St. Elizabeth's Medical Center

A STEWARD FAMILY HOSPITAL

Steward

Cancer Program Annual Report 2017–2018

Cancer Program and Cancer Registry
Prepared by the Cancer Care Committee

St. Elizabeth's Medical Center
A STEWARD FAMILY HOSPITAL

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CHAIRMEN'S REPORT
2017

St. Elizabeth's Medical Center (SEMC) is one of eleven hospitals in the Steward Health Care System in Massachusetts, and has become a tertiary referral center for the other Steward hospitals. St. Elizabeth's maintains its commitment to academic endeavors and teaching as well as its commitment to excellence in patient care. There is specialty expertise in the following surgical subspecialties:

David Boruta, MD, *Gynecologic Oncology*
Peter Catalano, MD, *Head and Neck Surgery*
Alan Hackford, MD, *Colorectal Surgery*
Jan Rothschild, MD, *Breast Surgery*
Jana Simonds, MD, *Colorectal Surgery*
John Wain, MD, *Thoracic Surgery*
Rohan Wijewickrama, MD, *Head and Neck Surgery*

Medical Oncology and Hematology patients are seen in the Dana Farber Cancer Institute (DFCI) satellite located on the fifth floor of the Cardinal Cushing Pavilion at SEMC. This unit includes an infusion center and has been a DFCI-licensed facility on the SEMC campus since June 2014. The division remains committed to the accrual of patients to clinical trials under the direction of Wendy Loeser, RN, OCN. Fifty-three patients were enrolled in 93 clinical trials in 2017.

The Cancer Care Committee met five times in 2017 and remains involved in every aspect of cancer care at St. Elizabeth's. The following members of the committee resigned this year:

Marina Androssova, MD, *Palliative Care*
Michael Bakerman, MD, *Chief Medical Officer*
Stephanie Cook, RD, *Hematology/Oncology Nutrition Services*
Kathleen Dionne, MS, FNP-BC, *Center for Breast Care*
Katherine Johnson, RN, *Nursing*
Sandeep Krishnan, MD, *Gastroenterology/EUS*
Adah Lau, RPh, *Pharmacy*
Lori Liston, RN, *Steward Home Care and Hospice*
Katherine Magni, RN, *Nurse Educator*
Nicole Mulkern, *Director of Mission and Community Partnerships*
Gordon Novak, MD, *Pain Clinic*
Tetyana Novikova, RN, MS, NP-C, *Palliative Care/ Good Shepherd Community Hospice*
Ingolf Tuerk, MD, *Urology*
Karen Wright, *Steward Home Care and Hospice*

The Committee welcomes the following new members to the committee for 2017:

Nicole DePace, NP, *Palliative Care/Good Shepherd Community Hospice*
Margaret Huber, MA/CCC-SLP, *Rehabilitation*
Maureen Mulkerrin, MS, RN, *Quality Improvement*
Tessa Niven, *Administrative Director, DFCI@SEMC*
Katie Stone, RN, *Palliative Care/Hospice Nurse*
John Wain, MD, *Thoracic Surgery*

We would like to thank the members of the Committee for their dedication to ensuring excellent multidisciplinary care for our patients. We would also like to extend our thanks to Daria James and Laurie MacDougall for their hard work and dedication to the cancer program.

Respectfully submitted,

Jan Rothschild, MD
Christopher Lathan, MD, MPH
Co-Chairs

CANCER CARE COMMITTEE

The Cancer Care Committee at St. Elizabeth's Medical Center (SEMC) is composed of specialists in all areas dealing with cancer. The committee, which includes both physician and non-physician members, meets quarterly. Its agenda includes reviewing all cancer-related activities at SEMC, as well as overseeing the multidisciplinary care of cancer patients in the institution. As required by the American College of Surgeons/Commission on Cancer, the committee provides leadership and is responsible for various activities that are aimed at ensuring patient-centered care. Some of these activities include patient care evaluation studies, quality and improvement studies, community outreach and prevention programs, multidisciplinary cancer conferences, publishing of outcomes, and the ongoing use of cancer registry data. The Cancer Care Committee is considered the cornerstone and most important component of an Accredited Hospital Cancer Program.

The following were members of the Cancer Care Committee in 2017:

Co-Chairpersons: Jan Rothschild, MD, *Breast Surgery*
Christopher Lathan, MD, MPH, *Medical Oncology*

Daria James, CTR, *Cancer Coordinator*
Marina Androssova, MD, *Palliative Care*
Michael Bakerman, MD, *Chief Medical Officer*
Bruce Bornstein, MD, *Radiation Oncology*
Stephanie Cook, RD, *Hematology/Oncology Nutrition Services*
Nicole DePace, NP, *Palliative Care/Good Shepherd Community Hospice*
Kathleen Dionne, MS, FNP-BC, *Center for Breast Care*
Paul Fallon, MD, *Primary Care*
Beth Herrick, MD, *Radiation Oncology*
Margaret Huber, MA/CCC-SLP, *Rehabilitation*
Lauren Kohler Darcy, RPT, *Rehabilitation Services*
Fran Leonard, RN, MSN, AOCN, *Oncology*
Wendy Loeser, RN, OCN, *Medical Oncology*
Robert Maheu, *Administration*
Leslie Martin, MD, *Medical Oncology*
Nicole Mulkern, *Director of Mission and Community Partnerships*
Maureen Mulkerrin, MS, RN, *Quality Improvement*
Sara Nemitz, LICSW, *Hematology/Oncology Social Services*
Tessa Niven, *Administrative Director, DFCI@SEMC*
Tetyana Novikova, RN, MS, NP-C, *Palliative Care/Good Shepherd Community Hospice*
Kevin O'Donnell, MD, *Surgery*
Phoebe Olhava, MD, *Radiology*
David Ricklan, MD, *Pathology*
Nicole Sanders O'Toole, *American Cancer Society*
Katie Stone, RN, *Palliative Care/Hospice Nurse*
John Wain, MD, *Thoracic Surgery*
Gail Wolfe, MD, *Pathology*

The Cancer Care Committee met five times in 2017:
January 18, April 19, July 19, October 18, and December 13.

CANCER REGISTRY REPORT

St. Elizabeth's Medical Center Cancer Registry is a data system designed for the collection, management, and analysis of data on persons with a diagnosis of a malignant disease. Data are also maintained on several benign brain and central nervous system tumors as well as other diagnoses that are on a list of "Reportable Diagnoses" as recommended by the Cancer Care Committee and the Massachusetts Cancer Registry. The Cancer Registry works collaboratively with the Cancer Care Committee in maintaining SEMC's Commission on Cancer accreditation. The standards required for accreditation cover a broad range of activities including the setting of annual programmatic and research goals, educational programs, effective quality studies, community-based prevention and screening programs, and lifetime follow-up of patient. The ultimate goal of the Cancer Registry is to provide the medical staff at St. Elizabeth's Medical Center with the data that will enable them to assess the results of their diagnostic and therapeutic efforts, therefore providing quality care of the cancer patient.

In 2017, the Cancer Registry at St. Elizabeth's Medical Center abstracted 942 new cases of cancer, of which 821 (87%) were analytic and 121 (13%) were non-analytic. The analytic cases provide us with the most accurate data and they are the cases used when we complete studies for the American College of Surgeons/ Commission on Cancer (ACoS/CoC). The non-analytic cases are cases that were originally diagnosed and received all first course of treatment elsewhere and were seen here at the time of persistent, recurrent, or metastatic disease.

The major sites at St. Elizabeth's Medical Center for 2017 were prostate, lung, breast, bladder, and kidney cancers. Most of these cases come from surrounding areas, with the majority coming from the Allston/Brighton area.

Every year, the Cancer Registry receives and responds to requests for data from physicians, residents, and outside organizations such as the Massachusetts Cancer Registry and the Commission on Cancer. Many of these requests result in published papers or lectures using the Registry data. As in any department, quality management plays an important role. Quality management is upheld with monthly physician chart review by members of the Cancer Care Committee and built-in software edits used by the Massachusetts Cancer Registry and the National Cancer Data Base at the Commission on Cancer. In addition, the registry voluntarily participates in the Rapid Quality Reporting System (RQRS) through the National Cancer Data Base. RQRS is a reporting and quality improvement tool that provides real-time clinical assessment of hospital adherence to National Quarterly Forum-endorsed quality of cancer care measures for breast, and colorectal cancers. These data are monitored on a monthly basis.

As always, the focus of the Cancer Registry is to keep current with case abstracting and follow-up while continuously complying with CoC Standards. The registry continues to stage cancers with SEER Summary and AJCC staging. In the coming year the registry looks forward to the changes in cancer registry data collection with the advent of Eighth Edition AJCC staging, new Solid Tumor Rules, revisions to SEER Summary Staging, as Extent of Disease rules, as well as associated software changes.

Respectfully submitted,

Daria M. James, CTR
Cancer Coordinator

Figure 1. Analytic Cancer Cases, 2017: Comparison of Age at Diagnosis by Site

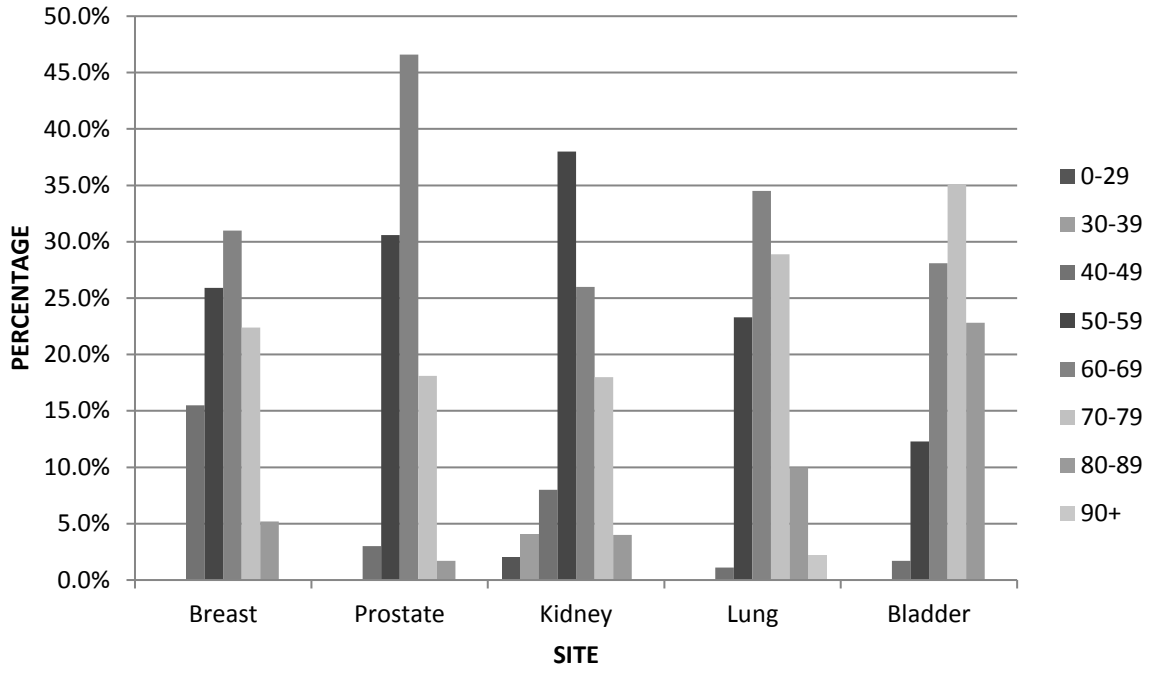

Figure 2. Analytic Cancer Cases, 2017: Comparison of Stage at Diagnosis by Site

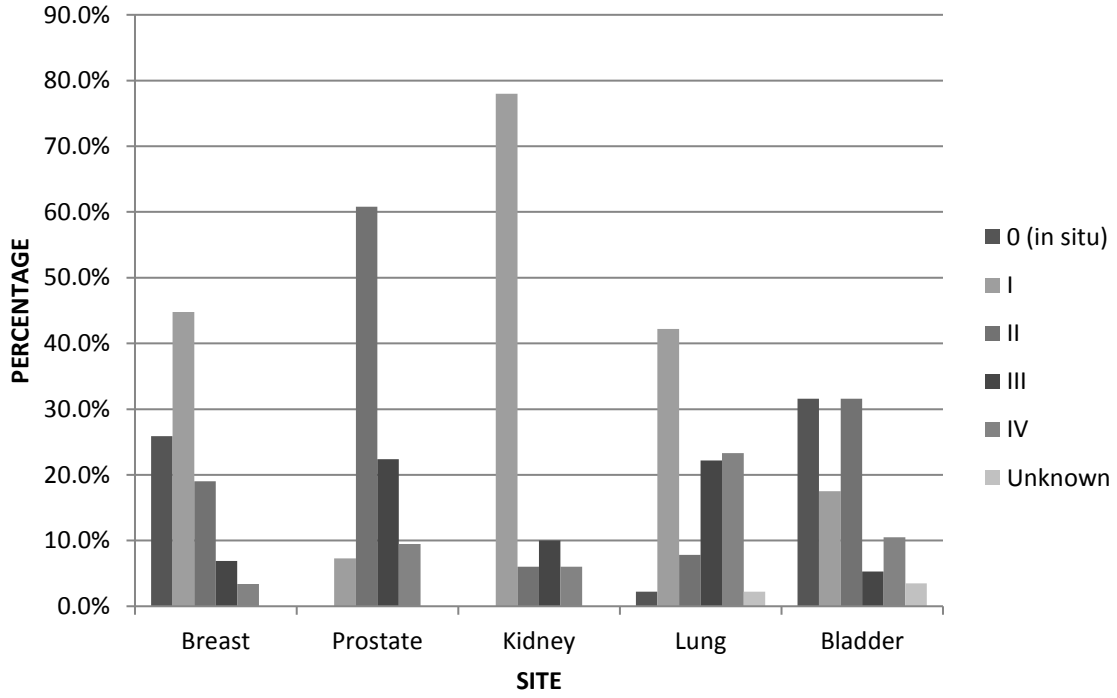

Table 1. Analytic Cancer Cases, 2017: Comparison of Initial Treatment by Site

Treatment	Breast (n=58)	Prostate (n=232)	Kidney (n=50)	Lung (n=90)	Bladder (n=57)
SRG only	25.9%	79.0%	94.0%	46.7%	54.4%
RAD only	0.0%	1.3%	0.0%	7.9%	0.0%
SYSTEMIC only	5.1%	3.0%	0.0%	6.6%	0.0%
SRG RAD	5.2%	0.4%	2.0%	0.0%	1.8%
SRG SYSTEMIC	20.7%	8.6%	4.0%	3.3%	40.3%
SRG RAD SYSTEMIC	39.7%	1.7%	0.0%	6.6%	0.0%
RAD SYSTEMIC	0.0%	1.3%	0.0%	21.2%	0.0%
NO TX/BX ONLY	3.4%	4.7%	0.0%	4.4%	3.5%
UNKNOWN	0.0%	0.0%	0.0%	3.3%	0.0%

SRG = Surgery
RAD = Radiation
SYSTEMIC = Chemotherapy and/or Hormone Therapy and/or Immunotherapy

Table 2. Newly Diagnosed Cancer Cases by Site, 2017

Primary Site	#	%
ORAL CAVITY & PHARYNX	8	0.8%
Tongue	1	0.1%
Salivary Glands	1	0.1%
Gum & Other Mouth	2	0.2%
Nasopharynx	2	0.2%
Tonsil	1	0.1%
Hypopharynx	1	0.1%
DIGESTIVE SYSTEM	147	15.6%
Esophagus	19	2.0%
Stomach	16	1.7%
Small Intestine	1	0.1%
Colon (excluding Rectum)	27	2.9%
Cecum	2	
Appendix	3	
Ascending Colon	8	
Hepatic Flexure	3	
Transverse Colon	2	
Sigmoid Colon	8	
Large Intestine, NOS	1	
Rectum & Rectosigmoid	21	2.2%
Rectosigmoid Junction	5	
Rectum	16	
Anus, Anal Canal, & Anorectum	3	0.3%
Liver & Intrahepatic Bile Duct	6	0.6%
Liver	5	
Intrahepatic Bile Duct	1	
Gallbladder	4	0.4%
Other Biliary	8	0.8%
Pancreas	41	4.4%
Other Digestive Organs	1	0.1%
RESPIRATORY SYSTEM	121	12.8%
Nose, Nasal Cavity & Middle Ear	2	0.2%
Larynx	3	0.3%
Lung & Bronchus	115	12.2%
Trachea, Mediastinum & Other Respiratory	1	0.1%
SOFT TISSUE	4	0.4%
Soft Tissue (including Heart)	4	0.4%
SKIN EXCLUDING BASAL & SQUAMOUS	5	0.5%
Melanoma – Skin	4	0.4%
Other Non-Epithelial Skin	1	0.1%
BASAL & SQUAMOUS SKIN	1	0.1%
Basal/Squamous Cell Carcinomas of the Skin	1	0.1%
BREAST	81	8.6%
Breast	81	8.6%

Table 2. Newly Diagnosed Cancer Cases by Site, 2016 *(continued)*

Primary Site	#	%
FEMALE GENITAL SYSTEM	73	7.7%
Cervix Uteri	6	0.6%
Corpus & Uterus, NOS	47	5.0%
Ovary	7	0.7%
Vulva	9	1.0%
Other Female Genital Organs	4	0.4%
MALE GENITAL SYSTEM	268	28.5%
Prostate	262	27.8%
Testis	5	0.5%
Penis	1	0.1%
URINARY SYSTEM	129	13.7%
Urinary Bladder	64	6.8%
Kidney & Renal Pelvis	60	6.4%
Ureter	4	0.4%
Other Urinary Organs	1	0.1%
BRAIN & OTHER NERVOUS SYSTEM	21	2.2%
Brain	9	1.0%
Cranial Nerves & Other Nervous System	12	1.3%
ENDOCRINE SYSTEM	29	3.1%
Thyroid	28	3.0%
Other Endocrine including Thymus	1	0.1%
LYMPHOMA	37	3.9%
Hodgkin Lymphoma	5	0.5%
Hodgkin – Nodal	4	
Hodgkin – Extranodal	1	
Non-Hodgkin Lymphoma	32	3.4%
NHL – Nodal	21	
NHL – Extranodal	11	
MYELOMA	3	0.3%
Myeloma	3	0.3%
LEUKEMIA	7	0.7%
Lymphocytic Leukemia	1	0.1%
Myeloid & Monocytic Leukemia	6	0.6%
Acute Myeloid Leukemia	4	
Chronic Myeloid Leukemia	2	
MISCELLANEOUS	8	0.8%
Miscellaneous	8	0.8%
TOTAL	**942**	

Cancer Liaison Physician Report 2017

Kevin O'Donnell, MD, Cancer Liaison Physician

Topic of Study: Annual review of accountability and quality improvement measures performance rates.

Purpose: Standards 4.4 and 4.5 require at least an annual review of the performance rates to make certain they meet the set rate. For those that do not meet the set rate, then an action plan must be established to correct the low rate.

Data: 2013

Table of the CP3R Performance Rates:

Measure	Set Rate	Expected Performance Rate (EPR)	95% Confidence Interval Limit	Compliant
BCSRT	90%	100%		Yes
HT	90%	91.7%		Yes
MASTRX	90%	100%		Yes
NEEDLE BX	80%	100%		Yes
12RLN	85%	90.5%		Yes
ACT	N/A	83.3%	[53.5%-100%]	Yes
RECRTCT	85%	100%		Yes

Analysis:

There are seven accountability and quality improvement measures for which data are collected. All of them met the expected EPR. "Adjuvant chemotherapy is recommended or administered within 4 months (120) days of diagnosis for patients under the age of 80 with AJCC Stage III (lymph node positive) colon cancer (Accountability)" is currently at 83.3%; however, the CoC Standard % is N/A at this time.

Recommendations:

Our numbers in this measure are very low but the committee will continue to monitor to make sure patients are being evaluated appropriately for adjuvant chemotherapy. The committee will work with the multidisciplinary team to make sure that appropriate patients are being referred for treatment evaluation.

Community Health Annual Report 2017

Nikkie Mulkern, Director of Community Health

Standards 1.8, 4.1 & 4.2 – Monitoring Community Outreach

I. Overview:

- 4.2: Requirement – 1 screening
  - Skin Screening (5/16/17)
  - Breast Cancer Awareness Event (10/17)
  - Low-dose Lung CT Screening Program (Ongoing, 2017)

- 4.1: Requirement – 1 prevention program
  - Colon Cancer Awareness Event (3/3/17)
  - Great American Smokeout (11/16/17)
  - Lung Cancer Awareness Day (12/2017)

- 1.8: Follow up is an area that is being addressed. Currently no employee is assigned this role.
  - Skin Cancer Screening – letters were sent out to patients requiring follow-up appointments and/or biopsies.
  - The committee is concerned about privacy issues related to further outcomes.

II. Identification of Community Needs:

The Community Health Sub-committee of the Cancer Care Committee reviewed Massachusetts Cancer Registry data for the catchment area for St. Elizabeth's Medical Center (Boston, Brookline, and Newton). Data for 2009-2013 (the most recent available) showed the following areas of concern:

- Breast cancer: : statistically significantly elevated incidence rate in Newton females
- Lung cancer: statistically significantly elevated incidence rate in Boston males
- Prostate cancer: statistically significantly elevated incidence rate in Boston males

III. Information Provided at Community Health Fairs and Events:

The Director of Community Health, Nikkie Mulkern, attended the following community health fairs and events during 2017. At each event, educational materials were available on colon cancer screening, lung cancer screening and smoking cessation, breast cancer screening, and skin cancer prevention and screening. These cancers were highlighted because there are effective screening and prevention measures available. Profile cards were also available for primary care providers as well as relevant specialty physicians.

Healthy Kids Day- YMCA	4/29/17	Educational materials on sun safety and skin cancer prevention were distributed to 300 attendees
Oak Square Farmer's Market	6/7/17	Educational materials on breast cancer screening, lung cancer screening, and smoking cessation were distributed to 100 attendees. A volunteer was available to answer questions.
Oak Square Farmer's Market	7/19/17	Educational materials on breast cancer screening, lung cancer screening, and smoking cessation were distributed to 50 attendees. A volunteer was available to answer questions.
Police event table	7//31/17	Educational materials on breast cancer screening were distributed to 25 attendees. A volunteer was available to answer questions.
Oak Square Farmer's Market	8/2/17	Educational materials on breast cancer screening, lung cancer screening, and smoking cessation were distributed to 50 attendees. A volunteer was available to answer questions.
Allston Village Street Fair	9/24/17	Educational materials on breast cancer screening were distributed to 300 attendees. A volunteer was available to answer questions.
Boston College Faculty and Staff Fall Health Fair	10/25/17	Educational materials on breast cancer screening and smoking cessation were distributed to 200 attendees.

IV. Screening Events:

1. Skin Cancer Screening – Tuesday, May 16, 2017

Early on in the year the committee reviewed data from the 2016 skin screening event to evaluate the need to hold an event in 2017. The committee determined that based on the percentage of those that required a follow-up appointment and the number of attendees, the skin screening was

important to repeat. One of the trends from 2016 was that patients would not have had their skin checked without the screening.

The Skin Screening was held on a Tuesday night for 3 hours. There were four dermatologists participating, Drs. Mark Amster, Robert Brown, Stephen Kovacs, and Andrew Wang. Two nurses were also on hand to answer questions as well as provide educational materials.

The skin screening event was full one week prior to the event. Fifty-two people attended. After the event, the skin screening forms were reviewed and letters were sent to those that required a follow up visit or a biopsy (16/52 or 31%). The letter sent to patients included contact information for the Director of Community Health as well as the number to make an appointment with the dermatologist that they saw. The Director of Community Health did not receive any phone calls. The participating dermatologists followed up with these patients, but did not share outcomes with the Cancer Committee because of HIPAA.

After the event, the Community Outreach Health Sub-committee met and discussed the effectiveness and success of the event. Based on a survey administered, the number of patients that attended, and patient feedback at registration, the event was very successful. Patients said that they look forward to this event every year, and a majority said they would not have seen a dermatologist and had a skin check without this event. The Committee decided that this will be an ongoing program because it is so well received and attended by our community.

Data from the event (n=52):

Gender:	#	%
Male	24	46%
Female	28	54%
Ethnicity:		
White	49	94%
Black		
Hispanic		
Asian	3	6%
Mixed race		
Other		
Primary language spoken:		
English	48	92%
Russian	4	8%
Would not have gotten skin checked w/o screening.	27	52%
Mole changes	12	23%
Family history of cancer	13	25%
Personal history of skin cancer	10	19%

Hx of Basal Cell Carcinoma	7	13%
Hx of Squamous Cell Carcinoma	2	4%
Biopsy recommended	16	31%
Referred for follow-up visit	16	31%

2. Breast Cancer Awareness Event and Screening – October 2017

St. Elizabeth's is committed to breast care awareness and planned several events in October 2017 to increase the awareness and importance of yearly mammogram screenings and breast exams. The medical center has taken the following steps to make this easy for patients by providing follow-up calls via OB/GYN, PCP and/or Central Scheduling for women who are due or overdue for their mammograms, providing extended hours including evenings and extended weekend hours in the mammography clinic, and creating a welcoming environment with healthy snacks, beverages and breast cancer awareness themed giveaways and literature on prevention and breast self-exam tips. Extended hours were initiated as a result of the prior year's survey regarding the need for such availability.

Overall, approximately 890 mammograms were performed during October, an increase of more than 150 cases over September. 115 mammograms (13%) were done during the extended hours offered (evenings and Saturdays). The majority of the patients attending during the extended hours were between the ages of 45-65, suggesting that the event was popular among women who needed to get their mammograms outside of normal working hours. None of the screening mammograms performed during the extended hours resulted in biopsies being performed, but

approximately one-third were called back for additional views and/or ultrasound. A survey was administered to attendees to gauge the success of the extended hours. All patients said that the time and day were very convenient. Approximately 5% of attendees had not had a previous mammogram, and 25% had not had one within the last year. Most patients surveyed were unaware that the Mammography Center routinely offers Saturday hours twice a month, suggesting that better promotion is needed. According to Mammography Center staff, patients tend to respond better to special events or outreach, such as these extended hours and/or being contacted to come in for an overdue mammogram. In the future, we will look into scheduling patients for their next annual screening before they leave after having a mammogram.

3. Low-dose Lung CT Screening Program (Ongoing, 2017)

Lung cancer is the second most commonly diagnosed cancer at St. Elizabeth's. Forty-five percent of lung cancer cases diagnosed in 2017 presented at Stage III or IV. Among persons diagnosed with lung cancer at SEMC in 2017, 46% were current smokers, 46% were former smokers, and 8% were non-smokers.

In 2014, St. Elizabeth's established a low-dose lung CT screening program, which complies with USPSTF eligibility criteria. Patients are referred by PCPs or pulmonologists for screening and appointment scheduling. As part of the lung CT screening program, patients who are current smokers are counseled on smoking cessation and are referred to QuitWorks. For 2017, there were 151 initial screening CTs performed and 168 follow-up CTs performed. For 2018 (year-to-date), there were 30 initial screening CTs performed and 51 follow-up CTs performed as of 5/22/18. Four lung cancers were identified in 2017.

V. Prevention Events

4. Colon Cancer Awareness Event – Friday, March 3, 2017

Dress in Blue Day/Colon Cancer Awareness Day was held during lunch for 3 hours in the cafeteria, where employees, patients and visitors eat. There was a table featuring promotional items, and there was access to central scheduling to book appointments. Prior to the event emails were sent to employees to encourage them to wear blue to raise awareness of colon cancer and the importance of screenings. The event was also advertised on the TV screens around the hospital. At the promotional table, we had brochures outlining who should get screened, information on colon cancer, Dress in Blue Day cards with pins attached, profile cards for SEMC gastroenterologists, American Cancer Society colon cancer booklets, and colon cancer awareness bracelets.

Highlights:

- Distributed 75 colon cancer awareness cards with pins.
- Scheduled one colonoscopy
- Many people said they have appointments coming up with their PCPs and will discuss with their doctor if they need a colonoscopy.

5. Great American Smokeout – Thursday, November 16, 2017

St. Elizabeth's promoted the Great American Smokeout on its Facebook page, including posting the American Cancer Society's "Helping a Smoker Quit: Do's and Don'ts" guidelines.

Psychosocial Care Report 2017

Sara Nemitz, LICSW, Psychosocial Distress Coordinator

DFCI/St. Elizabeth's satellite social worker continues to provide psychosocial support to patients and families throughout the medical oncology continuum. DFCI/St. Elizabeth's team is also supported by an MSW intern from Simmons School of Social Work, onsite 24 hours/week for the 2017-2018 academic year. DFCI/St. Elizabeth's satellite social work team collaborates closely with nurses, physicians and support staff to identify patients in need of psychosocial support. Routine psychosocial needs are further identified during daily multidisciplinary huddles as well as formal/informal social work consultation. The DFCI/St. Elizabeth's satellite social worker assists in triaging psychosocial concerns emerging in other SEMC oncology practices including the Center for Breast Care and Radiation Oncology, as *staffing in these settings does not include psychosocial support*.

Distress Screening:

Psychosocial screening is conducted via manual administration of the NCCN Distress Thermometer and Problem list on C1D1 treatment day by the Program RN. (Of note, in 2018, DFCI/St. Elizabeth's satellite will transition into using electronic psychosocial distress screening protocol that is being launched Institute wide.) In light of NCCN guidelines it is *increasingly important that each oncology practice within SEMC design or articulate processes ensuring that all oncology patients are screened for psychosocial distress*.

57 total distress screens were administered by the Program RN between January and December 2017:

- 46 patients rated distress 0-4
- 7 patient rated distress 5-7
- 2 patients rated distress 8+
- 2 patients declined to complete screen

Clinical services:

- psychoeducation around the importance of advanced directives, including healthcare proxy designation
- adjustment counseling for patients and families coping with new diagnosis, disease progression, and disease surveillance
- psychoeducation addressing family concerns including communication strategies, parenting techniques, elder care needs, etc.
- end-of-life counseling for patients and families facing anticipatory grief, preparing for death
- collaboration with external collaterals to encourage continuity of psychosocial care, including community mental health providers, home health care providers, elder service providers, skilled nursing facility and rehab providers
- community referrals to bolster overall support available to patients and families including psychiatry, counseling/psychotherapy, wig services, meal delivery programs, Mass Health PCA program, elder services, SHINE program, YMCA Livestrong program, support groups, DTA/SNAP, fuel assistance

- DFCI/St. Elizabeth's Palliative Care Rounds: monthly forum to review care plans of patients with life-limiting illness and complex psychosocial background, facilitated by social worker
    - 1st meeting in May 2017, 5 subsequent meetings thus far; 19 cases reviewed (17 discrete patients), approx. 3.5 cases reviewed each month
    - Participants have included DFCI team, SEMC pain team, community VNA/hospice team (via conference call)
- Group Program
    - Look Good Feel Better
        - March: 0 registrants
        - June: 4 registrants, 1 attendee
        - September: 5 registrants, 2 attendees
        - December: 6 registrants, 4 attendees
    - 2017 Support Series:
        - May: "Working Towards Wellness," integrative therapies event; 0 registrants (cancelled)
        - August: "Paint Night," expressive therapies event, 0 registrants (cancelled)
        - October: Meeting with Facing Cancer Together, to explore ways to pursue joint/cross programming
    - MSW intern taking lead in planning 2018 support series, tentatively including 4 sessions January-April focused on: physical activity, nutritional wellness, expressive arts, and complimentary therapies.

<u>Concrete services</u>:

- financial: assessment of illness-related income changes and basic household expenses, screening for DFCI Patient Assistance Funds ($250/year for groceries, gas or the RIDE); collaboration with Program RN to address high medication co-pays; collaboration with Financial Coordinator to advocate for limited English speaking patients with insurance and billing concerns; referrals to SEMC Financial Counselors for Mass Health applications, referrals to community based utility assistance programs
- transportation: referral to Resource Specialist for Mass Health PT-1, The RIDE (MBTA) or equivalent regional program, ACS Road to Recovery, management of BPHC taxi vouchers supplied for Boston residents, DMV disabled parking placard
- housing: rental assistance program referrals, advocacy letters to support housing applications, assisted living referrals
- food: referrals to DTA (SNAP/EAEDC benefits), Community Servings (meal delivery service for patients with chronic illness), grocery store gift card provision through DFCI Patient Assistance Funds, community food pantries

A Review of Lung Cancer Diagnosis and Treatment at St. Elizabeth's Medical Center, 2007-2017

The Cancer Care Committee chose lung cancer as the site for in-depth review for this report because it was the second most common cancer diagnosed and/or treated at St. Elizabeth's Medical Center (SEMC) in 2017. For the period 2007-2017, there were a total of 1040 lung cancer cases abstracted. The National Cancer Data Base (NCDB), to which SEMC data are compared, reported 1,367,935 lung cancer cases submitted during this time period.

According to the American Cancer Society[1], lung cancer is the most deadly malignancy diagnosed in the United States. The ACS estimates that about 234,030 new cases of lung cancer will be diagnosed in 2018 (121,680 in men and 112,350 in women), and about 154,050 people (83,550 men and 70,500 women) will die of the disease. Smoking and exposure to tobacco smoke is the leading risk factor for lung cancer. Other risk factors include exposure to environmental agents such as radon and asbestos and air pollution.[2]

In Massachusetts, lung cancer was the second most commonly diagnosed cancer in both men and women, representing 13.6% of all cancers diagnosed in men and 13.9% of all cancers diagnosed in women for the period 2010-2014.[3] It was the second most common cause of cancer deaths in men during this time period, representing 26.5% of cancer deaths in both men and women. Incidence rates increase with age, rising from 52.0 cases per 100,000 men aged 50-54 to 554.2 cases per 100 men aged 80-84; the median age of diagnosis was 71. Among women, rates rose from 60.6 cases per 100,000 women aged 50-54 to 438.0 women aged 75-79; the median age of diagnosis was also 71.

Lung cancers can be classified into three major groups, based on the tumor histology: non-small cell lung cancers (which include adenocarcinomas, squamous cell carcinomas, and large cell carcinomas), representing about 85% of all lung cancers; small cell lung cancers, representing about 10-15% of all lung cancers; and carcinoid tumors, representing less than 5% of all lung cancers. Of the 1040 lung cancers abstracted at SEMC between 2007 and 2017, 878 (84.4%) were non-small cell lung cancers, 135 (13.0%) were small cell lung cancers, and 27 (2.6%) were carcinoid tumors.

Please note that the following statistics refer to only analytic lung cancer cases, resulting in smaller numbers than the above. Analytic cases are those cases that were diagnosed and/or received all or part of their first course of treatment at SEMC. Cases that represent metastatic or recurrent disease are excluded from these analyses.

Figure 3 shows the distribution of age at diagnosis at SEMC vs. NCDB for 2007-2017 for small cell lung cancer cases. More than 95% of both SEMC and NCDB cases were diagnosed at age 50 or greater. SEMC patients were on average slightly older than NCDB patients, with the most common age group for diagnosis 60-69 for both SEMC and NCDB.

Figure 3. Analytic Small Cell Lung Cancer Cases, 2007-2017: Comparison of Age at Diagnosis, NCDB vs. SEMC

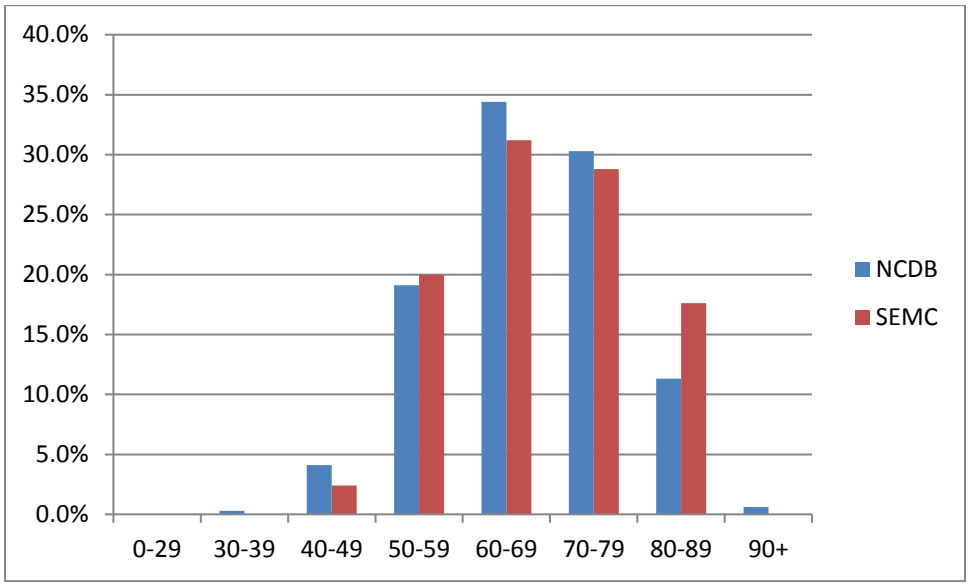

Figure 4 shows the distribution of age at diagnosis at SEMC vs. NCDB for 2007-2017 for non-small cell lung cancer cases. Again, more than 95% of both SEMC and NCDB cases were diagnosed at age 50 or greater. In both groups, the most common age group for diagnosis was 70-79.

Figure 4. Analytic Non-Small Cell Lung Cancer Cases, 2007-2017: Comparison of Age at Diagnosis, NCDB vs. SEMC

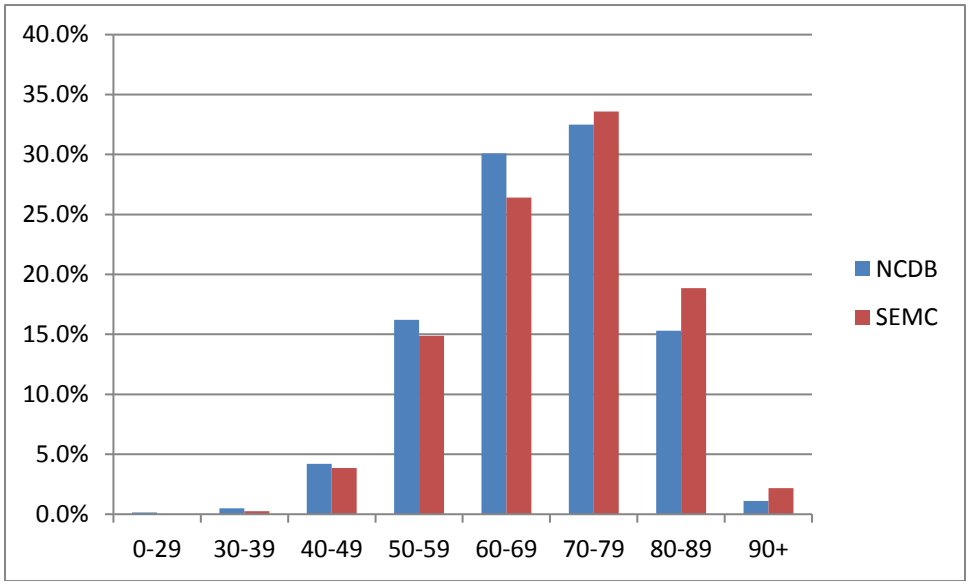

Figure 5 shows the distribution of stage at diagnosis at SEMC vs. NCDB for small cell lung cancer cases. The majority of cases were diagnosed at stage IV (55.2% of SEMC cases, vs. 58.8% of NCDB cases). SEMC cases were slightly less likely to be diagnosed at an early stage (in situ, I or II) than NCDB cases (6.4% of SEMC cases vs. 8.7% of NCDB cases)

Figure 5. Analytic Small Cell Lung Cancer Cases, 2007-2017: Comparison of Stage at Diagnosis, NCDB vs. SEMC

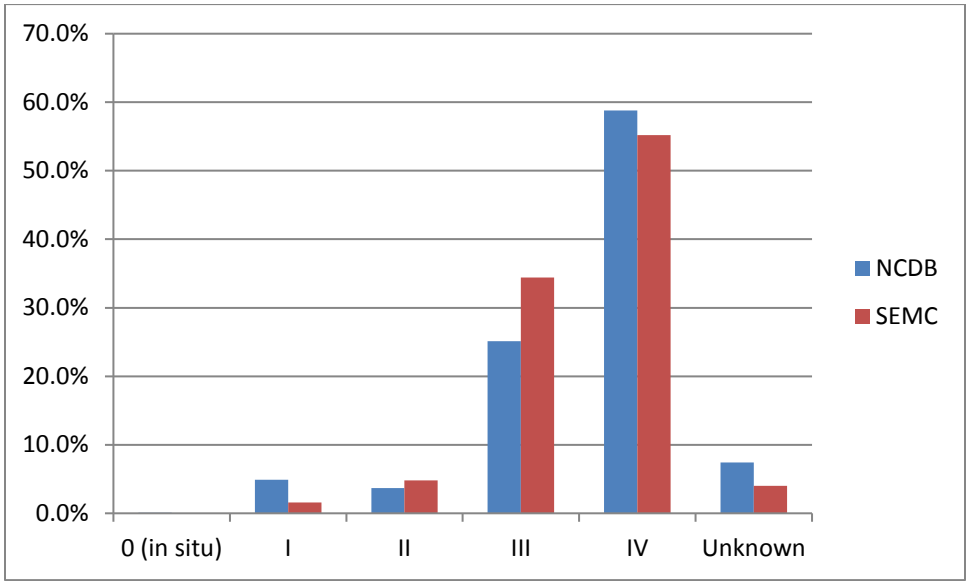

Figure 6 shows the distribution of stage at diagnosis at SEMC vs. NCDB for non-small cell lung cancer cases. The majority of cases were diagnosed at either stage I (32.4% of SEMC cases vs. 26.1% of NCDB cases) or stage IV (31.3% of SEMC cases vs. 38.2% of NCDB cases).

Figure 6. Analytic Non-Small Cell Lung Cancer Cases, 2007-2017: Comparison of Stage at Diagnosis, NCDB vs. SEMC

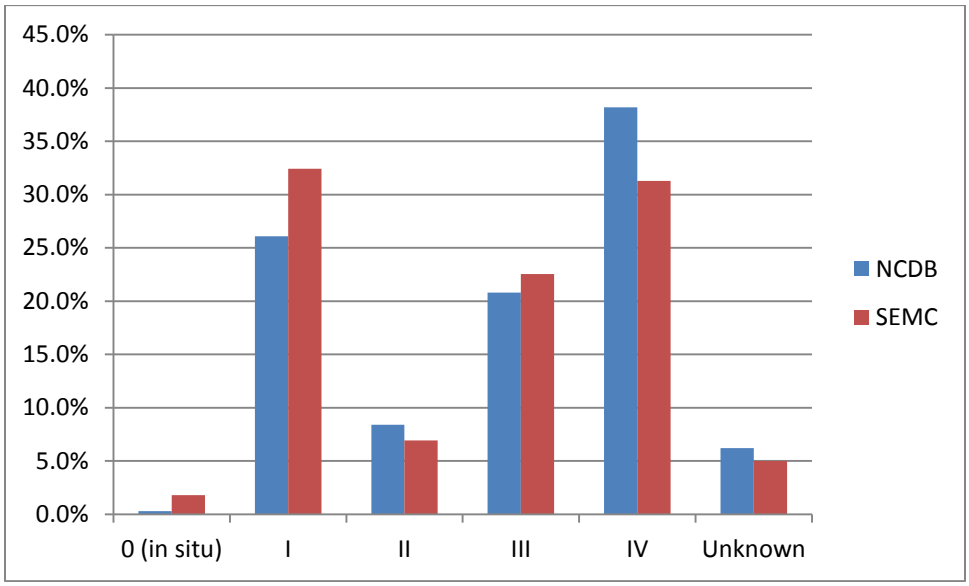

Table 3 shows the distribution of first course of treatment at SEMC vs. NCDB for both small cell carcinomas (left 2 columns) and non-small cell carcinomas (right 2 columns). For small cell carcinomas, fewer SEMC cases overall received no treatment (14.4% vs. 20.6%). More non-small cases at SEMC were treated with surgery alone (27.7% vs. 20.3%), which may reflect the higher percentage of non-small cell cases diagnosed at an early stage at SEMC than at NCDB.

Table 3. Analytic Lung Cancer Cases, 2007-2017: Comparison of Initial Treatment, NCDB vs. SEMC

	SMALL CELL CARCINOMAS		NON-SMALL CELL CARCINOMAS	
TREATMENT	**NCDB (n=198,141)**	**SEMC (n=125)**	**NCDB (n=1,169,794)**	**SEMC (n=780)**
SRG only	0.9%	0.0%	20.3%	27.7%
RAD only	5.1%	4.0%	14.5%	15.4%
SYSTEMIC only	29.3%	32.8%	12.8%	11.3%
SRG RAD	0.1%	0.0%	0.9%	2.7%
SRG SYSTEMIC	1.0%	0.0%	5.0%	5.5%
SRG RAD SYSTEMIC	1.1%	2.4%	2.8%	1.8%
RAD SYSTEMIC	40.3%	40.8%	21.0%	17.8%
NO TX/BX ONLY	20.6%	14.4%	19.5%	12.8%
OTHER/UNKNOWN	1.6%	5.6%	3.2%	5.0%

SRG = Surgery
RAD = Radiation
SYSTEMIC = Chemotherapy and/or Hormone Therapy and/or Immunotherapy

[1] Cancer Facts and Figures 2018. American Cancer Society, 2018. https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2018/cancer-facts-and-figures-2018.pdf.
[2] Lung Cancer Risk Factors. American Cancer Society, 2016. . https://www.cancer.org/cancer/lung-cancer/prevention-and-early-detection/risk-factors.html.
[3] Cancer Incidence and Mortality in Massachusetts, 2010-2014. Massachusetts Cancer Registry, 2017. https://www.mass.gov/files/documents/2017/08/zq/registry-statewide-report-10-14.pdf.