2019 ANNUAL REPORT

We Are Nursing at Levine Cancer Institute



Levine Cancer Institute Locations

World-class cancer care, close to home. Professional oncology nursing at Atrium Health Levine Cancer Institute (LCI) is practiced at the following locations.

LCI Clinic and Infusion Locations

- LCI Albemarle
- LCI Ballantyne
- LCI Cleveland
- LCI Concord
- LCI Gaston
- LCI Huntersville
- LCI Lincoln
- LCI Morehead I and II
- LCI Pineville Medical Oncology
- LCI Rock Hill
- LCI Rutherford
- LCI SouthPark
- LCI Union
- LCI University City

LCI Radiation Therapy Centers

- Cabarrus
- Cleveland
- Lancaster
- Morehead
- Pineville
- Rock Hill
- Stanly
- Union
- University City

Cancer Care Hospital Locations

- Atrium Health Cabarrus
- Atrium Health Cleveland
- Atrium Health Lincoln
- Atrium Health Pineville
- Atrium Health Stanly
- Atrium Health Union
- Atrium Health University City
- Atrium Health Carolinas Medical Center
- Carolinas HealthCare System Blue Ridge Morganton
- Carolinas HealthCare System Blue Ridge Valdese
- Columbus Regional Healthcare System

Dear Levine Cancer Institute Nursing Colleagues,

As with previous years, 2019 was an exciting year of expansion, growth and development, yet nursing continued to excel by publishing in journals and abstracts, speaking at both national and local conferences, presenting oral and poster presentations across the United States, conducting research studies, and completing all this successfully, I might add, while taking care of the patient!

Levine Cancer Institute opened three new expansion sites totaling a 311,378 increase in square footage. This, including our existing sites, brought a total of 17,200 new patient encounters and 195,826 total patient encounters in 2019. With that came many challenges in expanding daily operations, staffing and new equipment, yet each day you came to work, did your job with a smile and never complained.

I am pleased to report that our nursing engagement continues to remain one of the highest within Atrium Health. In all domains, we were well above the national benchmarks and averages. Despite the Nurse Career Progression Program (NCPP) going live in 2019, where eligible nurses were transferred based on experience, we still had 26 nurses remain on the Professional Nurse Clinical Advancement Program (PNCAP) and 11 new nurses advance.



Continuing with our standardization work, we aligned many of the PNCAP projects with our Clinical Optimization team to continue to find cost saving opportunities and efficiencies while not jeopardizing quality of care. This work only reinforces our mission and vision – to provide cancer care without walls. We continued to have successful regulatory and accreditation on-site surveys, increases in professional certification and re-certification rates and increases in advanced nursing education as well as strong positive patient feedback highlighting our excellence in nursing care.

In 2019, we celebrated six winners of The DAISY Award[®] For Extraordinary Nurses, one winner of The Daisy Team Award, one winner of The DAISY Nurse Leader Award, one North Carolina Great 100 Nurse Honoree, the Greater Charlotte Area Oncology Nursing Society Nurse of the Year, multiple preceptor recognitions, and numerous Good Catch Award winners. This team is one of constant achievement.

You, nursing colleagues, continue to amaze me with your passion, commitment and dedication to ensuring patient safety and quality as well as overall care for our patients, their care partners and each other. I have never been more blessed to say I am a nurse and work for Levine Cancer Institute.

With gratitude,

Candice Roth, MSN, RN, CENP Assistant Vice President – Central and Western Region Operations, Nursing and Quality

By the Numbers, Our Highly Credentialed LCI Oncology Nurses

Our nurses benefit from our Oncology Nursing Certification Corporation (ONCC) Freetake contract which eliminates the need for nurses to pay out of pocket to sit for an ONCC exam and then wait for reimbursement upon passing the exam.

Number of oncology-trained nurses on staff, including nurse practitioners



- Number of nurse practitioners: **52**
- Number of chemotherapy-trained nurses including those holding a current Chemotherapy/Immunotherapy Provider Card: **418**
- Percent of certified nurses: **43%** (299/695)
 - This includes ONCC and oncology-related certifications as well as certifications in advanced care/education, nursing leadership, healing touch, medical surgery, critical care, case management, dialysis, clinical nurse leader, hospice and palliative care, quality, wound care, navigator, research certifications, aromatherapy and professional development. At this time, all certifications except for those in oncology nurse navigation, healing touch and aromatherapy are currently accepted by American Nurses Credentialing Center (ANCC)/Magnet[®].
 - Out of the 695 certified nurses, 8% (56) have two or more professional nursing certifications (i.e., Oncology Certified Nurse/Certified Registered Nurse Infusion)
- Percent of chemotherapy-trained RNs with ONCC and/or oncology-related certifications: **39.4%** (165/418)
- Percent of nurses with oncology and oncology-related certifications: 36.2% (252/695)
 - This includes ONCC and oncology-related certifications, hospice and palliative care, oncology nurse navigator, and CRNI and research certifications. All certifications except for those in oncology nurse navigation are currently ANCC/Magnet[®] accepted.
- *Note: All denominators for certification percentage calculations include nurses not yet eligible to sit for certification exams.

Nurse Education

Our LCI nurses are consistently among the most certified and highest educated nurses in Atrium Health.



of LCI RNs have earned a Bachelor of Science in Nursing or higher formal degree in Nursing.

Source: API ShiftSelect data entered as of January 31, 2020

LCI Nurse Engagement 2019

Nurse satisfaction/engagement is an important nurse-sensitive indicator because of its close relationship to the patient experience of care. If nurses are not perceiving the practice environment favorably, nursing workforce stability and patient care suffers.

LCI has consistently outperformed the national average for nurse engagement in every category. Our scores in 2019 were not only among the highest in our organization, they were among the highest in the nation (Press Ganey). Out of 31 Nursing Excellence questions, LCI nurse satisfaction ranked TOP DECILE nationally for 27 of them (87%!).

Our highest scoring questions on this survey demonstrate the culture we have built in nursing at Levine Cancer Institute. Among them, you see evidence of the strength of our leadership, authentic shared governance and that Planetree® is truly lived here. Our professional nurses practice according to the evidence. We value teamwork and collaboration and contribute to LCI's interprofessional team to give patients the best!

	LCI Score	National Percentile Rank
I am involved in decisions that affect my work.	4.04	98
The person I report to/my immediate supervisor supports free exchanges of opinions and ideas.	4.35	98
The person I report to/my immediate supervisor is responsive when I raise an issue.	4.25	98
There is good collaboration between nursing and the different ancillary services, i.e., pharmacy, lab, radiology, nutrition, behavioral health, etc.	4.27	98
My department/work unit uses evidence-based practice in providing patient care.	4.45	98
My department/work unit demonstrates a commitment to patient and family-centered care.	4.60	98
Nurses in my department/work unit help others to accomplish their work.	4.49	98

LCI Nurse Engagement 2019





2019 LCI Patient Satisfaction with Nursing Care

LCI has the highest patient satisfaction in all of Atrium Health. Patient satisfaction with Nursing Care at LCI is **TOP DECILE!**

As measured by Press Ganey in 2019:



Patient Falls with Injury

LCI has measured and benchmarked the nurse-sensitive indicators Falls and Falls with Injury with the National Database for Nursing Quality Indicators (NDNQI) since inception. National comparison in the NDNQI database is robust for LCI with >800 unit-level cancer clinics. Zero falls is our goal!

In 2019, the great majority (78-92%) of clinics and areas in LCI not only outperformed the national mean for falls with injury, but also had ZERO patient falls.



Falls with Injury

2019 Percent of LCI Clinics/Areas Outperforming the National Mean

Oral Chemotherapy Assessment

Assessing patients for their adherence to oral chemotherapy is very important. In 2018, a nurse-led, interprofessional Oral Chemotherapy Taskforce at LCI clarified the structure and process for assessing our patients on oral chemotherapy for their adherence and toxicities (side effects). We began tracking our adherence to this process in 2018.



Smart Pump Drug Library Compliance 2019

Smart pump drug library compliance prevents drug administration errors. LCI nurses are committed to patient safety and our smart pump drug library compliance in 2019 demonstrates this.



% Alaris Smart Pump Drug Library Compliance 2019

% Drug Library Compliance in 2019

Accreditations



Blood and Marrow Clinical Trials Network

The Blood and Marrow Clinical Trials Network (BMT CTN) is funded through two divisions at the National Institutes of Health: the National Heart, Lung, and Blood Institute and the National Cancer Institute. Levine Cancer Institute was recently approved to be part of a Consortium with Northside Hospital in Atlanta and the University of Miami.

- Established in October 2001 to conduct large multi-institutional clinical trials
- Address important issues in Hematopoietic Stem Cell Transplantation, thereby furthering understanding of the best possible treatment approaches
- 20 Institutions/Consortia
- Immediate access to Transplant Clinical Trials
- Responsible for recruiting, examining and treating study participants
- Participating BMT CTN investigators collaborate through an organization designed to maintain continuity of operations, to facilitate effective communication and cooperation among participating transplant centers and with collaborators at the National Institutes of Health, and to offer trials participation to patients in all regions of the United States



Commission on Cancer®

The Commission on Cancer (CoC), a program of the American College of Surgeons, recognizes cancer care programs for their commitment to providing comprehensive, high-quality and multidisciplinary patient-centered care. Accreditation demonstrates that the Levine Cancer Institute's cancer program is dedicating resources to provide the best treatment and support to our patients with cancer. LCI has achieved CoC accreditation with commendation since 2013. Oncology nursing plays an integral role in this important accreditation.



European Society for Medical Oncology

This distinguished designation is bestowed upon cancer centers that provide comprehensive services in supportive and palliative care as part of their routine care.



Foundation for the Accreditation of Cellular Therapy

In March 2019, Levine Cancer Institute earned re-accreditation for bone marrow and tissue transplantation by the Foundation for the Accreditation of Cellular Therapy (FACT). FACT accreditation is the threshold for excellence in cellular therapy.

Accreditations



Magnet

LCI - Morehead, Research and Administrative Headquarters Magnet-Recognized since 2013

The Magnet Recognition Program[®] from the ANCC is the highest accreditation for nursing excellence and quality patient care a healthcare organization may achieve. LCI sites on the campus of Carolinas Medical Center have been Magnet designated since 2013.



NATIONAL ACCREDITATION PROGRAM FOR BREAST CENTERS ACCREDITED BREAST CENTER

National Accreditation Program for Breast Centers®

The National Accreditation Program for Breast Centers (NAPBC) represents a consortium of national, professional organizations dedicated to the improvement of the quality of care and monitoring of outcomes of patients with diseases of the breast. This mission is pursued through standard-setting, scientific validation, and patient and professional education. The NAPBC Board of Directors has worked diligently to ensure multidisciplinary leadership representation and to include nationally recognized breast cancer quality performance measures in the NAPBC that serve as a platform for measuring quality improvement. Our breast program specialists have held this accreditation since 2009.



Planetree-Recognized since 2016

Levine Cancer Institute achieved Planetree patient-centered organization designation in December of 2016, making it the only cancer network worldwide to date to earn this designation. To achieve the designation, Levine Cancer Institute has undergone rigorous site survey visits by a team of Planetree representatives which included focus groups with LCI patients, families, physicians and teammates validating that over 50 specific patient-centered criteria were in place at each location. This is the highest achievement in patient and person-centered care. Levine Cancer Institute is the first outpatient cancer network and first multisite center to receive the designation.



Quality Oncology Practice Initiative® (QOPI)

The QOPI Certification Program (QCP[™]) provides a 3-year certification for outpatient hematology-oncology practices. QCP validates processes that demonstrate to patients, payors and the medical community a practice's commitment to quality. Levine Cancer Institute has been certified since 2016 and passed its most recent site survey in January 2020 with no deficiencies!

Saving lives with the nation's first mobile lung cancer screening unit

In partnership with Bristol Myers Squibb, LCI launched the nation's first "lung bus" – a bus outfitted as a mobile lung computed tomography (CT) unit – to improve care for underserved and rural populations across North and South Carolina.



Transition to Practice Program (TPP) – Oncology Track



Atrium Health's TTP Program is Officially Accredited by the ANCC Practice Transition Accreditation Program[®]

This accreditation program sets the global standard for residency or fellowship programs that transition RNs and APRNs into new practice settings.

The TTP Residency Program offers a dedicated team of nurses and educators who work with new graduates in an atmosphere that promotes learning, clinical application and socialization through the transition from student nurse to registered nurse. The 9-month residency program features didactic classes, virtual learning, simulation lab experiences and clinical orientation with a preceptor, providing a solid foundation for clinical decision making, time management and interdisciplinary communication.

The Oncology Track of the TTP provides specialty-specific preparation for new graduate nurses entering both inpatient and outpatient/ambulatory oncology settings. In addition to oncology-specific classes and simulation, the new graduate RNs experience many facets of oncology, including inpatient and outpatient clinical rotations as well as shadowing opportunities in areas including specialty clinics, clinical trials, radiation oncology and integrative oncology.

The Oncology Track is led by our Service Line Educators and Clinical Nurse Specialist in collaboration with Operational Nursing Leaders. Our program's goal is to facilitate a successful transition of new graduates into oncology nursing practice and to enhance their professional development as oncology nurses.

LCI's World Class Nurse-Led Patient Navigation Program: At the Heart of Patient-Centered Care

In 2019, the team included 31 navigators across 12 facilities within the Commission on Cancer accredited network. This team in 2019 navigated over 6,000 new patients with more than 56,000 patient contacts.

Oncology Navigators are a central point of contact for patients. They advocate, educate and coordinate care. They assess patient needs and facilitate access to resources and services. Navigators identify and close potential gaps in care to improve quality and efficiency.

LCI's Oncology Patient Navigation program was established in October 2012. The program is nurse-led and includes both tumor site-specific and general oncology patient navigators. Leadership of the program includes a dedicated director and clinical supervisor.

Ongoing research on the impact of our nurse-led Navigation Program has revealed exciting outcomes. LCI is the first institute to demonstrate the impact of Nurse Navigation on outcomes: improved, integrated and comprehensive cancer care and survival. Navigated patients with advanced cancer were less reliant on acute care. Of course, these findings may have important implications for improving value in oncology care.

Awards and Recognitions



Greater Charlotte Area Oncology Nursing Society Nurse of the Year Candice Roth, MSN, RN, CENP Assistant Vice President – Central and Western Region Operations, Nursing and Quality



2019 North Carolina Great 100 Honoree Brenda Crump, MSN, RN CEN Administrative Director LCI - Morehead

LCI President's Award

The LCI President's Award began in 2015 and has since been given by the President of Levine Cancer Institute, Derek Raghavan, MD, PhD, FACP, FRACP, FASCO. While not a nursing recognition, nurses from LCI have received this prestigious honor. Criteria for the LCI President's award includes:

- Going above and beyond their job description
- Community involvement
- Demonstrate how their actions are:
 - Innovative
 - Deliberate
 - Aligned
 - Accountable
 - Respectful

Congratulations to our 2019 Nurses who were honored with this award!

- Heather Crump, RN, Clinical Nurse III (NCPP), LCI Albemarle
- Jen Elder, RN, MSN, Bone Marrow Transplant Administration, LCI Morehead
- **DeeAnn Newton**, RN, Clinical Case Manager, LCI Cleveland
- Jessica Stewart, MSN, RN, Nurse Manager Heme BMT Clinic and Sickle Cell, LCI Morehead

2019 Margaret (Peg) Oseland Kosonen Endowment Award

The Kosonen Endowment Award provides a meaningful opportunity to celebrate the work and achievements of Levine Cancer Institute nurses. Recipients of this award:

- Are Registered Nurse Practitioners, Registered Nurses or Licensed Practical Nurses serving Levine Cancer Institute
- Exhibit excellence in oncology nursing practice as evidenced by a comprehensive assessment of each patient's unique needs and the development and implementation of a personalized plan of care to meet those needs
- Excel at family-centered care
- Serve as a role model of professional practice for peers, new teammates and nursing students
- Contribute positively to the professional practice environment

Peg Kosonen Endowment Awardee 2019



Susan Anthony RN, BSN, OCN, CRNI LCI - Morehead, Infusion

Kudos to Team Rare and Complex Heart of Nursing/Most Improved UBC Award



Honored by Atrium Health's Central Division Magnet Champions and Shared Governance, February 2019

DAISY Award for Extraordinary Nurses



May 2019

Harding Cranford, RN, OCN LCI - Morehead, Infusion

Harding Cranford is an extraordinary nurse. Inspired by a memorable nurse-patient relationship, Harding led a group in creating and facilitating Bravery Bags. Bravery Bags are filled with a variety of thoughtful (and donated) little items for patients including books, drinks, treats and activities a patient may do while receiving treatment. They communicate love and caring during a difficult time. Nurses give them to patients they believe would benefit from receiving one. Her nominator wrote, "she is never one to ask for praise nor does she need acknowledgment for her good deeds, instead she continues to go out of her way to benefit our patients." We are so thankful for Harding – for who she is and all she does for our patients, their families and our teammates at Levine Cancer Institute.



May 2019 Kendyl DuBroff, BSN, RN, OCN LCI - Ballantyne, Infusion

There are times when a patient's need for compassionate care is acute and the interaction between patient and nurse is lifechanging. Kendyl's nomination described such a time. Her nominator believes Kendyl saved her patient's life. We are so thankful for Kendyl – for continuously going above and beyond not only for the patient described in her nomination but for every patient she encounters at Levine Cancer Institute.



May 2019

Rose Palumbo, RN, OCN LCI - Morehead, GYN Oncology

Rose is an amazing patient advocate and is described as both "famous" and "humble" by her teammates. Her skillful coordination of care benefits all. From securing a grant to help a patient pay for needed treatment to connecting with a physician in another clinic to sign needed orders when all our providers were in the operating room. Rose is truly amazing. She continually inspires those around her to excellence. We are so thankful for Rose – for who she is and all she does for our patients, their families and our teammates at Levine Cancer Institute.



HONORING NURSES INTERNATIONALLY IN MEMORY OF J. PATRICK BARNES



October 2019 Jill Betancourt, RN LCI - Cleveland, Infusion

Jill Betancourt, RN, is an Extraordinary Nurse. She forms "personal heartfelt connections with patients on a different level." Whether it is the way she comforts a patient who is anxious about receiving treatment that inspires the patient's family member to embrace and thank her, or in how she wears the jersey of her favorite sports team on days she knows she will care for a patient who is a fan of its rival team just to make him feel special. Patients cared for by Jill receive the "Jill experience" and it is extraordinary caring at its best.



October 2019

Lorna Espinal, MSN, RN LCI - Morehead, Patient Navigation

Lorna Espinal MSN, RN, is an Extraordinary Nurse and Spanish-speaking oncology patient navigator at LCI. She makes an amazing difference in the lives of the patients she cares for. Because of Lorna, and the relationships she builds with her patients, they are more likely to receive the care they need and have better outcomes. Nominated by a physician and her director, Lorna is described as "outstanding at her job." We are so thankful for Lorna Espinal, for who she is and all she does for our patients and their families at Levine Cancer Institute.



October 2019 Lisa Pye, BSN, RN, OCN LCI - Morehead, Patient Navigation

Lisa is an extraordinary nurse and oncology patient navigator. She was nominated by the wife of a patient who shared how Lisa was a lifeline for her as she struggled to care for her ill husband far from home. Lisa's assessment and coordination of care over the phone ensured the patient received IV fluids when needed. Lisa was "...our cheerleader as well as our coach. She wept with us and rejoiced with us. Today...she is my friend...and she will always be our angel...because she cared for us." We are so proud to have Lisa Pye on our team at Levine Cancer Institute.

DAISY Nurse Leader Award





Amy Hicks, DNP, RN, ACCNS-AG, NEA-BC Nurse Manager LCI Radiation Oncology

Amy demonstrates extraordinary nursing leadership. Her nominator described her compassionate heart for her team and their patients and how Amy shows "a level of dedication and work ethic that eclipses that of most nurses I know." Amy always puts patients first and goes for the "win-win" with teammates at every turn. She values interdisciplinary collaboration and engages stakeholders in the work. She mentors direct-care RNs to achieve higher levels of nursing excellence. In encouraging nursing professionalism, Amy "walks the talk." We are so thankful for nursing leaders like Amy – for who she is and all she does for patients, families and teammates at Levine Cancer Institute.

The DAISY Team Award

- Concept brought to the DAISY Foundation by Thomas Jefferson University Hospital in Philadelphia
- Recognizes that while an idea to achieve better patient and family outcomes may start with one individual, it often takes an entire team to implement successfully
- Honors extraordinary teams of two or more individuals, led by a nurse, who identify and meet patient and/or family needs by going above and beyond the traditional role of nursing



Individuals Honored (from left to right):

- \bullet Jubilee Brown, MD
- Angie Burns, CMA
- Sarah Goff, RN
- Nicole Berry, BSN, RN
- Heather Walker, MBA, BSN, RN, OCN, Nurse Manager
- Valerie Taylor, PA
- Paula Luna, BSN, RN-BC, Clinical Supervisor

Sarah Goff, RN, triaged a call to the clinic from a patient who needed to be seen ASAP due to complications post-procedure. Jubilee Brown, MD; Angie Burns, CMA; Paula Luna, RN, Clinical Supervisor; and Heather Walker, Nurse Manager, all worked together to ensure the patient received calm assessment, emergency care and swift transport to the operating room. Sarah was so great about calming the patient and reassuring her. Valerie Taylor, PA, and Nicole Berry, RN, then took over Dr. Brown's clinic to see her patients while she went to the operating room. In situations like these, it is easy to panic and lose control. This amazing team supported the patients and each other. Everyone's role was vital to the positive outcome this patient had and to the continued care all our patients in the clinic received that day.



STAR Preceptor Recognition

Atrium Health and Levine Cancer Institute recognize the crucial role that RN preceptors play in successful onboarding and retention of nurses in the organization.

The STAR Preceptor recognition program annually celebrates preceptors that go above and beyond to impact the lives of the nurses they precept.



2019 LCI STAR Nurse Preceptor Katie Liapis, RN, BS LCI - Morehead, Rare and Complex

Katie's nominator wrote, "(Katie) is an excellent role model in the department because she is always leading by example. She educates in a patient and kind manner and is willing to work with someone until they fully understand. She makes a point to make onboarding teammates feel like they belong to the team. She used the preceptor feedback tool to give constructive feedback and consistently follows up on progress. Nothing falls off Katie's radar!"



2019 LCI STAR Nurse Preceptor Annette Nikonovich, BSN, RN, OCN, HTCP LCI - SouthPark

Annette's nominator wrote, "(Annette's) approach to her precepting is consistently positive, nurturing and inclusive. She is an excellent example of a STAR preceptor because of her endless compassion to her patients, her dedication to her practice as a nurse and her ability to balance her responsibilities while precepting a new nurse!"

Good Catch Recognition for Patient Safety



January 2019 Amanda Bailey, RN LCI - Morehead, Gynecology Oncology Clinic



February 2019 Lauren Chelko, SN, RN, CNL, BMTCN LCI - Morehead, Bone Marrow Transplant



April 2019 Callie France, RN LCI - Morehead, Infusion



July 2019 Brittany Booker, RN LCI - Morehead, Gynecology Oncology Clinic

Education

- OCN Review Course offered September 2019
- FREE Oncology Nursing Society (ONS) vouchers offered to RNs for Chemotherapy/Immunotherapy Provider Cards (new and renewals)
- Monthly Educational Series (developed based on results of annual nursing needs assessment surveys)
- Oncology Core
- Fundamentals of Bone Marrow Transplant (BMT)
- Clinical Leadership Council (CLC) Day for Clinical Supervisors with emphasis on leadership development
- Quarterly Nursing research, evidence-based practice and performance improvement series

Clinical Advancement

Track 1 – Professional Nurse Clinical Advancement Program

The current Atrium Health PNCAP is designed to enhance professional development and provide incentivized opportunities for advancement of clinical nurses who provide direct nursing care.

Track 2 (NEW in 2019) - Nurse Career Progression Program

The new NCPP is designed specifically for nurses in selected, harder to fill specialty areas. Oncology is currently one of them. The NCPP criteria for nurses to advance their career is based on years of experience, performance and leadership initiative within specific clinical areas.

Professional Nurse Clinical Advancement Program 2017-2019

Number of LCI RNs on PNCAP



2019 PNCAP Advancements

11 NEW in 2019

- Erica Ruston, Clinical Nurse III, PNCAP, LCI Morehead, Hematology Oncology/Bone Marrow Transplant
- Kendyl DuBroff, Clinical Nurse III, PNCAP, LCI Ballantyne
- Annette Nikonovich, Clinical Nurse III, PNCAP, LCI SouthPark
- Elizabeth Sowden, Clinical Nurse III, PNCAP, Pediatric Hematology Oncology Clinic
- Krystyna Meadows, Clinical Nurse III, PNCAP, Pediatric Hematology Oncology Clinic
- Michelle Peters, Clinical Nurse III, PNCAP, Pediatric Hematology Oncology Clinic
- Brooke Choniere, Clinical Nurse II, PNCAP, 4 Tower
- Camille Deisenroth, Clinical Nurse II, PNCAP, 3 Tower
- Mary Lyle, Clinical Nurse II, PNCAP, LCI Morehead, Infusion
- Melissa Arnold, Clinical Nurse III, PNCAP, LCI Radiation Oncology
- Marisol Staley, Clinical Nurse II, PNCAP, LCI Rutherford

2019 PNCAP Maintaining Nurses

- Jordan Rogers, Clinical Nurse III, PNCAP, LCI Ballantyne
- Danae Bell, Clinical Nurse II, PNCAP, LCI Ballantyne
- Nicole Berry, Clinical Nurse II, PNCAP, LCI Morehead, Gynecology Oncology Clinic
- Sarah Kibbee, Clinical Nurse II, PNCAP, LCI Morehead, Hematology Oncology/Bone Marrow Transplant
- Leela Josemani, Clinical Nurse III, PNCAP, LCI Morehead, Infusion
- Susan Anthony, Clinical Nurse III, PNCAP, LCI Morehead, Infusion
- Amy Walsh, Clinical Nurse III, PNCAP, LCI Morehead, Infusion
- Claudia Luetge, Clinical Nurse II, PNCAP, LCI Morehead, Thoracic Clinic
- Sarah Sadler, Clinical Nurse II, PNCAP, Pediatric Hematology Oncology Clinic
- Michelle Davis, Clinical Nurse III, PNCAP, LCI Cleveland
- Lesley Galloway, Clinical Nurse II, PNCAP, LCI Cleveland
- Brittany Dick, Clinical Nurse III, PNCAP, LCI Cleveland
- Serena Perera, Clinical Nurse III, PNCAP, LCI Morehead, Medical Oncology
- Amanda Nixon-Hudgens, Clinical Nurse III, PNCAP, LCI Cabarrus, Radiation Oncology
- Courtney Huffstetler, Clinical Nurse II, PNCAP, LCI Cleveland, Radiation Oncology

Shared Governance

Nurses and multidisciplinary teammates closest to the work are at decision-making tables about their work at Levine Cancer Institute. Through shared-governance structures, nurses contribute at multiple levels for all of Atrium Health, Levine Cancer Institute and each division of care (oncology, cardiology, pediatrics, etc.) as well as for their individual clinic/unit.

Below are some examples of committees/shared governance councils/decision making groups on which nurses from Levine Cancer Institute contribute:

- Unit Based Councils
- ONE Committee
- Oncology Service Line Council at LCI Morehead
- Planetree Steering Committees

2019 Publications

Fredenburgh, P. (January 2019) Special considerations for patients with blood-borne cancers, Journal of Oncology Navigation & Survivorship. 10:1. **Patti Fredenburgh**, BSN, RN, ONN-CG Patient Navigation at Levine Cancer Institute

Kline, R. M., Rocque, G. B., Rohan, E. A., Blackley, K. A., Cantril, C. A., Pratt-Chapman, M. L., Burris, H. A. & Shulman, L. N. (2019). Patient navigation in cancer: The business case to support clinical needs. JCO Oncology Practice, 15(11), 585-590. DOI: 10.1200/JOP.19.00230 **Kris Blackley**, MSN, RN, OCN Administrative Director Patient Navigation at Levine Cancer Institute

Patel, J. N., Boselli, D., Hamadeh, I., Symanowski, J., Edwards, R., Susi, B., Greiner, R., Baldassare, D.,
Waller, M., Wodarski, S., Turner, S., Slaughter, C. and Edelen, C. (2020). Pain management using clinical pharmacy assessments with and without pharmacogenomics in an oncology palliative medicine clinic. JCO Oncology Practice, 16(2), e166-e174. **Rebecca Edwards**, MSN, RN, AGPCNP-BC **Melissa Waller**, BSN, RN, CHPN (now Melissa Myers)
Department of Supportive Oncology
Section of Oncology Palliative Medicine

Yaguda, S., Gentile, D. (2019). Group acupuncture care model in a cancer institute: Improved access, reduced cost. Journal of Alternative and Complementary Medicine, 25 (7), 675-677. **Susan Yaguda**, MSN, RN Department of Supportive Oncology Section of Integrative Oncology

Yaguda, S. (2019). Yoga as a healing practice during cancer and beyond. Conquer: The Patient Voice, 5(1). **Susan Yaguda**, MSN, RN Department of Supportive Oncology Section of Integrative Oncology

Yaguda, S. (2019). Knit One, Purl One: Knitting as a Healing Art. Conquer: The Patient Voice, 5(4). **Susan Yaguda**, MSN, RN Department of Supportive Oncology Section of Integrative Oncology

Disclaimer: Information was gathered from the Atrium Health Nursing portal – Presentations and Publications. Any omission is inadvertent and deeply regretted.

2019 Poster Presentation

2019 American Society of Clinical Oncology (ASCO) Annual Meeting

Effectiveness of mobile computerized tomographic (CT) lung scanning unit for early diagnosis of lung cancer in underserved populations: Lung B.A.S.E.S. 4 Life program Darcy Doege, BSN, RN Levine Cancer Institute Outreach



Atrium Health Levine Cancer Institute

Background

The National Lung Screening Trial (NLST) demonstrated that screening high-risk patients with low-dose CT (LDCT) of the chest reduces lung cancer mortality compared to screening with a chest x-ray.¹ In North Carolina, uninsured and Medicaid patients **lack access** to this hospital-based screening test due to geographic isolation/socioeconomic factors. We hypothesized that a mobile screening unit would **improve access** and **confer benefits** demonstrated by the NLST to this underserved group, which is most at risk of lung cancer deaths.



Effectivenes unit for ea

Derek Raghavan, MD,

¹Levine Cancer Institute, Chai ²Charlotte Radiology, Charlot

In collaboration with Sa slice low-dose CT scar unit. The unit includes image transfer, and ele education programs ar **Lung Cancer Alliance** LUNG RADS approach in assessment. All films pulmonologists and rac 100 **community partn** employees have been

We screened 470 unde 61 years (range 55-64) American, 3% Hispanio RADS 4 lesions, 49 su including 4 at stage I-II

Scree



ss of mobile computerized tomographic (CT) lung scanning arly diagnosis of lung cancer in underserved populations *Lung B.A.S.E.S. 4 Life Program*

PhD, FACP, FRACP, FASCO¹, Darcy L. Doege, BSN, RN¹, Mellisa S. Wheeler, BSW, MHA¹,John Doty II, MD, FCCP¹, James Oliver, MD², Kathryn F. Mileham, MD, FACP¹,Edward S. Kim, MD, FACP¹, Daniel R. Carrizosa, MD, MS¹ *fotte, NC* te, NC

Methods

amsung Neurologica, we inserted a BodyTom © portable 32 oner into a 35-foot coach to function as a mobile lung screening a waiting area, high-speed wireless internet connection for rapid ectronic tablets to deliver smoking cessation and health ad shared decision-making video aids. It has been certified as a **Screening Center of Excellence**. We employed the in to lesion classification, yielding high sensitivity and specificity is were reviewed by a central panel of oncologists,

diologists. The protocol was approved by Chesapeake IRB. Over **erships** have been developed and over 1200 healthcare educated as a result of this program.

Results

erserved smokers between 4/2017-1/2019; M:F 1.1:1, mean age), with average pack year history of 45.7 (30-150) (25% Africanc, 65% rural) and found at initial screen 35 subjects with LUNG bjects with LUNG RADS 3 lesions, 10 lung cancers (2.1%), . 4 non-lung cancers were identified and treated.

ning Data From April 2017 – January 2019



Conclusions

In this small sample using the first mobile screening unit in the United States, the initial cancer detection rate is comparable to that reported in the NLST, but with **marked improvement** of screening rates in underserved groups and better anticipated outcomes at lower cost than if they had first presented with metastatic disease.

Resources

¹The National Institute of Health. (2014). National lung screening trial. Retrieved from: <u>https://www.cancer.gov/types/lung/research/nlst</u>

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ONS Congress 2020 Accepted Abstracts

Reducing Administration Errors when Titrating Obinutuzumab Donna Pitsinger, BSN, RN, OCN, LCI - Morehead, Infusion Grant Dever, PharmD, LCI Pharmacy

Reducing Administration Errors when Titrating Obinutuzumab

Donna Pitsinger, BSN, RN, OCN, and Grant Dever, PharmD Blumenthal Infusion at Levine Cancer Institute-Morehead. Charlotte. NC

Background

Problem/Significance

The titration rates of obinutuzumab, as outlined in the package insert, require the nurse to convert the rate of mg/hr into ml/hr. This confusing practice increases the risk for IV pump programming errors. Additionally, obinutuzumab has two approved FDA indications with distinct dosing and rate titrations. These complexities can lead to inaccurate titrations, causing patient harm and unnecessary healthcare cost.

Baseline Data

There were two reported medication errors related to inaccurate titration of obinutuzumab in our infusion area in 1st Quarter of 2018.

Setting

A growing 80+ chair, hospital-based outpatient infusion center with over 60 RNs on staff.



Carolinas Medical Center, a facility of Atrium Health, has been Magnet[®] recognized since 2013. Blumenthall Indusion Center, is a unit included in Carolinas Medical Center's Magnet[®] designation.

Aim/Goal

To increase patient safety by reducing medication errors, specifically inaccurate titration of obinutuzumab.

This project was acknowledged by our Institutional Review Board (IRB) as QI in nature and not subject to IRB approval and oversight.

Develop and Implement the Intervention

Titration Cards

Innovative titration cards were developed by nursing in collaboration with pharmacy and based on the obinutuzumab drug package insert to assist nurses with accurate programming of titration rates. The cards are intended for chair-side use by the RN administering the drug.

The cards are specific to the diagnosis as well as the administration cycle. The cards are color-coded according to the diagnosis using the cancer ribbon color. Lime green represents follicular lymphoma and orange represents chronic lymphocytic leukemia.

The cards were introduced to nurses via e-mail communication and unit in-services. Implementation date: July 1st 2018.





	se g/hr)	Rate	Vol at	Time of	1 martine	
Start 100		(mi/hr)	change	change	RN#1	RN#2
	mg/hr	29 ml/hr	14.5 ml		1222	
At 30 min 200	,	58 ml/hr	29 ml			
At 60 min 300		87 ml/hr	43.5 ml			
At 90 min 400 til end ma		116 ml/hr remainder	the rest			



	CLL (Leuke	mia) C1D8	& Subseq	went Infusi	ons	
C)binutuzuma	b 1000mg/	NS 250 ml	: total vol:	290 ml	
Time	Dose (mg/hr)	Rate (ml/hr)	Vol at change	Time of change	RN#1	RN #
Start	100 mg/hr	29 ml/hr	14.5 ml			
At 30 min	200	58	29 ml			
At 60 min	300	87	43.5 ml			
At 90 min til end	400 mg max	116 ml/hr remainder	Rest			

CLL (Leukemia) C1D2 Obinutuzumab 900mg/ NS 250ml : total vol: 286 m



Levine Cancer Institute is the destination for leading clinical trials and breakthrough treatments at 25 locations across the Carolinas.

Study the Results



Volume of Obinutuzumab Given

Over the two-year period from 9-1-2017 to 8-31-2019, 266 doses were give. During this time frame, per pharmacy, doses of obinutuzumab given increased 29%.

Lessons Learned

Obinutuzumab titration cards have been well received by nurses.

t is important to continue to monitor for changes in the way the drug is to be given and make any changes necessary to the cards.

Rarely, there are patients receiving obinutuzumab who need to receive it at a slower rate than the cards direct. If this is the case, it is documented on the patient's chemo order.

For our setting, these innovative titration cards developed by nursing in collaboration with oharmacy worked as intended. As of February 29th, 2020, there have been zero reported titration errors with obinutuzumab since implementation on July 1st, 2018.

Act to Sustain Performance and Spread Change

Medication errors continue to be monitored. New RNs receive training on the cards at onboarding. We are considering spread to other infusion sites within our cancer institute based upon drug administration rates and care event review. This work was shared with clinical nursing leaders from all LCI sites in 2019.

Key Points

- Obinutuzumab titrations have increased risk of error during the administration process, as nurses are required to convert the rate of mg/hr into ml/hr.
- Development of titration cards by nursing in collaboration with pharmacy was an innovation to address our medication errors related to inaccurate titration of obinutuzumab.
- 3. For us in our setting, the innovative titration cards worked as intended. We have had zero reported medication errors related to inaccurate titration of obinutuzumab since implementation.

Contact Info

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Reference

GAZYVA Full Prescribing Information. South San Francisco, CA: Genentech, Inc.; 2017. Retrieved at <u>https://www.gene.com/download/pdf/gaz</u> <u>yva_prescribing.pdf</u> on March 6th, 2020.

ONS Congress 2020 Accepted Abstracts

Data-driven medication infusion safety through the use of smart pump devices, staff engagement and library improvements in a major, multi-facility ambulatory oncology environment Kimberly Rippy, MSN, RN, OCN, NPD – BCLCI Nursing Team

Data-driven medication infusion safety through the use of staff engagement and library improvements in a major, mu environment

Kimberly Rippy, MSN, RN, OCN, NPD-BC- Clinical RN Program Coordinator

Project Selection

Medication errors typically account for 20 percent of all medical errors in the United States. Over the years, many efforts have been made to help reduce medication errors, including the introduction of intravenous (IV) smart pump technology in the early 2000s. One of the most significant benefits of IV smart pump technology is the decreased risk for medication errors during the administration process. IV smart pumps, although not truly "smart" on their own, dependently function according to drug libraries and nurses' utilization of incorporated safety features. Comprehensive drug libraries allow nurses to effectively utilize IV smart pumps for accurate medication administration. Drug libraries establish safe dosing parameters for each medication using "soft" and "hard" limits.

In November 2017, Atrium Health began transitioning to Alaris IV smart pumps. By the end of January 2018, all primary Levine Cancer Institute (LCI) sites within Atrium Health were utilizing the new Alaris IV smart pumps. As Alaris IV smart pumps allow for the use of a drug library during medication administration, it is imperative to ensure proper nursing utilization.

Goal & Objectives

- Goal: To increase compliance related to the use of Alaris IV smart pump Guardrails, with a system goal of > 90% and a stretch goal of >95%.
- Objectives:
- To strategically develop and implement a systematic approach to increase nursing utilization of IV smart pump technology.
- To improve patient safety during IV medication administration.

Improvement Process

- Multidisciplinary teamwork was key in the development and utilization of the LCI Oncology Alaris IV smart pump drug library.
- Data extraction from the IV smart pumps was utilized to encourage the use of the drug library to improve overall safety of medication administration.
- LCI nursing leaders receive compliance reports related to drug library utilization and provide timely and direct feedback to nursing staff.



Overall, holding nursing as needed, and pharmac and increased patient sa



LCI Sites 2018	
LCI Albemarle	
LCI Ballantyne -Serial Numbers	
LCI Cleveland	
LCI Concord	
LCI Lincoln	
LCI Mallard Creek -Serial Numbers	
LCI Matthews -Serial Numbers	
LCI Monroe	95%
LCI Morehead - Serial Numbers	
LCI University	
LCI Pineville	
LCI Rock Hill	
LCI Rutherford-Serial Numbers	
LCI Southpark-Serial Numbers	
LCI Gaston- Serial Numbers	
LCI Average	

smart pump devices, ulti-ambulatory oncology



Results/Outcomes

staff accountable for drug library use, providing re-education y collaboration have drastically improved compliance rates fety.



Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year to Date			
99.00%	96.60%	85.30%	97.00%	99.00%	98.00%	97.80%	98.90%	98.30%	99.90%	99.60%	98.90%	97%			
		No IP p	athway			94.80%	97.00%	98.30%	98.50%	99.50%	97.90%	98%			
96.60%	96.70%	95.50%	99.00%	98.00%	98.00%	99.00%	98.90%	99.30%	98.30%	99.10%	99.00%	98%			
98.50%	98.30%	97.70%	97.40%	96.80%	94.00%	96.20%	96.40%	97.30%	96.60%	93.70%	90.50%	96%			
97.00%	96.40%	95.00%	94.90%	93.50%	87.80%	81.00%	89.60%	87.00%	92.50%	90.50%	86.70%	91%			
		No IP p	athway			99.50%	100.00%	99.80%	99.90%	100.00%	93.50%	99%			
No IP pathway						99.60%	98.00%	98.50%	100.00%	98.60%	98.60%	99%			
74.70%	74.70% 54.60% 82.70% 89.10% 99.60% 99.90%						No IP pathway				99.72%	83%			
64.80%	65.00%	71.60%	84.70%	86.70%	89.00%	87.70%	90.30%	91.90%	94.90%	93.20%	92.30%	84%			
97.00%	96.70%	95.00%	97.00%	95.00%	91.00%	94.60%	96.30%	95.70%	93.60%	89.80%	78.30%	93%			
73.90%	71.00%	78.60%	97.30%	99.60%	100.00%	99.30%	99.70%	99.60%	99.70%	99.60%	99.30%	93%			
69.50%	66.40%	68.20%	72.30%	68.30%	59.30%	74.20%	99.60%	99.90%	99.90%	99.50%	100.00%	81%			
No IP pathway					87.00%	80.00%	76.30%	82.20%	97.80%	99.30%	87%				
96.40%	93.00%	93.60%	96.20%	97.10%	98.90%	98.90%	99.60%	99.90%	99.90%	95.60%	95.30%	97%			
No IP pathway							81.40%	70.30%	76.70%	100.00%	100.00%	86%			
											95.00%	92.19%			

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ONS Congress 2020 Accepted Abstracts

Assessing the Success of an Admission Guidance Tool in Improving Coordination of Care between Inpatient Staff and Research Coordinators for Clinical Trial Car-T Patients

Sally Ware, Mallory Tucker, Michael Davis and Holly Jones – LCI BMT Program



Atrium Health Levine Cancer Institute

Purpose

In the fall of 2017, Levine Cancer Institute (LCI) opened its first CAR-T cell clinical trial. This was our first study requiring a significant in-patient component, with many protocol-directed assessments to be obtained during mandatory hospitalizations. During this initial trial it was noted that the number of missed assessment protocol deviations was significantly higher when compared to our institutional average. Additionally, inpatient staff identified a decrease in self-reported proficiency while caring for patients on this study. A literature review revealed that large cancer centers often standardize processes so that all CAR-T patients (including research subjects) are cared for by a specialized subset of staff₁. Because LCI is a smaller institution, we were unable to form a dedicated cellular therapy team to improve coordination of patient care. Instead, we worked with key members of the inpatient staff and LCI leadership to develop an Admission Guidance Tool (AGT) for our CAR-T clinical trial patients. Our goals were to improve inpatient staff self-reported proficiency while caring for clinical trial Car-T patients and to lower the incidence of missed assessment protocol deviations.

Methods

The AGT included an order template detailing all protocol-required nursing, physician and pharmacy orders, as well as study required assessment timepoints. Our advanced practice providers used the template for electronic documentation and order entry. A printed copy was placed into a patient-specific binder on the inpatient unit. Daily tabs were added to the binder that contained protocol assessments (Ex: neurotoxicity screenings, vital sign source documents, required research lab tubes and requisition forms). We included a concise, protocol-specific algorithm for managing CAR-T related Cytokine Release Syndrome and neurotoxicity. Finally, we provided information on how to grade each event and a notification schema for toxicity management.

After impler reduction i varying len



Similarly, 83.3% of clinical trial patie

Inpatient Nursing Trials Patients Pre



Assessing the S between Inpa

uccess of an Admission Guidance Tool in Improving Coordination of Care atient Staff and Research Coordinators for Clinical Trial Car-T Patients

Sally Ware BSN, Mallory Tucker BSN, Holly Jones BSN, Michael Davis BS Levine Cancer Institute Charlotte, North Carolina

Results

nentation of the Admission Guidance Tool, we saw a 31.25% overall n the number of missed assessment protocol deviations. When the gths of hospitalization per patient were factored in, we had a 36.1% reduction in deviations per admission day.



inpatient nurses reported feeling comfortable caring for CAR-T ents compared to 16.7% prior to implementation of the AGT.

Self-Reported Proficiency While Caring for CAR-T Clinical vs Post Implementation of Admission Guidance Tool (AGT)



Discussion

Due to its success, the Admission Guidance Tool is now used for all clinical trial patients requiring hospitalization across our organization. As the field of cellular therapy evolves, we hope to implement the tool into standard of care practice as well- not just in the setting of clinical trials.

The concept and creation of the Admission Guidance Tool should be re-evaluated on standard intervals to ensure relevance and completeness.

Resources

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