

Winchester Medical Center
2018 Cancer Program

Annual Report



To Our Community:

On behalf of everyone on the team at the Valley Health Cancer Center, we are delighted to share this 2018 Cancer Program Annual Report with you.

Our Commitment: Delivering the Best Care, Every Person, Every Day

Best Care...The team of professionals at the Valley Health Cancer Center follows national, evidence-based guidelines in the care and treatment of cancer. Our team approach and commitment to the best care demands that we keep current with the latest that science has to offer in the treatment of cancer. We deliver the best care...not just the best that we can do in Winchester and the Shenandoah Valley but also the best that can be done anywhere. We also have developed collaborative relationships with researchers and specialists throughout our region for those rare circumstances when a patient is in need of care that is best offered in an academic setting.

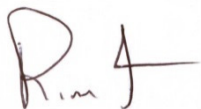
Every Person...Each cancer diagnosis is as unique as the patient facing this new challenge. We treat the whole person...physical, emotional, and spiritual.

Every Day...We are relentless in making sure each person's care experience at Valley Health is the best that it can be every day – consistently day in and day out. We welcome feedback, both positive as well as constructive ideas that serve to make us better.

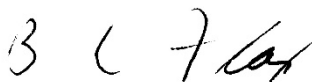
In this report, the reader will find information on the various treatment modalities and services that are provided to patients, special studies and projects accomplished during last year, and statistics on how this disease is presenting in our community.

The Valley Health Cancer Center team is dedicated to expanding and growing with the needs of our community. The trust our patients bestow in us as they place themselves in our care is testimony to the honor and commitment we have in caring for our friends, colleagues, co-workers, neighbors, and family members who come to Valley Health.

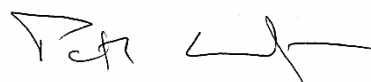
Sincerely,



Richard M. Ingram, MD



Bruce L. Flax, MD



Patrick Wagner, MD

About Valley Health

Valley Health is a not-for-profit health system serving a population of more than 500,000 in northwest Virginia, West Virginia's Eastern Panhandle, and western Maryland. Valley Health includes six hospitals, more than 50 physician practices, a regional medical transport service, home care, and Urgent Care centers in five communities. Winchester Medical Center is Valley Health's 455-bed tertiary referral hospital. Valley Health dedicated a new 52,000-square-foot regional cancer treatment facility at Winchester Medical Center in August 2016. Caring for more than 1,300 newly diagnosed cancer patients each year, the Cancer Center offers comprehensive services that combine advanced technology, collaborative treatment and support for patients and families from throughout our region. Valley Health is committed to providing the best care possible for cancer patients with the most current technology supporting the expertise of our physician leaders.

855-9-VH HOPE (855-984-4673)

www.valleyhealthlink.com/cancerservices



A QUALITY PROGRAM
of the AMERICAN COLLEGE
OF SURGEONS



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Larry Ponce, FACHE
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Screening and Prevention

Low Dose Computed Tomography (LDCT) Lung Cancer Screening

Each year in the United States, more than 160,000 people die of lung cancer. Lung cancer represents 14% of all invasive cancers diagnosed each year, and 28% of all cancer deaths in the US population according to the Centers for Disease Control and Prevention.

More than half of lung cancers have distant metastasis at the time of diagnosis, and the five-year relative survival rate after distant metastasis is less than 5%.

The National Lung Screening Trial (NLST) was a randomized controlled trial to compare the effects of helical LDCT and standard chest radiography on death rates. More than 53,000 adults enrolled. Study criteria were: asymptomatic for lung cancer, between the ages of 55-74, current cigarette smoker with a 30 pack year smoking history, or quit smoking within the past 15 years. Subjects underwent annual screening for at least three years, and the NLST reported a 20% reduction in mortality from lung cancer among those screened with LDCT as compared to chest radiography.

In 2013, the US Preventative Services Task Force recommended “annual screening for lung cancer with LDCT in adults ages 55-80 years who have a 30 pack year smoking history and currently smoke or have quit within the past 15 years.” For Medicare and Medicaid, the ages are 55-77. Interval screening continues until a person no longer meets criteria, or wishes to receive treatment. This screening service is covered by insurance companies for those individuals who meet criteria. LDCT screening does not prevent lung cancer or eliminate the need for smoking cessation measures.

LDCT screening is offered at all six Valley Health hospital locations, which are American College of Radiology designated Lung Cancer Screening Centers. LDCT results are tracked and reviewed by a multidisciplinary team skilled in the evaluation and treatment of lung cancer in an every-other-week thoracic tumor board, and are entered into a national lung screening registry. Early detection saves lives! Since 2015, Valley Health has screened more than 2,300 people resulting in 350 positive screenings. While 23 people were treated for lung cancer as a result of their LDCT lung screening, the other 327 high-risk individuals continued under surveillance. Some individuals had a follow-up LDCT scan in three or six months. Depending on these results, if stable, they would continue with yearly screenings; any change would require additional work up such as a PET scan, biopsy or thoracic surgery consultation. The multidisciplinary thoracic tumor board reviews all suspicious findings, and the thoracic oncology navigator provides patient support.



We are a smoking cessation referral site for the Quit Now program in the states of Virginia and West Virginia and have recently added a smoking cessation program through the American Lung Association's Freedom From Smoking® program. We are ready to assist patients with this very difficult but life-changing decision. Valley Health's new system-wide smoking cessation program makes it easier than ever. The Freedom From Smoking course is a step-by-step plan to quit smoking and transition to a smoke-free lifestyle. The course includes eight small group classes over seven weeks.

Classes are offered at participating Valley Health hospitals throughout the year and are led by Valley Health staff members who are American Lung Association certified facilitators.

The Freedom From Smoking program is free and is open to Valley Health patients and community members. Course dates, times and locations can be found at valleyhealthlink.com/quitsmoking. Those ready to quit can register for a class by calling 833-847-3627.

Diagnostic Services

Breast Imaging

Valley Health offers comprehensive, high quality and patient centered breast imaging services. Digital 3-D mammography and breast ultrasound are available at all Valley Health hospitals. Additionally, digital breast tomosynthesis (3D mammograms), breast MRI, molecular breast imaging and minimally invasive image guided breast biopsy is available at the Outpatient Diagnostic Center of Winchester Medical Center. The breast imaging team of radiologists, nurses and technologists meets every two weeks to review the imaging findings and pathology results for patients who had biopsies and improve the quality of our service. In an effort to provide better patient centered care, our referring physicians can order a comprehensive breast cancer screening evaluation. This order enables the breast imaging team to provide the patient what she needs – from screening to diagnostic work-up to biopsy to delivering results and coordinating additional care as needed – in an efficient way that minimizes delays and anxiety and in a comprehensive way that takes care of the patient every step of the way.

Valley Health's digital breast tomosynthesis (3-D mammogram) is offered at all six Valley Health hospital locations. In addition, automated breast ultrasound screening (ABUS) has been added at the WMC Outpatient Diagnostic Center. This new technology is an alternative to traditional hand-held ultrasounds for supplemental use. Like traditional ultrasound, ABUS uses high-frequency sound waves targeted at the breast, but the scans provide physicians with a 3-D image of the entire breast. These 3-D images are more beneficial to women within the dense breast population because they allow radiologists the ability to check the breast from a variety of angles and offer a better interpretation.



Treatment Services

Medical Oncology and Hematology

Shenandoah Oncology, PC, located in the Valley Health Cancer Center on the hospital's campus, provides comprehensive and individualized care to patients with cancer and blood disorders. Physicians oversee patients undergoing cancer staging, treatment, monitoring response to therapy, and surveillance for recurrence.

Shenandoah Oncology is comprised of a team of board certified medical oncologists, oncology certified nurse practitioners, oncology certified registered nurses, laboratory staff and medical assistants. Shenandoah Oncology's entire staff is focused on providing the best clinical experience for our patients.

Before our patients begin chemotherapy, each has a one-on-one chemotherapy teaching with a nurse practitioner. This class is designed to provide patients a basic understanding of how chemotherapy works, how to prepare for treatment, the common side effects that can occur and information on how to manage their side effects. They are also made aware of available resources and contact numbers to assist them during their treatment.

Shenandoah Oncology strives to provide the current and latest breaking therapies to cancer patients in an outpatient setting. We also offer extensive clinical trial options from both the US Oncology Network and both cooperative and intergroup clinical trial options via our affiliation with Virginia Commonwealth University's Oncology Research Program.

Currently, Shenandoah Oncology is participating in the Oncology Care Model (OCM) to improve quality of care and the patient's overall experience. OCM focuses on the patient and the patient care team. The patient care team includes the patient and their family as well as physicians, nurse practitioners, patient financial counselors, billing staff, nursing, laboratory staff, social worker and a dietician. With OCM, the practice has expanded their services to include a written treatment plan. The treatment plan encourages the patient to be more engaged in his or her care and decision-making. The plan allows patients to be fully informed and encourages them to be engaged in their cancer care goals of therapy.

As cancer care and treatment continues to evolve, the physicians at Shenandoah Oncology are utilizing these advancements to care for their patients. Every day, new targeted therapies are recommended. Targeted cancer therapies are drugs that "target" specific cancer cells. Some of the cancers against which targeted therapies have been utilized include gastric, breast, neuro-endocrine, bladder and colorectal.

Radiotherapy Treatment

High Dose Brachytherapy

Valley Health has received a certificate of public need from the state of Virginia to start a high dose radiation (HDR) brachytherapy program at the Valley Health Cancer Center.

Brachytherapy is a medical procedure performed in Radiation Oncology that places radioactive sources directly inside the patient on a temporary or permanent basis to damage cancer cells' DNA and destroy their ability to divide and grow. The procedure allows the physicians to prescribe a higher total dose of radiation to treat a smaller, more focused area in less time than conventional external beam radiation therapy. Doctors perform the procedure by placing radioactive materials in a body cavity, such as a windpipe or vagina, using a cylindrical device, or they may place the material directly into the body tissue. The process can take several minutes to several days depending on the dosage, and some treatments involve permanently placing the radioactive seeds inside the patient. Side effects vary depending on the treatment area and may include swelling and tenderness at the site of radiation.

HDR brachytherapy is a powerful form of internally delivered radiation therapy that destroys many types of cancers including skin, cervical, prostate and breast. It can be used as a standalone treatment or after a tumor has been surgically removed to eliminate any remaining cancerous cells.

During treatment, a computer-controlled machine sends the small radioactive seeds down each catheter to deliver radiation at multiple depths and varying times. The overall treatment time at the tumor site is 10 to 20 minutes. The seeds are then removed so that no radioactive material remains in the patient's body. Depending on the type of cancer being treated, a high-dose rate treatment plan may require one session or multiple sessions over a course of up to five days.

Types of brachytherapy procedures include:

- Interstitial HDR brachytherapy – often used for prostate cancers, the radiation is delivered directly into tissue.
- Intracavitary HDR brachytherapy – often used for breast, cervical and vaginal cancers, the radiation is delivered to the tumor from the cavity left by the recently removed tumor.
- Episcleral brachytherapy – the radiation source is attached to the eye to treat melanoma inside the eye.

Benefits of HDR brachytherapy include:

- Extremely precise radiation therapy delivered internally
- Used alone or applied after surgery to help prevent recurrence of cancer
- Convenient treatments that reduces the number of treatment visits by one to five fractions
- Minimizes risk of common short- and long-term side effects

Stereotactic Radiosurgery

Stereotactic radiosurgery (SRS) and stereotactic radiotherapy (SBRT) are highly advanced treatments preformed in Radiation Oncology that focus mostly on the treatment of brain, spine and certain lung cancers.

Radiosurgery is a non-surgical minimally invasive procedure that delivers large doses of precisely targeted radiation to small tumors. This spares critical organs and healthy tissue, providing a significant advantage for patients. SRS and SBRT work in the same way as other forms of radiation treatment, destroying cancer cells and causing tumors to shrink. Each session can take anywhere from 30 to 60 minutes. Patients may have a single treatment or multiple treatments.

Surgical Oncology

Valley Health Surgical Oncology continues to offer an extensive range of surgical procedures for gastrointestinal malignancies, including tumors of the esophagus, stomach, liver, pancreas, colon and rectum. We also offer endocrine surgery for malignancies of the thyroid, parathyroid and adrenal gland. Our surgeons use the da Vinci® Xi™ surgical robotics system to enhance our ability to provide minimally invasive surgical options to patients with a wide variety of malignancies. We provide expertise in the management of skin and soft tissue malignancies, including melanoma and sarcoma.

Robotic Surgery at Winchester Medical Center

At Winchester Medical Center, we're using the latest generation surgical robot, the da Vinci® Xi™, to perform advanced minimally invasive procedures to treat several types of cancer. Robotic technology augments our ability to perform highly complex procedures through small incisions. The advantages of robotic surgery include improved visualization and technical maneuverability, which can lead to better outcomes for patients, such as shorter hospital stays and fewer complications.

At Winchester Medical Center, we're treating several types of cancer using advanced robot-assisted surgical techniques:

- Colorectal cancer
- Esophageal cancer
- Small intestine (bowel) cancer
- Stomach (gastric) cancer
- Pancreatic cancer
- Lung cancer



Our expert team consists of several accomplished robotics-trained surgeons who work with a dedicated robotic surgery team in the operating room to deliver this 21st century minimally invasive treatment for our patients.

Our fellowship-trained surgeons are using robot-assisted surgery to advance treatment options for patients in our region within several distinct surgical specialties, including surgical oncology and thoracic surgery.

Advanced Diagnostic and Interventional Bronchoscopy

We continue to offer these specialty services to assist in the care of oncology patients. The combined use of electromagnetic navigational bronchoscopy (ENB) and endobronchial ultrasound (EBUS) now allows us to diagnose and stage patients with lung cancer in a single procedure. We continue to grow the advanced diagnostic and interventional volume. This includes procedures such as relief of acute airway obstruction due to tumor. Additionally, navigational bronchoscopy is utilized to inject fluorescing green dye around small lung nodules in the operating room in collaboration with Dr. Reddy, thoracic surgeon, to assist in robotic surgical resection of these lesions. In March 2018, Valley Health Pulmonary Specialists opened an outpatient office in Medical Office Building II on the Winchester Medical Center campus. This office will support evaluation and care of oncology patients and the bronchoscopy program.

All of these specialized procedures, available locally, support our oncology physicians and our community in evaluating and caring for patients with cancers involving the lung.

Thoracic Surgery

Major changes in society in general or the world of thoracic surgery come along with unprecedented future salutary benefits. Technologic revolution is quietly taking place in thoracic surgery, and nowhere is the influence of advances in science and technology more profound than in cancer care. Patients stand to benefit from these major advances that mark the end of the last century and beginning of this one. Lung cancer and esophageal cancer are the two most dreaded thoracic cancers, and these advances have the potential to change their treatment immensely.

At Winchester Medical Center, we are pleased to bring the most advanced and sophisticated techniques for all levels of cancer care in thoracic surgery. We have made available to our community lung cancer screening for early diagnosis and advanced surgical treatments including minimally invasive techniques of video-assisted thoracic surgery (VATS) and robot-assisted techniques. Our Cancer Center patients also have access to advanced chemotherapy and radiation therapy for adjuvant treatment when indicated.

We have focused on streamlining the referral process to our thoracic surgery clinic and the hospital and have added a dedicated thoracic oncology navigator to assist our patients through their cancer care. Our expressed goal has been to broaden the scope of services and offerings of thoracic surgery for our patients.

We continue to extend our outreach program to primary care offices as well as neighboring hospitals and are working in conjunction with WVU Berkeley Medical Center to better provide state-of-the-art cancer care for our patients, closer to home. Our outreach efforts have included public events such as our lung cancer survivorship event in November 2018 and multiple one-on-one meetings with physicians and groups within the Valley Health service area and beyond.

Video-assisted thoracic surgery and robot-assisted surgery are offered to all eligible patients. With remarkable improvement in post-operative pain reduction, these minimally invasive techniques permit our patients to be discharged earlier and return to their own lives in the comfort of family and friends. An additional benefit is that if adjuvant chemotherapy and/or radiation therapy is needed, these patients are able to tolerate it earlier and better.

Enhanced recovery after surgery (ERAS) is a multidisciplinary perioperative care pathway designed to achieve early recovery for patients undergoing surgery. In 2018, our thoracic surgery team started an ERAS protocol for our patients scheduled for elective surgery at Winchester Medical Center and developed a new patient handbook, *Enhanced Recovery in Thoracic Surgery: A Guide for Patients Undergoing Thoracic Surgery*. We designed this guide to help answer any questions our patients may have and encourage them to bring the handbook with them to every office visit, on the day of surgery for their admission to the hospital, and to their follow-up visits.

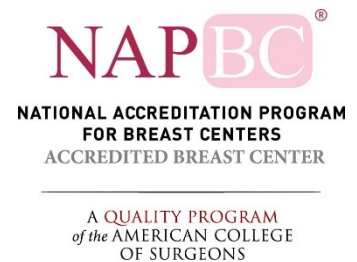
Cancer care is dynamic, and it is incumbent upon us to keep and even set the pace. Winchester Medical Center is charging ahead with our robotic surgery program, and our thoracic surgery service is

fully engaged in this endeavor. We are committed to forging ahead with services and care options that will benefit the population we currently serve. Continuing this progress in all areas of thoracic surgery to stay competitive is our goal, and helping our patients with cancer with the best care, our mission.

Breast Cancer Care

Our nationally accredited Breast Care Program was designed by Valley Health in cooperation with its associated physicians, in an effort to better serve our breast cancer patients. Our main goal is to deliver care using a coordinated team approach in a setting that is efficient, supportive, convenient, easy to access, and as flexible as possible.

Our program has repeatedly earned full accreditation by the National Accreditation Program for Breast Centers (NAPBC). This accomplishment recognizes our comprehensive, multidisciplinary care for patients from evaluation through treatment and follow-up care. To earn NAPBC certification, a center must undergo a rigorous evaluation and demonstrate compliance with standards for treating women who are diagnosed with the full spectrum of breast disease.



A dedicated Breast Nurse Navigator is a vital part of our breast program and is available to serve our breast cancer patients as they progress through active treatment into survivorship. Joyce Dunlap BSN, RN, OCN, can be contacted at 540-536-6022 for breast care navigation needs.

In August 2016, the privately owned practice of Winchester Breast Center became the Valley Health Breast Center. It is housed on the second floor of the Cancer Center, connected by a covered walkway to the WMC Diagnostic Center. This allows for a closer coordination with the necessary breast imaging services.

The breast imaging team at the Diagnostic Center provides the best breast cancer screening and diagnostic modalities for women. Services include extended hours of business, discounted price mammograms for self-pay patients and prompt scheduling of diagnostic studies and breast biopsies. We are proud to provide the most up-to-date mammograms, known as 3D mammograms, especially helpful in patients with dense breasts. Also available are molecular breast imaging, automated whole breast ultrasound and breast MRI.

Anita Minghini, MD, Director of Breast Care at Winchester Medical Center, participates in the American Society of Breast Surgeons' Mastery of Breast Surgery databank. She routinely averages 95% or better in meeting performance standards in nine quality metrics, including procedural and clinical benchmarks. As a program, we have access to genetics counseling, clinical trials, state-of-the-art radiation, beautiful chemotherapy infusion areas and reconstructive surgery.

Tracey Hoefler, FNP-C, has joined the Valley Health Breast Center, and as a team, she and Dr. Minghini provide comprehensive and compassionate care to those with breast problems.

Our Breast Center strives to provide the best care possible for benign and cancerous breast disease, and we will continue to grow the program for the benefit of our community.

Interventional Radiology

Microwave Ablation (MWA)

Interventional Radiology offers microwave ablation (MWA) at Winchester Medical Center. This proven technology is useful in various organ systems, although primarily liver, kidney and lung, and is a minimally invasive method to ablate tumors without surgery or radiation. Inserting a small probe into the mass, we then ablate (burn) it.

For non-surgical candidates, this is an excellent option; for masses less than 3.0 cm, it has cure rates comparable to surgery. As patient age advances, the more sense this makes, and the data bears this out. Specifically for lung masses, there is zero decrease in FEV1, making it especially enticing, as these patients usually have COPD.

These are single-session outpatient treatments. Patients go home in two hours with a Band-Aid.

Transarterial Chemoembolization (TACE)

This procedure involves selectively delivering intra-arterial chemotherapy to tumors and then cutting off (embolizing) their blood supply. Primarily used in liver masses, data now shows promise for renal masses as well. This is an excellent option for non-surgical candidates to achieve local tumor control, as it has been proven to prolong quantity and quality of life. In properly selected patients, this is even a curative approach in lieu of surgery.

Though not yet offered at WMC, Y-90, also known as TARE (transarterial radioembolization), is essentially the same treatment, but in lieu of delivering chemotherapy, we deliver internal radiation, specifically beta-emitting particles. These high-energy particles travel only 2 mm in vivo, providing an elegant and precise way to target cancer cells with minimal surrounding healthy-tissue “friendly-fire.”

Another application of TARE is a radiation segmentectomy, a means of functionally achieving a portal vein embolization (while also killing the tumor in the segment to be resected). This causes compensatory hypertrophy of the healthy remnant liver, allowing surgery in those who otherwise don't have a sufficient future liver remnant. Like TACE, in the properly selected patients, Y-90 can be curative.

Both TACE and Y-90 can also be combined with MWA for larger masses (greater than 3 cm) to achieve local tumor control, if not a cure.

Interventional radiology is a prime example of 21st century minimally invasive care, without a scalpel and almost always as outpatient treatment. Our team looks forward to serving as an adjunct for cancer patients at WMC and continuing to advance cancer care.

Clinical Trials

Clinical trials are an integral part of our commitment to providing comprehensive cancer care to our patients in Virginia, West Virginia and Maryland. Through Shenandoah Oncology's membership with US Oncology Research, we have access to cutting-edge and innovative research trials. We are also a clinical research affiliate of VCU Massey Cancer Center, a National Cancer Institute-designated cancer

center with one of the largest offerings of clinical trials in the state of Virginia. These affiliations allow our patients to receive advanced, university-level care close to home.

Clinical trials are research studies in which patients help doctors find ways to improve one's quality of life and cancer care. The goal of every clinical trial is to move the science of cancer care forward in traditional therapies, exciting new treatments such as targeted therapies or immunotherapies, as well as improving quality of life through data collection. Many cancer care therapies available today are attributed to patients participating in clinical trials such as these. Some of the benefits of clinical trials include access to medications and interventions before they are widely available. Clinical trial participants are very closely monitored by their doctor and a staff of highly trained research professionals.

A wide array of clinical trials is offered, including a cooperative study that looks at whether losing weight, by eating less and exercising more, changes the risk of cancer recurrence in women who have been diagnosed with early breast cancer.

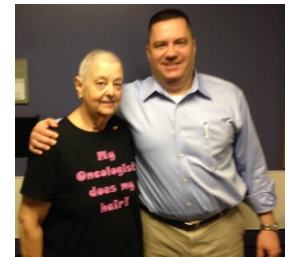
Coordinated Care

Darlene's story

In 2014, Darlene Custer was diagnosed with a tumor in her lower esophagus and surrounding cancerous lymph nodes. When she came to her first appointment with the Valley Health cancer team, she was impressed that the oncologist, radiologist and cancer surgeon had already discussed her case. She appreciated that staff took into consideration that she lives over an hour and a half away from Winchester, so they scheduled her testing on the same day to minimize travel back and forth.



"The people in (Medical) Oncology were wonderful," Darlene says. She lost her hair as a result of the chemotherapy. Her daughter gave her a "My Oncologist Does My Hair" t-shirt, which she wore to one of her appointments with oncologist Lee Resta, MD, and had her photo taken with him.



After completing chemotherapy, the next step for Darlene was surgery. In November 2014, surgical oncologist Patrick Wagner, MD, used a minimally invasive technique through small incisions to remove part of her esophagus and stomach. After a long recovery, Darlene was gradually able to resume a more normal lifestyle.

When routine follow-up scans showed cancerous lymph nodes were present, Dr. Wagner advised a second surgery to remove the nodes. Darlene had the surgery in July 2015.

Four years after her first surgery, Darlene is living well without evidence of cancer. She continues to have regular scans and follow-up with the cancer team.

She praises Dr. Wagner's staff members and expresses appreciation for all the departments involved in her care, including lab, imaging and therapy. She says staff "worked together wonderfully" to coordinate services or schedule testing she needed.



Darlene spends lots of time with family and is active in her church. She and her husband Bill, both retired, also enjoy their favorite pastime, camping.

If she lived closer, Darlene says she'd visit the oncology suite and talk with patients going through treatment, just to offer them hope at a time when she knows it can be hard to think it will get better.

"I was blessed," she says.

Support Services

Patient Navigators

The role of a navigator is to meet with patients to provide support, information, and resources. The navigation team at Winchester Medical Center's Cancer Center consists of two registered nurses and a social worker, who work to eliminate obstacles for patients who are receiving care at the Cancer Center.

Navigators assist patients with transportation barriers. Many patients are unable to afford the cost of transportation to chemotherapy and radiation treatments. Navigators are available to assist with finding help with paying for transportation or securing transportation sources that will pick the patients up and bring them to and from their treatments.

Connecting patients with financial assistance is also a vital role that a navigator plays. Navigators can link patients with assistance programs that help pay for medications, or even the cost of daily bills when patients become unable to work full time while undergoing treatments. Navigators have a wealth of knowledge about the area resources that can assist patients. Finding adequate and affordable housing is also a facet of their services.

Because patients often have a multidisciplinary team of providers, navigators assist in making sure that patients' care is coordinated and that they find their way smoothly through the health system. Navigators also frequently refer patients to health services such as rehabilitation programs, dieticians, integrative care, and smoking cessation as needed. They attend weekly tumor board meetings for information about complex cases. If patients become unable to care for themselves as they used to, navigators can assist with linking patients to community services that provide help in the home.

Navigators also assist with emotional support. Patients often experience a range of emotions and many times face anxiety and depression due to their diagnosis. Many patients benefit from referrals to professional counseling. Navigators also facilitate a monthly support group for cancer survivors and their families.

The navigators' other duties include survivorship care plans, completing advance directives and presenting health information at events promoting the importance of screening and early cancer detection. The oncology service line has recently added a survivorship navigator who is dedicated to seeing our patients through survivorship by preparing and reviewing a survivorship care plan with eligible patients.



Oncology Genetic Counseling

In 2016, Valley Health brought genetic counseling services to the Winchester area with the addition of a genetic counselor on the Winchester Medical Center campus. Christie Jett is a licensed, board-certified genetic counselor who divides her clinical time between the Shenandoah Valley Maternal Fetal Medicine practice and the Oncology Genetics Program. Christie first opened her doors to oncology

patients in June 2016 and since that time has worked with more than 400 families from Winchester and the surrounding areas. Most patients with a personal or family history of cancer do not have a hereditary cancer syndrome, but about 5-10% of oncology patients do have one of these syndromes that can lead to increased cancer risks in themselves and their family members. Some red flags for a hereditary cancer syndrome include early ages at diagnosis, multiple family members affected with the same kind of cancer, and certain patterns of cancer or rare kinds of cancer. Roughly two thirds of patients are referred for genetic counseling due to a personal or family history of breast cancer. The remaining one third of patients are referred for colorectal or other types of cancer, such as pancreatic or ovarian.

After reviewing family history and medical history, about half of patients choose to pursue genetic testing. The genetic counselor works with these patients to obtain insurance prior authorization or estimates for the out-of-pocket testing costs. About 15% of patients who pursue genetic testing will get a positive result. This means that their own history of cancer and possibly their family history of cancer can be explained by a single genetic mutation that is being passed on through the family. For these patients, a genetic diagnosis can change not only their medical management but also impact the care of their siblings, children, and even more distant relatives. The genetic counselor also reviews evidence-based cancer screening recommendations, based on a patient's personal and family history of cancer. Roughly half of patients who meet with the genetic counselor will learn about changes they can make in their recommended cancer screenings, regardless of whether they have genetic testing done.

The Oncology Genetics Program also collaborates with the Pathology Department on a universal screening program for Lynch syndrome. Starting in July 2016 all newly diagnosed colorectal tumors at WMC are screened for Lynch syndrome, the most common hereditary colorectal cancer syndrome. This program helps identify patients who would benefit from increased cancer screenings and may not otherwise be considered high-risk. In 2017 there were 28 high-risk cases forwarded to the Oncology Genetics Program for review. Of these cases, seven patients were formally evaluated by the genetic counselor and one patient did receive a confirmed diagnosis of Lynch syndrome.

Since its inception in 2016, the Genetic Counseling program has experienced tremendous growth with a 24% increase in referral volumes from 2016 to 2017 and a 66% increase in patient volumes over that same period. As of October 31, 2018, the program is on track to meet or exceed patient volumes from 2017 and experienced a 32% increase in referral volumes over that same period. To better serve the area and meet the growing demand for qualified genetic counseling services locally, the Oncology Genetics Program welcomed a dedicated administrative assistant in 2018 and hopes to continue expanding its services in 2019 with the addition of a second genetic counselor.

Nutrition Therapy

The Valley Health Cancer Center offers outpatient services for cancer patients undergoing treatment as well as survivors experiencing treatment side effects. Physicians can refer individuals with nutrition challenges to a board certified oncology nutritionist who can assist with eating challenges to provide support while undergoing cancer treatment and beyond.



Nutrition plays a significant role in supporting our body, but when our body is under the stress of a serious illness such as cancer, adequate nutrition can become more of a challenge for an individual and his or her caregivers. At times individuals going through cancer treatment, or even afterwards, may need help in determining what foods are needed for healing.

Each cancer patient experiences his or her own challenges with nutrition during treatment. Depending on where an individual's cancer is located, they can experience a wide variety of nutrition challenges. Most often, an individual will have problems with one or several of the following: taste alterations, swallowing difficulties, nausea/vomiting, and/or diarrhea/constipation. Often these nutrition challenges cause an individual's appetite to decline, leading to weight loss, dehydration and malnutrition. In some cases where maintaining nutrition becomes a greater challenge, an individual may be faced with needing a feeding tube or, if the digestive system is compromised, IV nutrition may be indicated.

Almost all individuals diagnosed with head and neck cancer seen in our clinic have challenges with eating during cancer treatment. The dietitian helps them to adjust their diet to maximize their nutritional intake. We have witnessed better tolerance of nutrition for individuals choosing to have a feeding tube placed earlier in treatment rather than when absolutely necessary. Risk for malnutrition in this population of cancer patients is high, and earlier nutrition intervention is key to a successful treatment plan.

Rehabilitation Services

An integral component of cancer care is rehabilitation. Cancer and cancer treatments can physically, mentally, and socially affect a person's ability to be independent, work or even just do the day-to-day activities. Rehabilitation Services can play a major part and make a positive impact on recovery. These therapy services include outpatient physical therapy, occupational therapy and speech and language pathology at nine locations throughout the Valley Health service area.

Our certified lymphedema therapists (physical and occupational therapists) help breast cancer patients and other cancer patients experiencing swelling due to disruption of their lymphatic system through surgery. Over 40 referrals were made this year to help our cancer patients with drainage, compression and a home maintenance program to manage this chronic condition.

While our physical and occupational therapists are specialized in specific rehabilitative cancer treatment, they also can help improve tissue mobility at the surgical scar site to regain range of motion and provide training for activities of daily living. Prior to having surgery due to cancer, our therapists can provide a fit for surgery plan that will have lasting rehabilitative benefits before and after surgery.

Our speech/language pathologists work closely with the dietitian to address the nutritional needs and potential swallowing issues that head and neck cancer patients might experience from surgery and treatment.

Additionally, Winchester Rehabilitation Center offers hospital-level care and intensive therapy for people whose lifestyle and physical abilities have changed due to cancer. Our rehabilitation team focuses on helping patients be as independent as possible and getting them ready to go home. Medical and rehabilitation physicians are available 24 hours a day to manage the patients' rehabilitation.

Integrative Care

Valley Health's Integrative Care Program offers several healing modalities for inpatients and their family members, outpatients and staff. All appointments and requests can be made by contacting April Adams at 540-536-4126 or comfort@valleyhealthlink.com.

Reiki therapy and Integrative Energetic Medicine are offered throughout Winchester Medical Center and at the Cancer Center to help reduce stress, anxiety, nausea, and pain perception. Our statistics show an average decrease in pain perception from 4.4 to 2.1 after just one session. These services are available at no charge for Valley Health employees and anyone currently receiving treatment or services from Valley Health, by appointment.

Music therapy and MusiCaregiving offer their skills and talents at WMC and the Cancer Center. Music therapists visit inpatients at the bedside and offer 1:1 sessions for current Valley Health outpatients to assess their needs and provide music experiences that promote healing and enhance quality of life. MusiCaregivers provide live therapeutic music for inpatients at the bedside or in waiting areas to enhance the healing and transitioning processes.

Mindfulness-Based Stress Reduction (MBSR) is an intensive eight-week workshop series designed to help you establish your own unique mindfulness practice, and teach you techniques that have been clinically confirmed to reduce and, in some cases, eliminate physical and emotional symptoms made worse by stress. This is a fee-based program that includes 24.5 CE credits for Valley Health nurses. More information can be found at www.mindfulvalley.com.

Aromatherapy oils and diffusers may be available, by unit or office discretion. A nationally certified aromatherapist is available for consultation, classes, and staff education if desired.

Guided meditations are available at no charge, by appointment, at WMC and the Cancer Center for groups or individuals. A space for private reflection and personal meditation is also available in the Meditation Room at the Cancer Center.

Classes and workshops are offered at the Cancer Center throughout the year, including various activities with expressive art, poetry for healing, aromatherapy, music therapy and more. Watch for announcements on the Valley Health website and in the Cancer Center.

Palliative Care

The Palliative Care consult service at Winchester Medical Center is staffed with a board-certified palliative medicine physician, a nurse practitioner and a social worker, both with advanced certification in palliative care for their disciplines. The Palliative Care team collaborates with the medical, surgical, and radiation oncologists for clinical issues and the oncology navigators for resource assistance for patients after discharge. A Palliative Care team representative participates on the Cancer Committee, Ethics Committee, Advance Care Planning Task Force and others. The Palliative Care Resource Network meets bimonthly for staff interested in palliative care issues. The team provides information and education to clinical staff as well as community groups. As the Palliative Care team expands, we expect to provide outpatient services as well as ongoing provider and community education.

Wellspring

Wellspring brings together healthcare, community and supportive services to address the needs of the “whole” person experiencing cancer and other chronic diseases. Our goal is to help patients and their families find the resources they need in a compassionate, non-clinical setting.



We added a new support program, “More than Beauty,” in 2018. The program offers personalized suggestions by specially trained licensed cosmetologists for skin, hair and nail care and hands-on lessons to help women and men while they’re undergoing treatments or when they need a boost. This new program helps women and men answer questions regarding safe hair, nail and skin products and nutrition challenges. More than Beauty is designed to help nourish the natural person, inside and out.

To better serve our uninsured patients, Wellspring received a grant from the Winchester Medical Center Foundation to provide wigs to those patients who lack insurance or are facing financial challenges.

Our point-of-sale computer system keeps track of statistics and offers tracking of care bag distribution and services used by patients. Wellspring has continued to support an increase in the number of care bags given to cancer patients and an increase in the number of patients using Wellspring for their free support services.

So Wellspring can continue to provide many free services to our patients, we have added more fee-based services such as manicures, pedicures and facials for customers who are not current cancer or chronic care patients.

Cancer Program Resource Liaisons

Valley Health serves a population of more than 500,000 across regions of Virginia, West Virginia and Maryland with six hospitals including Winchester Medical Center, home to our nationally accredited community cancer program. To facilitate access to our cancer services while optimizing patient care across the continuum, Cancer Program Resource Liaisons (CPRL) have been identified at each of the other Valley Health hospitals.

Each on-site liaison is passionate about improving the quality of cancer care for our patients. They serve as a local resource at their community hospital for healthcare providers, patients and their families. The CPRLs are knowledgeable about our services and available to help with a referral or to answer questions. They can provide informational materials about our program and have access to a supply of cancer patient handbooks and Wellspring care bags for newly diagnosed patients.

The Association of Community Cancer Centers recognized Valley Health’s Cancer Resource Liaison Program in the category of Outreach and Supportive Care at the association’s 2016 national annual meeting.

Cancer Tumor Registry

Winchester Medical Center's cancer registry is a standardized data system used to collect, manage and analyze data on patients with neoplastic diseases. As a Commission on Cancer (CoC)-approved comprehensive community cancer program, WMC has maintained a cancer registry for patients diagnosed with cancer since January 1, 2000. The cancer registry contains clinical data on malignant tumors from all anatomic sites and benign central nervous system tumors diagnosed and/or treated at the hospital. Clinical cancer data management professionals, known as certified tumor registrars, capture a complete history, diagnosis, treatment, and patient health status for every cancer collected. Cancer registry data provides essential information to researchers, health care providers, and public health officials to better monitor and advance cancer treatments, conduct research, and improve cancer prevention and screening programs. Winchester Medical Center's cancer registry now contains data on more than 34,000 cancers. Confidentiality of patient identifying information and related medical data is strictly maintained. Aggregate data are analyzed and published without any patient identifiers.

Community Outreach and Education

Prevention, screening and early detection are the cornerstone of our community outreach and education program. Our outreach program interacts across a broad range of community partners who work collaboratively toward improving the health of every family. We plan our array of outreach activities in accordance with Valley Health's Community Health Needs Assessment as well as evidence-based guidelines. Our team attends and supports various employer sponsored health fairs, wellness festivals and county health fairs throughout the year.

Additionally, our staff plans the following for our community:

National Cancer Prevention Month

We encourage families to make healthy food choices every Tuesday during the month of February. We provided healthy snacks, American Institute for Cancer Research recipes, AICR's healthy eating checklist and tips when dining out as reminders to make healthy food choices.



Colorectal Cancer Awareness – *Surviving with Laughter*

Surviving with Laughter is an annual event open to all female cancer survivors and a guest. One of our colorectal specialists provides education on the importance of screening followed by dinner and entertainment by a comedian. We collaborate with the local American Cancer Society office and alternate our location each year to offer a convenient opportunity for community members.



Skin Cancer Awareness Month

Collaborating with a local dermatology office since 2016, we offer an American Academy of Dermatology SPOTme® skin cancer screening day. Since its inception, 122 community members have been screened for skin cancer, resulting in seven skin cancer diagnoses and seven pre-cancerous skin cancers treated according to American Academy of Dermatology guidelines.



Oncology Issues, a publication of the Association of Community Cancer Centers, highlighted our collaborative work on the cover of the publication's May-June 2018 issue.

We offer free sunscreen samples in the Valley Health Cancer Center lobby for everyone all summer long.

National Cancer Survivor Day

We team up with local American Cancer Society offices in our region to celebrate Relay for Life in various communities. Every survivor receives a "Today, I am Celebrating" sign to decorate and use on the track during the survivor lap.

National Subaru Loves to Care Program

The Leukemia and Lymphoma Society partners with the local Subaru dealership in Winchester to distribute blankets to our patients.



Breast Cancer Awareness Month – Breast Health Empowerment Day & Breast Cancer Survivors Celebration

Breast Health Empowerment Day is an annual event featuring a free educational symposium for the public and a celebration for breast cancer survivors. Valley Health's cancer physicians present on the latest breast health and breast cancer news during a panel discussion that allows audience members to participate. A celebratory luncheon follows for all breast cancer survivors and a guest. The 2018 event featured an author and motivational speaker.

Lung Cancer Awareness Month – A Gathering to Honor Lung Cancer Survivors

New in 2018, this event offers an opportunity to greet the thoracic surgical oncology team and share stories and experiences. The evening also includes a candlelight memorial to remember loved ones.

Community Celebration Honoring all Cancer Survivors

Our team hosts this annual dinner event for all cancer survivors and a guest in collaboration with the Winchester Medical Center Foundation and our local American Cancer Society. Moderated by local radio celebrities, the evening includes a presentation followed by dinner and an opportunity to share experiences and stories of hope. This year's guest speaker was the founding Director of the Duke Cancer Institute's Center for Onco-Primary Care and Director of the Duke Supportive Care and Survivorship Center.

Smoking Cessation

Valley Health offers the American Lung Association's Freedom from Smoking® course year-round. The free course, led by Valley Health staff members who are American Lung Association certified facilitators, provides a step-by-step plan to quit smoking and includes eight small group classes over seven weeks.

Clinical Educational Offerings

Valley Health Oncology Symposium Regional Conference

Delivering the Best Cancer Care from Diagnosis to Survivorship

A full day conference provided comprehensive and clinically relevant information to optimize cancer patient care and outcomes.

Topics: Surgical Oncology Collaborations, Multiple Myeloma, Harnessing the Power of the Human Immune System, Cardiovascular Care of the Cancer Patient, From Prescription to Plate, Chinese Medicine and Interventional Medicine for Pain/Symptom Management and an Integrative Care panel
September 2018; Middletown, VA

Winchester Medical Center Grand Rounds

The Challenges of Pancreatic Cancer. Dr. Nipun Merchant, Chief Surgical Officer, University of Miami Health Center. September 2018

Against the Grain: Bringing PCPS Back into Cancer Care. Dr. Kevin Oeffinger, Professor of Medicine and Director Duke Cancer Institute's Survivorship Care program. October 2018

Presentations by Oncology Staff Members

Our physicians and advanced practice clinicians seek to provide comprehensive and clinically relevant information to optimize cancer patient care and outcomes by sharing their expertise.

Dillingham, Robert, MD:

- Low Grade Epithelial Proliferations of the Breast. *Breast Cancer Conference*. October 2018; Winchester, VA

Flaherty, Devin, DO:

- Enhanced Recovery After Surgery. *Quarterly Primary Care Physician Meeting*. November 2018; Winchester, VA

Flax, Bruce, MD:

- Post Mastectomy Radiation. *Breast Cancer Conference*. July 2018; Winchester, VA

Houck, William Jr, MD:

- Lessons I've Learned. *Winchester Medical Center's CME Conference*. May 2018; Winchester, VA

Houck, William III, MD:

- Adjuvant Antihormone Therapy for Early Breast Cancer: How Long? *Breast Cancer Conference*. August 2018; Winchester, VA
- Avoiding Chemotherapy – New Clinical Research Suggests Benefit of Oncotype DX for Some Breast Cancer Patients. *Breast Health Empowerment Symposium*. September 2018; Winchester, VA
- Coagulation: A Few Cases. *Chronic Disease Symposium*. November 2018; Middletown, VA

Ingram, Richard, MD:

- Legislative Panel Discussion. *Virginia State Medical Oncology Society Meeting. Virginia Association of Hematologists and Oncologists*. April 2018; Hot Springs, VA
- Oncology Care Model/Value Based Care Panel. *Virginia State Medical Oncology Society Meeting. Virginia Association of Hematologists and Oncologists*. April 2018; Hot Springs, VA

Jett, Christie, MS, LCGC:

- Expanded Panel Testing for Breast Cancer. *Breast Cancer Conference*. April 2018; Winchester, VA

Jones, Matthew, MD:

- Updates on Multiple Myeloma. *Valley Health Oncology Symposium's Regional Conference*. September 2018; Winchester, VA

Kowalchik, Kristin, MD:

- Prone Breast Radiation. *Breast Cancer Conference*. March 2018; Winchester, VA

Lambert, Paul, MD:

- Breast Reconstruction. *Breast Cancer Conference*. September 2018; Winchester, VA

Minghini, Anita, MD:

- Axillary Node Management in Breast Cancer. *Breast Cancer Conference*. February 2018; Winchester VA
- Genetic Testing – Who Needs It? *Breast Health Empowerment Symposium*. September 2018; Winchester, VA

Nieman, Christopher, MD:

- Improving Breast Cancer Screening and Diagnosis – Valley Health’s Radiology and Pathology Departments Develop New Approach to Ensure Optimal Management of Patients Undergoing Biopsy. *Breast Health Empowerment Symposium*. September 2018; Winchester, VA
- Valley Health’s Breast Screening Program Updates. *Shenandoah Memorial Hospital Pink Ribbon Tea*. October 2018; Woodstock, VA

Prater, Amanda, PA-C:

- Postoperative Care of Thoracic Surgery Patients. *CME Dinner Presentation*. August 2018; Hagerstown, MD

Reddy, Shalini, MD:

- Moving into the Future – Robotic Thoracic Surgery. *CME Dinner Presentation*. August 2018; Hagerstown, MD
- Robotic Thoracic Surgery Workshop. *Women in Robotic Thoracic Surgery Summit*. September 2018; Atlanta, GA
- Robotic Thoracic Surgery. *Berkley County Chamber of Commerce Rise and Shine*. September, 2018; Martinsburg, WV

Resta, Lee, MD:

- Genomic Profiling in Early Stage Breast Cancer. *Breast Cancer Conference*. May 2018; Winchester, VA

Wagner, Patrick, MD:

- Can Colorectal Cancer Be Prevented? *Surviving with Laughter – Annual Colorectal Cancer Awareness Program*. March 2018; Berkley Springs, WV
- Surgical Oncology Collaborations in Colorectal Cancer – Present Strategies and Future Plans. *Valley Health Oncology Symposium’s Regional Conference*. September 2018; Winchester, VA

Publications by Oncology Staff Members

Devin Flaherty, DO, PhD, FACOS, FACS, Valley Health Surgical Oncology, authored two manuscripts published in 2018, including a textbook chapter and an article in a national journal. He authored a chapter on complex general surgical oncology fellowship that was published in *A Surgeon's Path: What to Expect After a General Surgical Residency*. Dr. Flaherty also authored an article entitled "The Negative Impact of Body Mass Index on the Tumor Microenvironment in Colon Cancer: Results of a Prospective Trial" in the *Annals of Surgical Oncology*. This study sought to identify a relationship between obesity and colon cancer.

References:

Bhagwandin S.B., Flaherty D.C. (2018) Complex General Surgical Oncology Fellowship. In: Yoon-Flannery K., Fisher C., Neff M. (eds) *A Surgeon's Path*. Springer, Cham
https://doi.org/10.1007/978-3-319-78846-3_7

Flaherty, D.C., Jalas, J.R., Sim, M.S. et al. *Ann Surg Oncol* (2018) 25: 1374.
<https://doi.org/10.1245/s10434-018-6405-x>

Debra DeNitto, BS, Coordinator of Oncology Community Outreach Services, authored an article entitled "Developing Skin Cancer Prevention Initiatives for the Whole Family" published in *Oncology Issues* in 2018. This article traced how Valley Health's Cancer Committee and Oncology Outreach Coordinator developed strategies to address and work toward decreasing the number of patients with late-stage disease, provide new opportunities to educate on the importance of skin cancer prevention and promote sun-protective behaviors.

Reference:

Debra DeNitto (2018) Developing Skin Cancer Prevention Initiatives for the Whole Family, *Oncology Issues*, 33:3, 14-19.
<https://doi.org/10.1080/10463356.2018.1456161>

2018 Oncology Quality Study

Patient Opioid Medication Use and Concurrent Bowel Regimen Prescribing Practices on Winchester Medical Center (WMC) Oncology Unit

Hypothesis:

Compliance with National Comprehensive Cancer Network (NCCN) Adult Cancer Pain Guidelines recommendations pertaining to use of bowel regimen medications with concurrent opioid therapy falls short of expectations and in need of improvement

Background and Significance:

Constipation can almost always be anticipated with opioid treatment, and patients do not develop tolerance to the constipating side effects of opioids. Therefore, administration of a prophylactic bowel regimen is recommended. The management of opioid adverse effects section of NCCN's Adult Cancer Pain Guidelines recommendations is as follows:

- Polyethylene glycol 17 grams twice daily
- Stimulant laxative plus/minus a stool softener (e.g. senna/docusate) up to max of 8-12 tabs daily
- Maintain adequate fluid intake

Of note, while maintaining adequate dietary fiber intake is recommended, the choice of a supplemental fiber product such as psyllium is unlikely to control opioid induced constipation and is not recommended; also, stool softeners such as docusate alone may not provide benefit in well-hydrated patients.

Baseline Findings:

The admissions of 213 patients to the Oncology Unit where opioid medications were prescribed from February 2017 to April 2017 were followed with the following results:

- Out of 213 patients prescribed opioids, only 96 were prescribed a concurrent bowel regimen.
- Of these 96 patients, 16 patients who were prescribed a bowel medication did not receive any doses. Additionally, 26 patients who did receive a bowel medication may have been inadequately treated per the referenced NCCN guidelines, i.e., either received only 1 or 2 doses, or just a softener or fiber containing medication.
- Removing these patients from the 96 suggests that only 20% of the patients who were prescribed and administered opioids also were prescribed or administered an acceptable bowel regimen.

Twenty selected WMC order sets that contained pain medication sections listing opioids as an option were reviewed. Most of these were different service admissions, PCA and post-op order sets. Of the 20, only 11 had bowel medication sections.

Recommendations:

Conduct a second review of patients prescribed an opioid medication following interventions to include written physician education, update our Laxative Standard Medication Group, ensure order sets containing a pain management section with an opioid option will also include a bowel care medication section and provide nursing education via RN clinical educator

Study submitted by:

Dan Orenzuk, BS, RPh, Clinical Pharmacy Specialist – Oncology

Lucille O'Grady, MSN, RN, Clinical Nurse Educator

Larissa Coyle, PharmD, BCPS, Clinical Pharmacy Specialist – Infectious Disease

2018 Oncology Improvement Study

Patient Opioid Medication Use and Concurrent Bowel Regimen Prescribing Practices on Winchester Medical Center (WMC) Oncology Unit

Hypothesis:

Targeted educational efforts will lead to increased compliance with National Comprehensive Cancer Network (NCCN) Adult Cancer Pain Guidelines recommendations pertaining to use of bowel regimen medications with concurrent opioid therapy

Abstract:

Opioid medications are an important part of our armamentarium for treating patients with pain. However, pain relief can be difficult to achieve due to the many side effects of opioids – foremost of which is opioid induced constipation. A review of patients admitted to the WMC Oncology Unit who were prescribed opioids showed that approximately 20% were concurrently prescribed a bowel regimen reflecting NCCN guidelines on management of opioid adverse effects. After educational efforts targeting physicians, advanced practitioners and nursing staff were completed, our compliance rate increased to 46%.

Aims and Objectives

Objective:

Measure the effect of practitioner education on rates of appropriate bowel medication regimens being prescribed for patients concurrently prescribed opioids

Background and Significance:

Constipation can almost always be anticipated with opioid treatment, and patients do not develop tolerance to the constipating side effects of opioids. Therefore, administration of a prophylactic bowel regimen is recommended. The management of opioid adverse effects section of NCCN's Adult Cancer Pain Guidelines recommendations is as follows:

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Baseline Findings:

The admissions to the Oncology Unit of 213 patients who were prescribed opioid medications from February 2017 to April 2017 were reviewed with the following results:

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- Of these 96 patients, 16 patients who were prescribed a bowel medication did not receive any doses. Additionally, 26 patients who did receive a bowel medication may have been inadequately treated per the referenced NCCN guidelines, i.e., either received only 1 or 2 doses, or just a softener or fiber containing medication.
- Removing these patients from the 96 suggests that only 20% of the patients who were prescribed and administered opioids also were prescribed or administered an acceptable bowel regimen.

Of note, 20 selected WMC order sets that contained pain medication sections listing opioids as an option were reviewed. Most of these were service admissions, PCA and post-op order sets. Of the 20, only 11 had bowel medication sections.

Methods

Improvement Study Design:

A review of approximately 200 patients prescribed an opioid medication will be performed focusing on:

- specific opioid(s) prescribed, total dose administered and whether the dose was scheduled or used on an as needed basis
- whether a bowel medication/regimen was also prescribed
- specific bowel medication(s), total dose and whether the dose was scheduled or used on an as-needed basis
- whether NCCN Adult Cancer Pain Guidelines recommendations were followed
- whether the patient had a cancer diagnosis
- whether an order set was used
- the prescribing practitioner

The following interventions will be implemented:

- providing written physician education on the importance of including appropriate bowel medications when ordering concurrent opioids through an Epic training manual document
- including this education in the monthly medical staff newsletter
- complete a review/changes in our Laxative Standard Medication Group
- incorporate these Laxative Standard Medication Group changes into all order sets containing a bowel care medication section
- Nursing to be provided education by our RN clinical educator through a PowerPoint presentation on taking care of patients on opioids

A second review of approximately 200 patients prescribed an opioid medication will be performed focusing the same criteria post-intervention.

Data Collection

Preliminary data collection from December 2017 to March 2018

Interventions April 2018 through December 2018

Final data collection from September 2018 to December 2018

Findings/Summary

Initial data collection results on 202 patients:

- 49.5% of patients who were prescribed opioids were also prescribed some type of bowel regimen drug(s)
- 31.5% of patients received a bowel regimen per NCCN Adult Cancer Pain Guidelines on management of opioid adverse effects
- 36% of patients reviewed had a cancer diagnosis
- 40% of patients were ordered opioids/bowel regimen drugs using a WMC order set

Final post-intervention data collection results on 209 patients:

- 76% of patients who were prescribed opioids were also prescribed some type of bowel regimen drug(s)
- 46% of patients received a bowel regimen per NCCN Adult Cancer Pain Guidelines on management of opioid adverse effects
- 53% of patients reviewed had a cancer diagnosis
- 85% of patients were ordered opioids/bowel regimen drugs using a WMC order set

After implementation of our educational efforts, the rate of adherence to NCCN's Adult Cancer Pain Guidelines recommendations pertaining to use of bowel regimen medications with concurrent opioid therapy improved from 31.5% to 46%. There was also a significant increase in the number of patients who were prescribed a concurrent bowel regimen along with patients prescribed opioids/bowel regimen drugs using a WMC order set.

Study submitted by:

Dan Orenzuk, BS, RPh, Clinical Pharmacy Specialist – Oncology

Lucille O'Grady, MSN, RN, Clinical Nurse Educator

Larissa Coyle, PharmD, BCPS, Clinical Pharmacy Specialist – Infectious Disease

2017 PRIMARY SITE TABLE — Based on 2017 Statistics

In the 2017 reporting year, the cancer registry accessioned 1,456 cases into the registry database. Of these cases, 1,314 were analytic, cases diagnosed and/or receiving all or part of the first course of therapy at Winchester Medical Center. The other 142 cases were non-analytic, patients receiving the first course of therapy elsewhere prior to referral to WMC. The following statistics reflect only analytic cases.

Primary Site	Total Cases (%)	Male	Female	Stage 0	Stage I	Stage II	Stage III	Stage IV	88	Unknown
ORAL CAVITY & PHARYNX	38 (2.9%)	32	6	0	2	2	6	26	1	1
Lip	1 (0.1%)	1	0	0	1	0	0	0	0	0
Tongue	9 (0.7%)	9	0	0	0	0	1	8	0	0
Salivary Glands	1 (0.1%)	1	0	0	0	0	0	1	0	0
Floor of Mouth	1 (0.1%)	1	0	0	0	0	0	1	0	0
Gum & Other Mouth	2 (0.2%)	1	1	0	0	1	0	1	0	0
Nasopharynx	2 (0.2%)	2	0	0	0	0	1	1	0	0
Tonsil	14 (1.1%)	13	1	0	1	0	4	9	0	0
Oropharynx	5 (0.4%)	3	2	0	0	1	0	3	0	1
Hypopharynx	2 (0.2%)	0	2	0	0	0	0	2	0	0
Other Oral Cavity & Pharynx	1 (0.1%)	1	0	0	0	0	0	0	1	0
DIGESTIVE SYSTEM	307 (23.4%)	173	134	5	51	74	73	82	22	0
Esophagus	13 (1.0%)	10	3	0	4	1	4	4	0	0
Stomach	27 (2.1%)	21	6	0	6	5	7	8	1	0
Small Intestine	9 (0.7%)	3	6	0	0	1	1	2	5	0
Colon Excluding Rectum	105 (8.0%)	56	49	4	14	29	31	24	3	0
Cecum	30	13	17	1	0	10	13	6	0	0
Appendix	2	1	1	0	0	0	0	0	2	0
Ascending Colon	16	11	5	0	5	6	3	1	1	0
Hepatic Flexure	8	3	5	2	2	1	2	1	0	0
Transverse Colon	13	5	8	0	2	4	4	3	0	0
Splenic Flexure	1	1	0	0	0	0	1	0	0	0
Descending Colon	8	2	6	0	2	3	3	0	0	0
Sigmoid Colon	21	16	5	1	3	5	4	8	0	0
Large Intestine, NOS	6	4	2	0	0	0	1	5	0	0
Rectum & Rectosigmoid	56 (4.3%)	37	19	1	14	11	19	7	4	0
Rectosigmoid Junction	11	7	4	0	1	1	6	3	0	0
Rectum	45	30	15	1	13	10	13	4	4	0
Anus, Anal Canal & Anorectum	7 (0.5%)	1	6	0	0	2	3	1	1	0
Liver & Intrahepatic Bile Duct	25 (1.9%)	15	10	0	8	2	5	10	0	0
Liver	15	10	5	0	8	1	4	2	0	0
Intrahepatic Bile Duct	10	5	5	0	0	1	1	8	0	0
Gallbladder	5 (0.4%)	2	3	0	0	1	0	4	0	0
Other Biliary	3 (0.2%)	1	2	0	0	1	0	1	1	0
Pancreas	50 (3.8%)	24	26	0	3	21	3	21	2	0
Retroperitoneum	2 (0.2%)	2	0	0	2	0	0	0	0	0
Peritoneum, Omentum & Mesentery	4 (0.3%)	0	4	0	0	0	0	0	4	0
Other Digestive Organs	1 (0.1%)	1	0	0	0	0	0	0	1	0
RESPIRATORY SYSTEM	310 (23.6%)	160	150	0	85	36	48	138	3	0
Larynx	13 (1.0%)	10	3	0	6	2	1	4	0	0
Lung & Bronchus	297 (22.6%)	150	147	0	79	34	47	134	3	0
SOFT TISSUE	7 (0.5%)	5	2	0	1	3	1	1	1	0
Soft Tissue (including Heart)	7 (0.5%)	5	2	0	1	3	1	1	1	0
SKIN EXCLUDING BASAL & SQUAMOUS	37 (2.8%)	28	9	4	18	8	5	2	0	0

2017 PRIMARY SITE TABLE — Based on 2017 Statistics

Primary Site	Total Cases (%)	Male	Female	Stage 0	Stage I	Stage II	Stage III	Stage IV	88	Unknown
Melanoma - Skin	34 (2.6%)	25	9	4	18	8	2	2	0	0
Other Non-Epithelial Skin	3 (0.2%)	3	0	0	0	0	3	0	0	0
BREAST	293 (22.3%)	3	290	34	131	80	27	21	0	0
Breast	293 (22.3%)	3	290	34	131	80	27	21	0	0
FEMAL GENITAL SYSTEM	53 (4.0%)	0	53	1	23	3	15	11	0	0
Cervix Uteri	5 (0.4%)	0	5	0	1	0	4	0	0	0
Corpus & Uterus, NOS	34 (2.6%)	0	34	1	20	3	5	5	0	0
Ovary	12 (0.9%)	0	12	0	1	0	5	6	0	0
Other Female Genital Organs	2 (0.2%)	0	2	0	1	0	1	0	0	0
MALE GENITAL SYSTEM	71 (5.4%)	71	0	0	10	44	4	13	0	0
Prostate	65 (4.9%)	65	0	0	7	43	3	12	0	0
Testis	5 (0.4%)	5	0	0	3	1	1	0	0	0
Penis	1 (0.1%)	1	0	0	0	0	0	1	0	0
URINARY SYSTEM	76 (5.8%)	63	13	42	14	2	4	13	0	1
Urinary Bladder	56 (4.3%)	46	10	40	8	2	2	3	0	1
Kidney & Renal Pelvis	15 (1.1%)	15	0	0	4	0	2	9	0	0
Ureter	5 (0.4%)	2	3	2	2	0	0	1	0	0
BRAIN & OTHER NERVOUS SYSTEM	27 (2.1%)	16	11	0	0	0	0	0	27	0
Brain	17 (1.3%)	11	6	0	0	0	0	0	17	0
Cranial Nerves Other Nervous System	10 (0.8%)	5	5	0	0	0	0	0	10	0
ENDOCRINE SYSTEM	18 (1.4%)	3	15	0	14	1	2	0	1	0
Thyroid	17 (1.3%)	2	15	0	14	1	2	0	0	0
Other Endocrine including Thymus	1 (0.1%)	1	0	0	0	0	0	0	1	0
LYMPHOMA	49 (3.7%)	32	17	0	11	11	13	14	0	0
Hodgkin Lymphoma	2 (0.2%)	1	1	0	0	2	0	0	0	0
Non-Hodgkin Lymphoma	47 (3.6%)	31	16	0	11	9	13	14	0	0
NHL-Nodal	31	21	10	0	3	6	13	9	0	0
NHL-Extranodal	16	10	6	0	8	3	0	5	0	0
MYELOMA	10 (0.8%)	6	4	0	0	0	0	0	10	0
Myeloma	10 (0.8%)	6	4	0	0	0	0	0	10	0
LEUKEMIA	4 (0.3%)	2	2	0	0	0	0	0	4	0
Lymphocytic Leukemia	2 (0.2%)	1	1	0	0	0	0	0	2	0
Myeloid & Monocytic Leukemia	2 (0.2%)	1	1	0	0	0	0	0	2	0
MESOTHELIOMA	2 (0.2%)	1	1	0	1	1	0	0	0	0
Mesothelioma	2 (0.2%)	1	1	0	1	1	0	0	0	0
MISCELLANEOUS	12 (0.9%)	6	6	0	0	0	0	0	12	0
Miscellaneous	12 (0.9%)	6	6	0	0	0	0	0	12	0
Total	1,314	601	713	86	361	265	198	321	81	2

