

Cancer Care

Report on Cancer

2013

*Bringing Hope to Life,
Research to Cures*



**EASTERN MAINE
MEDICAL CENTER™**

EMHS MEMBER

EXECUTIVE DIRECTOR REPORT



Allen L'Italien, RN

Given the significant increase in new therapies, 2013 created for us the opportunity to take advantage of the ever increasing benefits of “precision” medicine by utilizing the advanced genomic information now available. As a program we have been successful in adding an additional medical oncologist/hematologist and two specialized nurse practitioners. We have also expanded our physics, dosimetry and radiation therapy staff significantly. We initiated weekly nurse practitioner visits in radiation oncology to increase access to symptom management for those receiving combined chemo-radiation treatment. The professional team now consists of 13 Medical Oncologists, 4 Radiation Oncologists, and 7 Nurse Practitioners/Physician Assistants. This is the largest specialized oncology practice under one roof in Maine. As such, this allows for significant communication opportunities when challenging cases come up.

The program has continued to expand the realm of research opportunities in connecting patients to appropriate clinical trials. This is an important aspect of the practice that allows many patients to have access to major academic center cancer clinical trials without traveling out of Maine.

In 2013, we welcomed two important additional services to the LFCC – EMMC Breast Surgical Specialists, as well as the Pediatric-Adolescent-Young Adult Hematology-Oncology service at the Raish Peavey Haskell Children’s Cancer and Treatment Center. Our communities recognized the need and fully funded the building of the treatment center. They have also created an ongoing endowment for program support. Currently we are busy expanding clinical treatment space on the LFCC third floor as well as continuing to build the foundation for added services that will allow the Brewer site to more fully meet the needs of those who trust us with their care.

All of us remain very thankful for the outstanding community and business support that allows us to move forward in providing advanced therapeutics and options for patients as well as minimize any potential barriers in access to care that exists. On behalf of all at Eastern Maine Medical Center’s Cancer Care, a very heartfelt thank you!

CANCER COMMITTEE CHAIR REPORT



Thomas H. Openshaw, MD

Let me take this opportunity to update you on the status of our cancer treatment program.

Clinical Activities

Our 2013 statistics of our clinical activity include:

- 80% of those newly diagnosed with cancer in 2012 underwent surgery.
- 1670 procedures related to cancer were completed at EMMC (69% of all procedures); up 4% over last year.
- Medical Oncology saw 1639 new patients in 2013, similar to 2012. Treatments/procedures in medical oncology were increased by 3%.
- Radiation Oncology saw a 6.4% increase in new patients (860) in 2013.
- Pediatric-Adolescent-Young Adult service (up to age 25) patient volume was steady.
- EMMC Supportive Care (previously known as Palliative Care) visits were increased by 40%, reflecting the trend to refer patients to specialists in symptom management early in the course of treatment. EMMC Supportive Care expanded their clinic at LFCC to two days weekly, with additional added hours each week expected in the coming year.
- Behavioral Medicine consultations doubled in 2013, reflecting our increased recognition of the need for making mental health services available to our patients, especially individuals recently diagnosed with breast cancer.
- Our cancer genetics consultations (237) increased 33% over last year with 59% of those seen pursuing testing.
- Our Orthopedic Oncology service remains the only such specialized service in Maine.
- Two of Maine's five surgical oncologists continue their active practice in this region.

The most notable new programs developed this year to expedite diagnosis and treatment of our patients include:

- New services at the Lafayette Family Cancer Center
 - EMMC Breast Surgical Specialist Service
 - EMMC Raish Peavey Haskell Children's Cancer and Treatment Center
- Weekly breast cancer case conference where new patients are discussed and plans made for further diagnostic studies and treatment by surgery, medical oncology, and radiation oncology, as well as early referral for cancer genetics or behavioral medicine consultation.
- Weekly thoracic oncology and semi-monthly urologic cancer case conferences where new patients are discussed to expedite diagnosis and treatment decisions.

New developments in Radiation Oncology include:

- Addition of cone beam CT to increase the flexibility in use of radiation machines and allowing for increase use of image guided radiation therapy (IGRT).
- Addition of 2 medical physicists to support increasingly specialized radiation procedures.

CANCER COMMITTEE CHAIR REPORT

A high quality program by standards of the American College of Surgeons Commission on Cancer

Our program meets or surpasses standards of care set by the American College of Surgeons Commission on Cancer (ACOS CoC). As recommended by ACOS CoC, we annually review the four major cancer sites of breast, colorectal, lung and prostate cancer, comparing stage at diagnosis and survival with the most current data available from the National Cancer Data Base (NCDB). For cases diagnosed at EMMC in 2010^{*}, we found that stages at diagnosis for these cancers were the same as reported nationally in the NCDB. Also, for those diagnosed in 2003-2006^{*}, our 5-year survival rate matched national rates. * Most current national data

Our ACOS CoC Cancer Program Practice Profile Reports demonstrate excellent adherence to recommended standards of practice. In breast cancer: 100% of patients appropriate for radiation therapy are referred for and/or receive needed radiation, 100% of hormone receptor positive patients are referred for endocrine therapy, and 99% of patients needing chemotherapy were referred for consultation. In colon cancer, surgeons removed 12 or more lymph nodes at the time of surgery 91% of the time and 100% of patients needing consideration of chemotherapy were referred. In rectal cancer, 100% of patients were referred for initiation of chemotherapy. Each of these measures surpasses 2011^{*} national rates and are above the standard set by the ACOS CoC. * Most current national data

In our own institutional measurement of quality, Dr. Susan O'Connor of EMMC Breast Surgical Specialists documented our excellent performance on key breast surgical measures – concordance (final pathology is consistent with the original imaging abnormality) for image guided biopsies obtained with use of medical imaging (100%); use of axillary staging with sentinel lymph node procedure (100% for EMMC based surgeons); appropriate percutaneous mode of diagnosis (100% for EMMC based surgeons).

Dr. Klemperer of EMMC Cardiothoracic Surgery of Maine conducted a review of our experience in the diagnosis and management of lung cancer. His report highlights our initiatives and nationwide comparisons. Please take a moment to review his excellent report.

We are happy to recognize the election Brad Waddell, MD, one of our two surgical oncologists, to membership in the ACOS Commission on Cancer.

Our strong research program brings treatment trials to Maine

Our cancer clinical trials program remains robust with more than 40 clinical trials available for patients across a spectrum of diagnoses and stages of disease. Our joint research program with affiliated practices in Rockport and Augusta make these trials available across a large part of the state. We continue as leaders in cancer research in our state as main members of NCI-supported consortia of university and community cancer centers.

Dr. Jens Rueter, a hematology/oncology specialist and Director of EMMC Biorepository, leads the progress in our strong translational research program. A grant from the Maine Cancer Foundation this year supports the next phase of his laboratory research work in chronic lymphocytic leukemia. His work with scientists from the Jackson Laboratory resulted in both conference poster sessions and publications in peer review journals during 2013. We work with the Jackson Laboratory and others to supply malignant tissues for research. A current

CANCER COMMITTEE CHAIR REPORT

collaborative project through the Maine Cancer Foundation is our collection of breast cancer tissue to study triple negative breast cancer across the State of Maine.

The fourth annual Partridge Foundation Symposium on Research and Breast Cancer was held in October 2013 with presentations by nationally recognized experts. In attendance were over 150 health professionals from across the state.

To learn more about our cancer research program, please contact us at 207-973-4249 or on the web at www.emmc.org.

Other program initiatives

- Our *Image Project*, developed by a volunteer cancer survivor, offers women facing hair loss on-site assistance with wig selection. In 2013, over 150 patients were assisted.
- A statewide partnership based colon screening initiative is in its fifth and final year with over 450 individuals screened locally. One cancer was diagnosed with polyps identified in about 25% of the cases, creating the opportunity for cancer prevention.
- Our ACS collaboration continues through our on-site Resource Corner volunteers with our joint volunteers contributing over 1000 hours in support of our patients.

NEW DIRECTIONS FOR 2014

The coming year will give us the opportunity to broaden our follow-up care to support wellness in cancer survivors and address long-term effects of cancer treatment. For breast cancer survivors, these activities may include emphasis on achieving healthy weight, smoking cessation, and maintenance of normal bone density during breast cancer therapy as well as early detection and treatment of lymphedema.

The addition of Mercy Hospital to the EMHS system gives us the opportunity to extend our research program to southern Maine as well as to collaborate on joint clinical initiatives.

CANCER REGISTRY REPORT



Renee Stefanik, RHIT, CTR

Cancer registrars develop a case abstract (summary) for each person diagnosed and/or receiving first course of treatment at EMMC. In 2013 abstract completion within six-months of initial diagnosis was required by the American College of Surgeons Commission on Cancer (ACoS CoC) for 90% of cases. ACoS CoC has now suspended this requirement. However, it remains intact for reporting new cases to the State of Maine. Staff routinely completes this activity within 2.5 months of diagnosis.

An additional ACOS-COC standard to assure accurate data for calculating survival rates is the completion of annual lifetime follow-up – monitoring diagnostic and treatment outcome. EMMC's lifetime follow-up is 91.5% for cases diagnosed since 1998 (standard is 80%); 94% for cases diagnosed within five years (standard is 90%).

Per regulatory compliance, data are collected, maintained, and reported to the Maine State Cancer Registry and the National Cancer Data Base (NCDB). Submissions were on time and were completed with a high degree of accuracy.

Use of AJCC staging, consideration of prognostic factors and review of compliance to national treatment guidelines in the care of our patients is recommended by ACOS-COC. Our practice monitors adherence to this standard through both cancer conference case review and annual chart audit. Performance by both of these measures exceeds the 98th percentile. The use of College of American Pathologists (CAP) protocols for review of tumor specimens is 100%.

In October 2013 for certain disease sites and stage at diagnosis the registry began data submission through ACOS-COC Rapid Quality Reporting System (RQRS) for new cases actively receiving treatment. As a result of this change registry staff is able to provide managing physicians with information to assure compliance with national quality care standards. For prospective measures our compliance exceeds national standards.

Tables included reflect cancer case accessions, frequency & stage of disease at presentation and prevalence for 2012 at EMMC.

Case conference (Tumor Board) activity is an important part of care delivery at Eastern Maine Medical Center. Weekly conferences provide physicians with the opportunity to prospectively discuss diagnostics and treatment options for their patients including review of prognostic factors and nationally recognized treatment guidelines such as those of the National Comprehensive Cancer Network (NCCN). All major cancer sites are reviewed – 11% (195) of 2012 analytic cases were reviewed in this forum; an additional 10% were reviewed in our Thoracic Conference and Breast Biopsy Correlation Committee. Our annual Partridge Foundation Symposium and Dana Farber Cancer Institute visiting professor presentations complement our case conference activity. Participation is open to physicians, allied health professionals and support staff – either in person at EMMC's main campus, the LFCC in Brewer or via the NNETS.

Call 207-973-7483 for info.

CANCER REGISTRY DATA

2012 Accessioned (New to EMMC) Cancer Cases: Analytic /Non-Analytic Comparison

	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
Total Analytic Cases	1791	1695	1727	1753	1674
Cancer diagnosed and/or treated @ EMMC	910	881	903	877	899
Cancer diagnosed elsewhere with first treatment @ EMMC	881	814	824	875	775
Total Non-Analytic Cases	151	207	206	182	224
Cancer diagnosed & treated elsewhere; follow up @ EMMC					
Total Accessioned Cases	1942	1902	1933	1935	1898

2012 Most Prevalent Analytic Cases at Eastern Maine Medical Center (EMMC) compared to American Cancer Society (ACS) Estimates

Site	EMMC ACTUAL		*American Cancer Society ESTIMATES			
	Analytic		Maine*		National*	
	2012		2012		2012	
Prostate	137	8.2%	1320	14.7%	241740	14.8%
Breast	306	18.3%	1170	13.0%	226870	13.8%
Lung	357	21.3%	1340	14.9%	226160	13.8%
Colo-rectal	102	6.1%	750	8.3%	143460	8.8%
Melanoma	47	2.8%	480	5.3%	76250	4.7%
Bladder	58	3.5%	520	5.8%	73510	4.5%
Lymphoma	85	5.1%	390	4.3%	70130	4.3%
Leukemia	71	4.2%	240	2.7%	47150	2.9%
Uterus	42	2.5%	300	3.3%	47130	2.9%
Cervix	4	0.2%	50	0.6%	12170	0.7%
Total	1674	73.1%	8990	72.4%	1638910	70.3%

CANCER REGISTRY DATA

Primary Site – Frequency Distribution: 2012 Accessioned Cases

Primary Site	Total	Male	Female	% Analytic	# Analytic	Stage 0	Stage I	Stage II	Stage III	Stage IV
Oral	48	38	10	2.4%	41	0	8	1	8	23
Esophagus	25	20	5	1.3%	22	0	5	4	6	7
Stomach	23	17	6	1.2%	20	0	5	6	2	7
Colon	79	33	46	4.3%	72	1	13	22	15	20
Rectal	32	20	12	1.8%	30	0	8	10	5	7
Liver & Biliary	12	9	3	0.6%	10	0	3	1	2	2
Pancreas	56	24	32	2.8%	47	2	4	14	5	20
Larynx	16	14	2	1.0%	16	0	4	5	2	5
Lung & Bronchus	390	191	199	21.3%	357	0	81	26	69	178
Mesothelioma	8	8	0	0.5%	8	0	0	3	2	2
Bones & Joints	2	0	2	0.1%	2	0	0	2	0	0
Soft Tissue	12	4	8	0.6%	10	0	4	2	4	0
Melanoma	51	32	19	2.8%	47	14	12	9	9	2
Breast	326	2	324	18.3%	306	60	140	57	35	13
Cervix	5	0	5	0.2%	4	0	0	2	1	1
Uterus	46	0	46	2.5%	42	0	26	3	5	6
Ovary	20	0	20	1.0%	17	0	5	3	3	6
Prostate	178	178	0	8.2%	137	0	13	83	28	12
Testis	8	8	0	0.4%	7	0	5	2	0	0
Bladder	76	61	15	3.5%	58	24	9	9	6	10
Kidney	57	38	19	2.9%	49	3	25	2	9	10
Brain & CNS	40	20	20	2.2%	37	-	-	-	-	-
Thyroid	30	11	19	1.7%	29	0	20	4	3	1
Lymphoma	101	50	51	5.1%	85	0	23	16	16	29
Myeloma	34	21	13	1.9%	31	-	-	-	-	-
Leukemia	83	51	32	4.2%	71	-	-	-	-	-
Other	140	64	76	7.1%	119	0	10	12	11	9
Total	1898	914	984		1674	104	423	298	246	370
		48.2%	51.8%		88.2%	6.2%	25.3%	17.8%	14.7%	22.1%

BREAST CARE REPORT



Elaine Chambers, RN, MS

In January, we welcomed EMMC Breast Surgical Specialists practice to the community. Located on the third floor of the Lafayette Family Cancer Center in Brewer our specialty focus is breast health. In 2013 we introduced weekly multidisciplinary Prospective Case Review of new breast cancers. Care of women at risk or experiencing lymphedema became a top priority. L-Dex measurement was adopted as standard practice in screening patients whose surgical plans involve the axilla. This allows recognition of lymphedema at its earliest stages to permit optimal intervention.

The Breast and Osteoporosis Center at EMMC is very proud to be designated as a Breast Imaging Center of Excellence through the American College of Radiology for the sixth consecutive year. Both sites (State and Union Street EMMC campuses) offer FDA certified and American College of Radiology (ACR) accredited high quality digital mammography with all mammograms receiving a computer aided diagnostic (CAD) review. We continue to offer same day results for our diagnostic patients at our State Street location. Volume remains strong with completion of 16,324 examinations for screening and diagnostic services.

Through our collaboration with Caring Connections, nearly 900 women participated in sessions designed to inform them of risks and best strategies for prevention and early detection of breast and cervical cancer and maintenance of bone health. In collaboration with the Maine Breast and Cervical Health Program 222 screenings were completed. *Thrive with Exercise*, an innovative program encouraging participants to add exercise and weight management to their survival routine, has helped many experience measurable gains in strength, endurance and sustained weight loss. In 2013 we initiated the first of our programs that span the continuum of care – nurse navigation for those with a potential or a new diagnosis of breast cancer. In 2014 we plan to introduce a breast cancer survivors' clinic and a breast lymphedema program.

For information call us at 207-973-9700.

FOCUS: LUNG CANCER (non-small cell – NSCLC)



John D. Klemperer, MD

The American Cancer Society estimates in 2013 the diagnosis of nearly 230,000 cases of lung cancer (118,080 in men and 110,110 in women) and an estimated 159,480 deaths (87,260 in men and 72,220 among women), accounting for about 14% of all cancers diagnosed and 27% of all cancer deaths. In Maine, this represents 1,380 new cases and 950 deaths.

Lung cancer is by far the leading cause of cancer death among both men and women. Each year, more people die of lung cancer than of colon, breast, and prostate cancers combined.

The most common cause of lung cancer remains long-term exposure to tobacco smoke, associated with the development of 80–90% of lung cancers. Overall, the chance that a man will develop lung cancer in his lifetime is about 1 in 13; for a woman, the risk is about 1 in 16. These numbers include both smokers and non-smokers. For smokers the risk is much higher.

About 85% of lung cancers are non-small cell lung cancers (NSCLC). Squamous cell carcinoma, adenocarcinoma, and large cell carcinoma are all subtypes of non-small cell lung cancer. Small cell lung cancer is also called oat cell cancer. Only about 10%-15% of lung cancers are small cell or oat cell lung cancers. This cancer tends to spread quickly, is diagnosed at later stage, and is nearly exclusively treated with chemotherapy and radiotherapy.

Lung cancer staging is based on whether the cancer is localized or has spread from the lungs to regional lymph nodes or distant sites outside of the chest. Lung cancer stage is the single most important determinant as to how the cancer will be managed. The treatment of lung cancer is challenging, as the lungs are large and tumors can grow for many years before they are discovered. Even when symptoms occur, people often think they are due to other causes. For this reason, early-stage lung cancer (stages I and II) is difficult to detect. Most people with lung cancer (around 85%) are diagnosed at stages III and IV.

Overall, only 15% of people in the United States diagnosed with lung cancer survive five years after the diagnosis. Most present with advanced disease. This statistic has changed minimally over the last 40 years. Patients who present with the earliest stage disease (IA), however, may realize up to a 75- 80% chance of long-term survival with surgical resection.

Lung cancer rates in Maine are about 10% above the national average. Reviewing data from 2000-2010, 40-45% of all lung cancers diagnosed in Maine were treated at EMMC. Diagnosis, staging, and treatment are provided jointly by thoracic surgeons at Cardiothoracic Surgery of Maine (CSME), pulmonologists (Penobscot Pulmonary), and Medical and Radiation Oncologists at Eastern Maine Medical Center's Cancer Care (EMMC CC).

Comparison of cases diagnosed at EMMC to those in the National Cancer Database (NCDB), data shows that our population is slightly older with a statistically larger portion in the 60-69 age group, fewer in the 50-59 group, and a greater percentage of men. EMMC's rate of stage I diagnosis (28%) is higher than Maine (21%) or national (25%) rates with fewer patients diagnosed in either stage III or IV than nationally. As a first course of treatment, patients at

FOCUS: LUNG CANCER (non-small cell – NSCLC)

EMMC received surgery alone or radiation therapy alone at significantly higher rates than other institutions reporting through the NCDB, and for surgery alone higher than the rest of Maine. This data would support a slightly greater incidence of early or resectable lung cancer. Data indicate that at EMMC patients are more likely to receive treatment than others in Maine or reported in the NCDB. Our overall 5-year survival rates by stage at diagnosis parallel recent national rates. (See graphs included in this report.)

Diagnosing and treating lung cancer at an early stage (I, II) is clearly associated with better outcome.

Non-Small Cell Lung Cancer 5-year Survival Rates	
Stage	Survival Rates
Stage IA	49-75%
Stage IB	45-55%
Stage IIA	30-50%
Stage IIB	31-40%
Stage IIIA	14-35%
Stage IIIB	2-5%
Stage IV	~1%

The steep drop-off seen in survival suggests that early detection and treatment may result in improved outcomes. This has been difficult to prove, but a recent landmark study published in the New England Journal of Medicine on lung cancer screening is giving new weight to this premise. Recent advances in all treatment modalities (surgery, chemotherapy and radiotherapy) and improved multimodality approaches may also yield survival benefit in later stages as well. A thoracic oncology program that expedites enrollment in optimal treatment pathways is essential.

In 2013 CSME spearheaded an effort to create a standing service that would allow for a multidisciplinary review of all patients with proven or possible early stage lung cancer referred to Eastern Maine Medical Center or related private practices. This group, known as the Thoracic Oncology Service (TOS), benefits a large cohort of patients as its services are available independent of any referral pathway. Its purpose is to formulate a plan to diagnose and stage early lung cancer in an efficient, cost-effective and patient-friendly fashion. This service, designed to evaluate all such patients early in their course, will complement the existing Thoracic Oncology Clinic (TOC). The TOC was created to review a smaller group of patients whose preliminary evaluation lead to a complex scenario requiring further intensive review. TOS will be available to all patients referred to the pulmonary, thoracic surgical, medical oncology or radiation oncology practices in Bangor.

As mentioned above, radiographic screening for lung cancer in patients before they have symptoms has been appealing for decades, given the prevalence of lung cancer and the limited survival rate associated with advanced disease. Until recently, the evidence supporting screening efforts has not led to widespread use of lung cancer screening. However a recent large prospective randomized study involving 56,000 smokers demonstrated that screening asymptomatic patients with low dose CT scans resulted in a significant reduction in overall and

FOCUS: LUNG CANCER (non-small cell – NSCLC)

cancer specific mortality. In August 2013, the United States Preventive Services Task Force released a draft recommendation in support of CT scan screening for lung cancer for patients of a certain age range with a significant smoking history. This has already gained support from all major cancer, pulmonary, and thoracic surgical associations. The cardiothoracic service at EMMC has been very active in determining if and how this service will become available to patients in our region.

The mainstay of treatment for early stage lung cancer remains surgical resection. For NSCLC, the best prognosis is achieved with complete surgical resection of stage IA disease, with some reports showing up to 80% five-year survival. In most cases of early-stage NSCLC, removal of a lobe of lung (lobectomy) is the surgical treatment of choice. In the smallest tumors (under 2cm) and in people who are unfit for a full lobectomy, a smaller sub-lobar excision (wedge or segmental resection) may be appropriate. Much less commonly, removal of a whole lung (pneumonectomy) is performed.

Video-assisted thoracoscopic (VATS) surgery and VATS lobectomy use a minimally invasive approach to lung cancer surgery. VATS lobectomy is equally effective compared to conventional open lobectomy with equivalent survival outcomes. Reports suggest improved postoperative recovery with less pain and faster return to work. Ability to tolerate adjuvant chemotherapy is also improved. Perhaps most importantly, accumulating data suggest that VAT lobectomy may increase the population of patients who can safely undergo surgical resection, i.e. facilitate surgery in high risk patients. Not all tumors can be resected with a minimally invasive approach, but CSME surgeons are committed to performing VAT lobectomy when appropriate.

For patients with advanced forms of lung cancer, or for patients with early stage tumors who are felt to be medically unable to tolerate surgical treatment, radiation therapy, plus or minus chemotherapy, represents the primary treatment. The radiation oncology team at EMMC CC has a number of options available to them to help them treat lung cancer. Conventional radiation therapy continues to be the mainstay of treatment for advanced forms of lung cancer, often delivered in conjunction with various forms of chemotherapy. For patients with unusually large tumors, or tumors that are located close to critical organs such as the spinal cord, we can utilize Intensity-Modulated Radiation Therapy (IMRT) to more precisely tailor the dose of radiation to the cancer while sparing the nearby critical organ.

For smaller, early-stage lung cancers, we can utilize a form of radiation called Stereotactic Body Radiation Therapy (SBRT) also known as Stereotactic Ablative Body Radiotherapy (SABR). SBRT uses a number of complementary and advanced technologies. These include the ability to strictly immobilize patients on the treatment table, the use of exceptionally precise and high-energy radiation beams, and the use of 4-dimensional precise targeting of the tumor in space and time while accounting for the regular motion of the lungs while a patient is breathing. Small tumors diagnosed at an early stage can be eradicated in only three to five treatments, with an excellent safety profile, in patients who are not considered medically able to undergo surgery or in patients who decline surgery. All of this is done without any anesthesia in the outpatient setting. First in Maine, our well-trained and very experienced team has been using all of these advanced technologies now for a number of years. We continue to add new treatment options as they become available.

FOCUS: LUNG CANCER (non-small cell – NSCLC)

Medical oncologists play a central role in the treatment of locally advanced and metastatic lung cancer through the design of chemotherapeutic regimens. Prolonged survival and improved quality of life are recognized in both adjuvant and primary settings. One of the more exciting developments in lung cancer therapy is the introduction of biological targeted treatments. Unlike chemotherapy drugs, which do not distinguish between normal cells and cancer cells, targeted therapies are designed specifically to attack cancer cells by attaching to or blocking targets that appear in those cells. People who have advanced lung cancer with certain molecular biomarkers may receive treatment with a targeted drug alone or in combination with traditional agents.

Two of the targeted treatments used in non-small cell lung cancer are:

Erlotinib (Tarceva): This drug has been shown to benefit some people with non-small cell lung cancer. This drug blocks a specific kind of receptor on the cell surface, the epidermal growth factor receptor (EGFR). This receptor is involved in coordinating the growth and spread of lung cancer. Lung cancer cells that have a mutation on the EGFR are likely to respond to treatment with erlotinib. This mutation is found in a larger proportion of non-smokers who develop lung cancer.

Crizotinib (Xalkori): This drug targets tumors in which growth is driven by a mutation of the EML4-ALK gene. About 4 percent of non-squamous cell lung cancers have this mutation. Although not yet approved for this use, it has also been reported to be effective in lung cancers with a different mutation called ROS1, which is found in about 1 percent of non-squamous cell lung cancers.

To assure best treatment selection, lung cancers diagnosed at EMMC are routinely tested for EGFR, EML4-ALK and ROS1 mutations. In 2014, we will have a national clinical trial available able to test the effectiveness of these drugs in earlier stage lung cancers carrying EGFR and EML4-ALK mutations.

Caring for these patients truly requires a team approach. Together we are committed to providing excellent care!

SMOKING CESSATION – Our Priority

Most of us know that cigarette smoke is the largest single contributor to cancer risk.

Some think, I already have cancer, why should I bother quitting?

The reasons are:

- When surgery is needed smokers experience increased:
 - complications from general anesthesia
 - risk of severe pulmonary complications
 - detrimental effects on wound healing
- When radiation therapy is needed smokers experience:
 - Reduced effectiveness of treatment
 - Increased toxicity and treatment related side effects
- When chemotherapy is needed smokers experience increased:
 - Immune suppression, weight loss, fatigue, infection, pulmonary / cardiac toxicity and drug toxicity

You are important! We want you to get the most out of your care!

Even after diagnosis, smoking cessation:

- Decreases treatment complications
- Decreases risk of new cancers
- Improves survival rates
- Improves quality of life

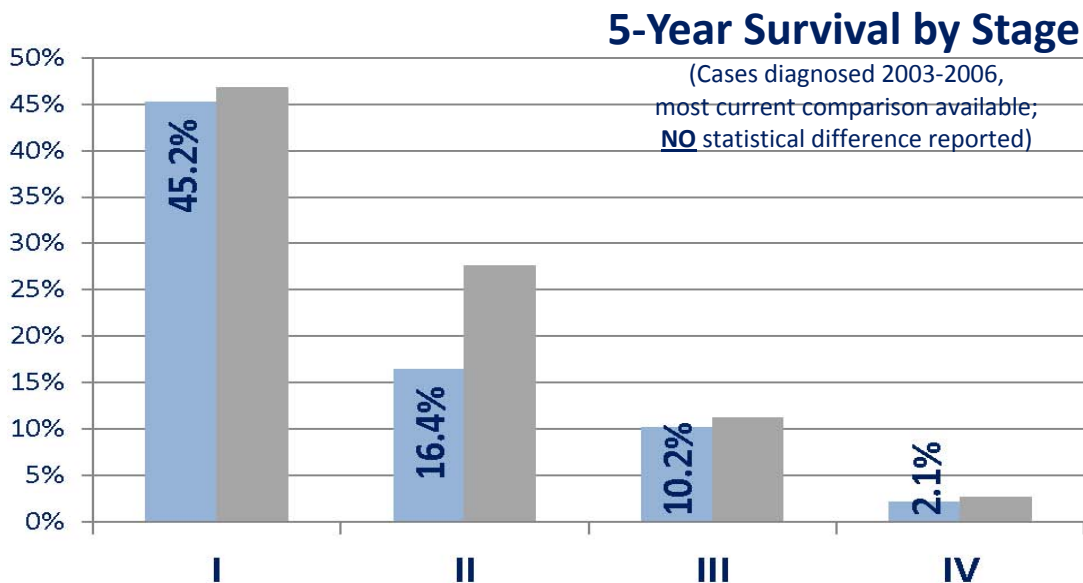
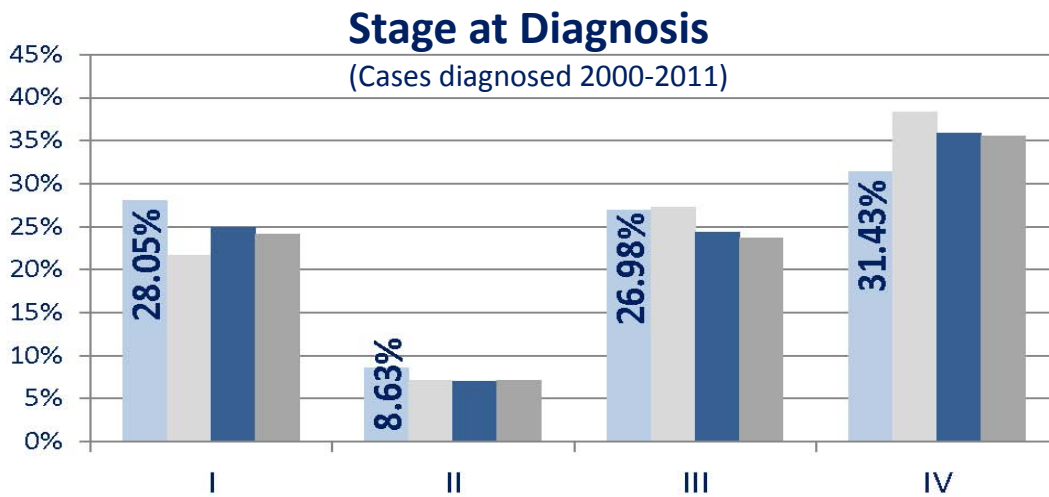
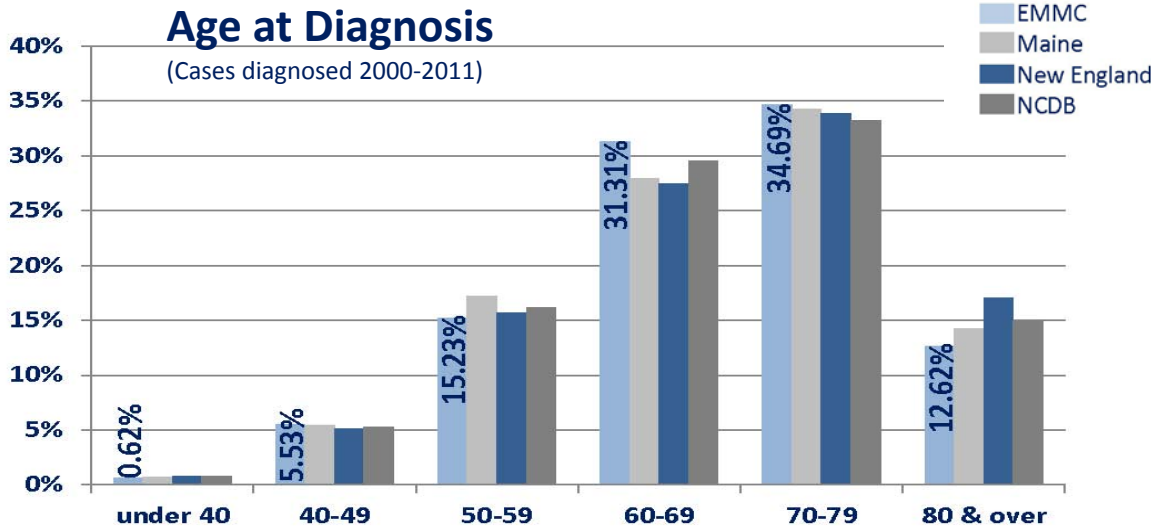
It is hard to quit! For most it takes more than several attempts. It is a team effort. If you are still smoking and want to quit –

ASK your provider for help!

Or call The MAINE Tobacco Help Line at 1-800-207-1230 (toll free) or on-line at www.tobaccofreemaine.org

We want to help you make a difference!

FOCUS: LUNG CANCER (non-small cell – NSCLC) DATA





EASTERN MAINE MEDICAL CENTER

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Important Contact Information

At the Lafayette Family Cancer Center

EMMC Breast Surgical Specialists –
207-973-9700

EMMC Cancer Care

Cancer Registry – 207-973-7483

Clinical Research – 207-973-4249

Medical Oncology – 207-973-7478

Radiation Oncology – 207-973-4280

Raish Peavey Haskell Children's

Cancer & Treatment Center -

Pediatric-Adolescent-Young Adult

– 207-973-7572

At the Main Campus

EMMC Breast & Osteoporosis Center –
207-973-8108

EMMC Cardiothoracic Surgery of Maine –
207-973-5293

EMMC Northeast Surgery of Maine –
207-973-8881

EMMC Orthopedic Surgical Specialists –
207-973-9980

Or on the web at www.emmc.org