL SURVEY

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It is important for registered nurses to be competent with palliative care regardless of the health-

care setting. With the rise in the numbers of deaths world-wide that is associated with the COVID-19 pandemic, the importance of establishing competent registered nurses with palliative care competencies is paramount not only for the nurses but for the patients and families that are receiving care. The significance of this survey was to familiarize nurses with the 17 palliative care competencies developed in 2016, measure a baseline of palliative care competencies, provide a priority ranking for educational content based on license type, and identify key demographic data for targeted educational programs. The purpose of this research was to assess the palliative and end-of-life competencies of licensed nurses in Texas to identify gaps in knowledge to ultimately develop future educational activities. The research design is a prospective, non-experimental, descriptive survey study using a convenient sample. Instruments include a demographic survey and a palliative care competency tool including 17 items modified from the American Association of Colleges of Nursing's CARES: Competencies And Recommendations for Educating Undergraduate Nursing Students document. Recruitment included an advertisement in the Texas Board of Nursing Bulletin for two quarters and eight nursing organizations. The survey period ended in late December 2019 before COVID-19 pandemic. The findings showed the majority of nurses who completed the survey are working full time, employed in staff nurse positions, over 85% have some education on palliative care, 50% have experienced a family members death, and over 85% identified the need for more palliative care education. Preliminary analyses showed three clusters of nurse competencies and detailed description will be presented. The long-term significance of this research study is to increase the knowledge of nurses for palliative and EOL care through formal educational programs and in turn provide competent and quality nursing care to the hundreds of patients and families they will care for throughout their nursing career. In conclusion, a survey was an effective method of collecting a baseline measurement of palliative care competencies for the nurses in the State of Texas. Nurses identified the need for more education in the area of palliative care.