



Message from the Director, Cancer Services

Lori McMullen RN, MSN, OCN

I am pleased to present the 2018 Penn Medicine Princeton Medical Center Cancer Program Annual Report. There were many exciting changes this year, starting in January when Penn Medicine and Princeton Health Care System merged. The affiliation will bring many improvements to our program including seamless coordination of consultations and cancer treatment within the Penn Network sites. Shortly after the affiliation with Penn Medicine, we implemented a new electronic medical record (EMR), PennChart by EPIC. With the adoption of PennChart, our patients have a centralized medical record system that is available to any consulting or treating physician within the EPIC system network.

This past year we made several updates to our technology. In our radiation oncology department, we purchased and installed Align RT®, a system for delivering surface guided radiation (SGRT). Align RT® is a product of Vision RT®. Align RT® helps to improve patient set-up and the accuracy of radiation treatment by tracking a patient's position using 3D stereo camera units.

The women's imaging center purchased an additional 3D Tomosynthesis mammography unit for the hospital's mammography department. The installation of this unit creates standardization of the most current mammography technology throughout the Penn Medicine Health System. We have also installed a radiographic specimen unit in the operating room. Having this unit in the OR provides direct access to imaging and reduces the table time needed for biopsy verification.

We constantly work to enhance the quality of how we deliver cancer care, both in the advanced technology we use and in our patient care services. This past year we have incorporated art therapy and massage therapy with our current restorative yoga and mindful meditation classes. In the near future we will be adding Reiki and aromatherapy. As an American College of Surgeons Commission on Cancer accredited facility, we adhere to strict standards that demonstrate our commitment to provide high quality, patient centered care.

Cancer Committee Leadership

The success of the Cancer Program depends on an effective, multidisciplinary cancer committee. The Penn Medicine Princeton Medical Center Cancer Committee is composed of various physician representatives from diagnostic and treatment specialties, as well as non-physicians from supportive services. All work collaboratively to ensure quality care is provided to all cancer patients.

Cancer Committee responsibilities include:

- Annual goal setting
- Monitoring and evaluating quality initiatives
- Ongoing evaluation of all cancer-related activities to continually improve patient cancer care and experience
- Oversight of Breast Program Leadership

2018 Cancer Committee Members and Committee Roles

Craig Van Uitert, MD	Pathologist
Harpreet Sidhu, MD	Pain Control/Palliative Care
Deborah Millar, RN	Community Outreach/Outreach Coordinator
David Sokol, MD	Medical Oncologist/Cancer Conference Coordinator
Humility Sumayang, BSN-RN, BC	Oncology Nurse Leader-Inpatient
Jack Heim, MD	Thoracic Surgeon
James Demetriades, VP, Operations	Program Administrator
Jan Legg, BS, CTR	Cancer Registry Supervisor/ Cancer Registry Quality Coordinator
Joanita Miranda, LCSW, MSW	Social Work/Psychosocial Services Coordinator
Joseph Pepek, MD	Radiation Oncologist/Cancer Liaison Physician/ Interim Committee Chair
Karen Davison, RN, BSN, OCN	Survivorship
Liam Smith, MD	Colorectal Surgeon
Lori McMullen RN, MSN, OCN	Director, Cancer Services
Marc Schwarzman, MD	Urologist
Tina Bloemer	Performance Improvement/QI Coordinator
Rachel Dultz, MD	Breast Surgeon/Breast Program Leadership Chair
Rashmi Roy, MD	Thyroid Surgeon/Committee Chair
Richard Lee, MD	Medical Oncologist
Samuel Green, MD	Radiology
Sharon Cavone, RN, BSN, OCN	Navigation
Tina Inverso, RN, BSN	Clinical Research/Clinical Trials Coordinator

Cancer Committee: Studies of Quality and Quality Improvement 2018

Standard 4.7

Study of Quality: Coordination of Care for Patients Requiring Enteral Nutrition

A retrospective review and analysis of coordination of education and homecare visits/equipment delivery and communication between the oncology Registered Dietitian (RD), homecare, and durable medical equipment (DME) provider was identified causing a delay in patient care and effecting patient outcomes.

From January 2016 to March 2018 an observational study revealed that 12 patients (head/neck and esophageal cancers) were discharged home after having a percutaneous endoscopic gastrostomy tube (PEG) placed. Follow-up care was to include homecare to provide education on feeding and care of the tube, the delivery of feeding supplies and enteral nutrition formula, and enteral diet orders related to when to start feeding, strength and rate of the feeding. The study revealed that 12/12 patients (100%) did not have integrated care coordination; patient was discharged post PEG placement with no services in place; homecare arrived and supplies had not been ordered or had not been delivered, and/or patient did not have instruction on strength and rate of feeding.

Standard 4.8

Quality Improvement: Development of Integrated Enteral Nutrition Order Set

The results noted above lead to a quality improvement project. Using The American Society for Parental and Enteral Nutrition (ASPEN) practice recommendations, a project team was assembled with representatives from departments associated with PEG tube placement: Oncology Dietitian, Home Care, durable medical equipment (DME), gastrointestinal (GI) practice, and a home infusion company. The team reviewed the gaps in care coordination and possible causes. The decision was made to create an order set specific for patients who require enteral feedings. The order set was vetted by the team and the medical oncologists and is initiated by the RD at time of consult and decision for enteral nutrition.

Cancer Committee: Studies of Quality and Quality Improvement 2018

Standard 4.7

Study of Quality: Lymphedema Services at PMC

Breast cancer patients who have had lymph node surgery and/or radiation therapy are at risk for developing lymphedema. Clinical guidelines suggest that the treatment for cancer related lymphedema should be evaluated at an early stage or before it presents. The only trained lymphedema specialists available to PMC patients are located at PMC Outpatient Rehabilitation in Monroe Township, 10 miles from the main campus. Patients who require consultation/treatment for lymphedema are seeking treatment at facilities closer to their home. A prospective study was done to evaluate the number of patients who are out migrating due to lack of local lymphedema services.

Data was collected sporadically from April to November from three sites across PMC that treat breast cancer patients; The Breast Health Center, Princeton Medicine, and Matthews Center for Cancer Care Radiation Oncology Department. A total of 30 patients were referred for lymphedema services, 10 patients out-migrated related to the travel distance from PMC facilities to Monroe Outpatient Rehabilitation.

This data reveals an opportunity to develop lymphedema services at the main hospital to provide patients the option to receive treatment within our facility.

Commission on Cancer Quality of Care Measures

The following data elements are nationally standardized measures and are designed to assess performance at the hospital level. It is the expectation by the Commission on Cancer (CoC) that cancer registries collect the necessary data to monitor data collection and concordance levels.

The following table consists of data compiled from the National Cancer Database (NCDB), Cancer Program Practice Profile Reports (CP3R), This is a web based reporting system which provides a mechanism to continually monitor concordance with the defined quality measures. The data displays patient level data, facility level data and comparative data to help promote and develop continuous improvement initiatives.

Every effort is made to ensure concordant rates are met or exceeded. However, data is continually changing as treatment information is obtained and updated from each patient's multi-disciplinary care team. The data represents cumulative treatment and does not reflect only treatment at PMC. Challenges exist in capturing this data. Patients have many choices when selecting where their care is delivered and by whom. At PMC a significant percent of patients receive at least part of their cancer treatment elsewhere.

Another challenge is the number of cases meeting quality measure criteria. If total number patients meeting measure criteria are low the impact of non-concordance cases heavily impact final concordance rate.

Lastly, the CoC has identified three types of quality of care measure. These are defined below.

Measure Type	Measure definition and use
Accountability	High level of evidence supports the measure, including multiple randomized control trials. These measures can be used for such purposes as public reporting, payment incentive programs, and the selection of providers by consumers, health plans, or purchasers.
Quality Improvement	Evidence from experimental studies, not randomized control trials supports the measure. These are intended for internal monitoring of performance within an organization.
Surveillance	Limited evidence exist that supports the measure or the measure is used for informative purposes to accredited programs. These measures can be used for to identify the status quo as well as monitor patterns and trends of care in order to guide decision-making and resource allocation.

	CoC Quality of Care Measures (NCDB-CP3R 2016 Data Updated 11/27/2018)	Type of Measure	Concordant Rate	All CoC Approved Programs	NJ State	Univ Med Ctr Princeton
Breast				2016		
BCSRT	% women with Stage 0-II breast cancer undergoing breast radiation after lumpectomy	Accountability	90%	91% (n=59805)	90.4% (n=1854)	89% (n=85)
HT	% women with Stage I-III ER+ breast cancer who receive adjuvant hormonal therapy	Accountability	90%	92% (n=79005)	89% (n=2240)	88% (n=94)
MSTRT	Post-mastectomy radiation therapy considered or administered if >4 positive lymph nodes	Accountability	90%	87% (n=6274)	86% (n=150)	50% (n=2)
nBx	% Stage I-III breast cancer patients who had a needle biopsy diagnosis prior to definitive surgery	Quality Improvement	80%	91% (n=131641)	88% (n=4520)	88% (n=202)
BCS	% of women undergoing breast conserving surgery	Surveillance	NA	67% (n=127299)	73% (n=4053)	74% (n=168)
MAC	% of eligible breast cancer patients who receive adjuvant chemotherapy	Accountability	NA	93% (n=12210)	87% (N=301)	82% (n=11)
Colon						
12RLN	% of patients with >12 LNs removed at the time of definitive colorectal surgery	Quality Improvement	85%	93% (n=40479)	92% (n=1334)	93% (n=28)
ACT	% of Stage III colorectal cancer patients who receive adjuvant chemotherapy	Accountability	NA	88% (n=10122)	83% (n=301)	50% (n=4)
Rectum						
RECRTCT	% of Stage III rectal cancer patient who receive adjuvant radiation therapy	Quality Improvement	85%	87% (n=5967)	89% (n=105)	No data
Gastric						
GI15RLN	At least 15 regional lymph nodes are removed and pathologically examined for resected gastric cancer.	Quality Improvement	80%	65% (n=2510)	54% (n=66)	No data
Non Small Cell Lung						
LCT	Systemic chemotherapy is administered within 4 months to day preoperatively or day of surgery to 6 months postoperatively, or it is recommended for surgically resected cases with pathologic lymph node-positive (pN1) and (pN2) NSCLC	Quality Improvement	85%	90% (n=4291)	86% (n=93)	60% (n=5)

	CoC Quality of Care Measures (NCDB-CP3R 2016 Data Updated 11/27/2018)	Type of Measure	Concordant Rate	All CoC Approved Programs	NJ State	Univ Med Ctr Princeton
LNoSurg	Surgery is not the first course of treatment for cN2, M0 lung cases	Quality Improvement	85%	93% (n=9105)	89% (n=201)	50% (n=4)
1ORLN	At least 10 regional lymph nodes are removed and pathologically examined for AJCC stage IA, IB, IIA, and IIB resected NSCLC.	Surveillance	NA	49% (n=23127)	43% (n=644)	0% (n=26)