



ANNUAL REPORT 2017

QUALITY MONITORING
BREAST CANCER
GOALS & ACCOMPLISHMENTS



Lowell General Hospital
THE CANCER CENTER

Complete connected careSM

A letter from the Medical Director



Dear Friends,

I am pleased to share our latest annual report from the Cancer Center at Lowell General Hospital. 2016 was an exciting year for our growing program. Our team worked hard to continue to strengthen the array of clinical and support services we provide to our patients and their families, while also keenly focusing on our patients' experiences with us and making sure those visits are as positive as possible.

Our Cancer Center is committed to meeting the needs of our patients locally and ensuring seamless care delivery right here in our community. The clinical team of five board-certified medical oncologists and five advanced nurse practitioners work collaboratively to treat our oncology patients, and we are proud to have highly skilled gynecological and thoracic oncology surgeons on site to support patients with those cancer diagnoses. We also offer cutting-edge radiation oncology treatments, which makes a powerful difference in the lives of patients and eliminates the need to travel far distances for frequent radiation treatments.

Over the past year, our clinical team has specifically focused on standardizing pathways for patients who now receive their chemotherapy at home via an oral tablet. We have also incorporated a nurse navigator in our infusion clinic, whose role is to provide one-on-one education to patients before they begin treatment. With a team-focused approach, we continued multidisciplinary clinics in the key areas of breast, head and neck, and urological cancers. For example, our breast multidisciplinary conferences review all newly diagnosed breast cancer cases, while our head and neck and urology multidisciplinary clinics meet monthly to discuss new and challenging patients coming in for treatment.

If a patient's needs require a tertiary specialist, Lowell General Hospital's providers are able to leverage their strong relationships with Boston-based specialists and can seamlessly coordinate appointments as needed that align with the patient's health insurance coverage. As a member of Wellforce, Lowell General Hospital's Cancer Center is working to maximize our clinical partnerships. Our team meets frequently with colleagues from fellow Wellforce member Tufts Medical Center, and we are discussing many future program enhancements and collaborations that will bring additional benefits to our patients locally.

Perhaps most importantly, we continue to listen to our patients and ask for their feedback on what we can do to improve the services and care we provide. A patient focus group held in 2016 helped us identify best practices, and we established a six-member Patient Advisory Council comprised of past patients and community members. And we have continued to solicit feedback through our Press Ganey patient satisfaction surveys, which evaluate the performance of our medical staff in key areas like timeliness and the time spent with patients. We meet quarterly to review survey results and areas patients tell us we can improve. This feedback has steered our work to maintain a quiet, healing environment through the elimination of overhead paging, initiating the use of wireless phones and installing privacy glass at each front desk area. This important work ensures we are listening to our patients' perspectives and making improvements to help their experience be the best it can be.

Thank you for taking the time to read this annual report for additional highlights from this year.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'M. Anamur'.

Murat Anamur, MD
Medical Director

Mission

Patients First In
Everything We Do.

Vision

To Be One of the Best
Community Hospitals in America.

Values

Compassion, Excellence,
Dedication and Integrity.

Our Committee Members

Anamur, Murat, MD	Chairman, Cancer Committee Medical Oncology
Abel, Scott, MD	Radiology
Canal, Judy	Radiology
Cross-Skinner, Susan, RN, MSN, ANP-BC	Breast Health Navigator
Hilbert, Heather	Community Outreach
Lauretano, Arthur, MD	ENT
Edry, Ellen, CTR	Program Manager
Grace, Julie, DPT	Rehabilitation
Edelstein, Robert, MD	Urology
Katz, Matthew, MD	Radiation Oncology
Mazraany, Wassim, MD	Surgery
Donovan, Erin	Quality
Brennan, Kimberly, DO	Medical Oncology
Hincks, Gayle, RN, OCN	Clinical Research
Wolman, Kathryn, MS, CCC-SLP	Speech
Howard, Terry, MD	Associate Chairman/GYN
Sequeira, Dalia, LICSW	Oncology Social Work
MacKinnon, Nicole	Cancer Center Quality
O'Meara, William, MD	Radiation Oncology
Edwards, Melanie, RN, OCN	Clinical Manager
Lemire-Berthel, Meg, MSW	Oncology Social Work
Hunter, Klaudia, MD	Radiation Oncology
Phan, Syphorn, Pharm.D.	Pharmacy
Roberge, Sherry, BSRT (R,T)	Chief Radiation Therapist
Antolini, Claudia, RN	Cancer Center Admin.
Gunturi, Ana, MD	Medical Oncology
Shore, Rebecca, MD	CLP-Surgery
Johnson, Kylie, RD	Nutrition
Buckley, Monica, RN, OCN	Oncology Education
Wandrey, Margaret, RD, LDN	Nutrition
Nicholson, Lindsay	American Cancer Society
Collins, Robin, RN	Palliative Care/Inpatient
Joseph, Lija, MD	Pathology
Dudman, Caroline, NP	Medical Oncology

The Cancer Center at Lowell General Hospital provides a diverse array of cancer services to improve both the health and quality of life for our patients. With a comprehensive range of services including hematology, medical oncology, radiation oncology and gynecologic oncology, our dedicated team delivers clinical care with a patient-focused approach, integrating all the care needs of our patients and their families.

Tumor Conferences 2016

52

*Conferences
Held*

285

*Cases Presented –
All Cases
Prospective*

200

*Cases Staged at
the Conference*

ATTENDANCE

*Medical Oncology - 100%
Radiation Oncology - 100%
Diagnostic Imaging - 100%
Surgery - 96%*

**All types of cases presented. NCCN, ASCO
and ASTRO Guidelines are followed.**

**Twenty one patients identified
for Clinical Trials.**

Multidisciplinary Conferences 2016

The Cancer Center at Lowell General Hospital is committed to provide case discussion and site specific disease management in a multidisciplinary case review format. The case review clinics held are breast, urology and head and neck. These conferences bring together medical and radiation oncology, surgeons, pathology and radiology as well as urology and ENT. Ancillary support staff will attend to assist with any additional service referrals patients may need such as dietary consults, speech and swallowing or lymphedema management. In 2016, 250 cases were discussed in these multidisciplinary clinic forums. Each case review includes all of the key items for disease management, including the staging of clinical research and covering national treatment guidelines as part of the discussion.

Cancer Center Community Resources

Keeping patients healthy is as important to us as taking care of them when they are ill. Lowell General Hospital helps individuals take care of themselves inside and out with a variety of programs, workshops, classes and special events that are offered through the year.

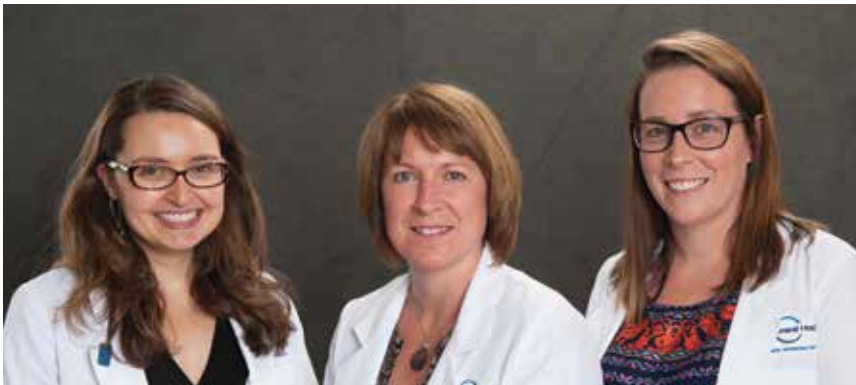
We offer a variety of Health and Wellness programs workshops and seminars. When the path to healing is not a physical one, our support groups are a safe environment to learn from others and share experiences as patients cope with an illness or a move towards wellness.

The Cancer Center

The staff at the Cancer Center wants patients to feel confident that they are getting the best cancer care. We're not only home to leading cancer experts, we partner with world-renowned specialists from Boston-based hospitals. Patients can expect to be seen by the top physicians, who are both skilled and caring. This is where compassionate people, years of experience, breakthrough new treatments, and personalized care plans all come together to help individuals fight cancer.

Clinical Trials

As part of our commitment to *Complete connected care*, we give patients the opportunity to participate in pioneering clinical trials. This is a way to access cutting-edge new treatments that could potentially change their lives.



Stephanie Valcourt-Dexter, CCRC, Gayle Hincks, RN, OCN, CCRC and Jessica Barry, CCRC from the Clinical Trials group



Breast Multidisciplinary Conference

48 Meetings
202 Cases Discussed


Head and Neck Multidisciplinary Conference

13 Meetings
23 Cases Discussed

Urology Multidisciplinary Conference

14 Meetings
25 Cases Discussed





The Varian
TrueBeam® for
image-guided
radiotherapy

24,400+

*Number of Medical
Oncology patient visits
to the Cancer Center
in 2016*

13,300+

*Number of radiation
treatments administered
in the Cancer Center
in 2016*

Clinical Research Report 2016

Our program at Lowell General Hospital (LGH) is strong and robust, with accruals that exceed the standard requirement in our category as reported by the Commission on Cancer (CoC).

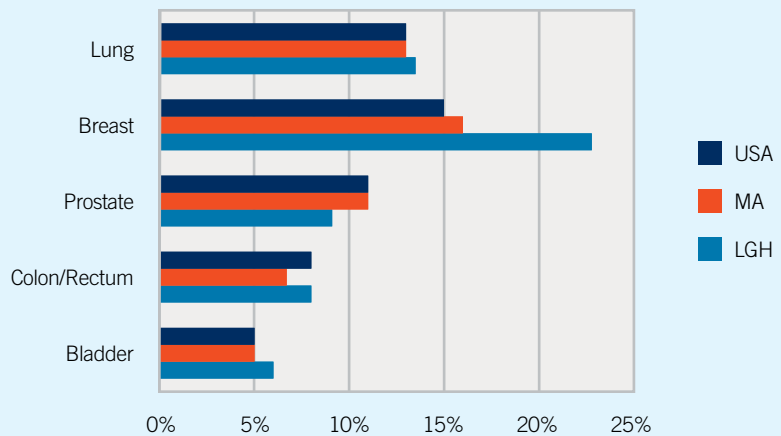
CoC Accrual	On-site LGH	Referred	Total
Prevention Trial	0	0	0
Screening Trial	0	0	0
Treatment Trial	12	32	44
QOL	0	0	0
Other - Tissue Repository	11	26	37
Other - Registry	0	5	5
TOTAL YEAR-TO-DATE	23	63	86
Breast Total Year to Date	13	13	26

Accrual Per Quarter	Total LGH	Total Referred	Total
FY15 Q2	0	63	63
FY15 Q3	4	0	4
FY15 Q4	14	0	14
FY16 Q1	5	0	5
TOTAL FOR FY2016	23	63	86



Registry Overview of Cases 2016 — Top Five Sites of Cancer

Lowell General Hospital
Massachusetts
USA



2016 PRIMARY SITE TABLE NEW CASES

Primary Site	Total	Analytic	Male	Female
ALL SITES	1130	1077	479	651
Oral Cavity and Pharynx	33	31	26	7
Tongue	11	10	9	2
Salivary Glands	4	4	2	2
Gum and Other Mouth	1	1	0	1
Tonsil	7	7	6	1
Floor of Mouth	4	4	3	1
Hypopharynx	1	1	1	0
Nasopharynx	2	2	2	0
Oropharynx	2	1	2	0
Digestive System	177	173	94	83
Esophagus	15	15	10	5
Stomach	9	9	7	2
Small Intestine	4	4	2	2
Colon excluding Rectum	63	61	31	32
Rectum and Rectosigmoid	27	26	12	15
Rectosigmoid Junction	7	7	2	5
Rectum	20	19	10	10
Anus, Anal Canal and Anorectum	7	7	2	5
Liver and Intrahepatic Bile Duct	13	12	7	6
Pancreas, Gallbladder and Other	34	34	20	14
Retroperitoneum, Peritoneum, Omentum, Other	5	5	3	2
Respiratory System	166	164	83	83
Larynx	10	10	9	1
Nose, Nasal Cavity and Middle Ear	3	2	2	1
Lung and Bronchus	153	152	72	81
Soft Tissue	6	4	5	1
Skin excluding Basal and Squamous	19	16	12	7
Melanoma-Skin	17	14	11	6
Other Non-Epithelial Skin	2	2	1	1
Breast	258	258	2	256
Female Genital System	75	66	0	75
Cervix Uteri	11	8	0	11
Corpus and Uterus, NOS	38	37	0	38
Ovary	9	9	0	9
Vulva, Vagina and Other Organs	17	12	0	17
Male Genital System	112	85	112	0
Prostate	103	76	103	0
Testis	8	8	8	0
Penis	1	1	1	0
Urinary System	95	93	60	35
Urinary Bladder	64	63	44	20
Kidney, Renal Pelvis Ureter, and Other	31	30	16	15
Brain and Other Nervous System	29	28	14	15
Brain	13	13	8	5
Cranial Nerves, Other Nervous System	16	15	6	10
Endocrine System	39	39	12	27
Thyroid	35	35	12	23
Other Endocrine including Thymus	4	4	0	4
Lymphomas	46	46	24	22
Hodgkin Lymphoma	5	5	4	1
Non-Hodgkin Lymphoma	41	41	20	21
Myeloma	17	17	7	10
Leukemia	21	21	10	11
Mesothelioma	4	4	3	1
Lymphocytic Leukemia (ALL, CLL and Other)	6	6	4	2
Myeloid and Monocytic Leukemia	14	14	6	8
Ill-Defined and Unspecified Sites	33	32	15	18

Community Outreach and Prevention

Annual Community Outreach Summary 2016

HEALTH FAIR – LOWELL HOUSING AUTHORITY							
Type	Date	Event	Association	Date	Attendees	Outcome	Value
Skin	11/16/16	Screening	American Dermatology Association	3/26/16	11	Location played a key role in the success of this program. No positive or suspicious findings noted during the screening.	A high risk population was able to receive screening at no charge. Lessons: it is valuable to have the availability of interpreters to add to the effectiveness and success.

HEALTH FAIR – LOWELL HOUSING AUTHORITY							
Type	Date	Event	Association	Date	Attendees	Outcome	Value
Head and Neck	11/16/16	Screening	NCCN Guidelines	3/26/16	15	One participant had an ear issue. Two other patient's had other medical issues identified.	Free screening was provided to high risk patients who would not have otherwise had this offering due to lack of insurance.

HEALTH FAIR – CAMBODIAN MUTUAL ASSISTANCE ASSOCIATION							
Type	Date	Event	Association	Date	Attendees	Outcome	Value
Head and Neck	11/16/16	Screening	NCCN Guidelines	5/7/16	119	Two cases required further ENT work-up. Referred to Mass ENT Associates. Nine cases identified in need of further PCP involvement for medical issues.	The location of the program and involvement of staff that are the same culture as the patients were very positive aspects. We also engaged our interpreters so there were no language barriers.

LOWELL STUDENT POLICY ACADEMY							
Type	Date	Event	Association	Date	Attendees	Value	
Sun Safety	11/16/16	Prevention	American Cancer Society	7/1/16 and 7/29/16	125 per session Two sessions held 250 total participants	Program was well received. When this event is held next year (commitment made for 2017), it is recommended that we will include a pre- and post-test to measure knowledge levels.	

Three screening programs – two head and neck and one skin screening – were held in 2016 at various sites. A total of 145 community members attended these screening events. A Sun Safety prevention event was held twice and had 250 attendees.

Every three years, a new community benefit plan is established. By utilizing this plan, future prevention and screening activities are established. Our Community Health and Wellness department works collaboratively with Cancer Services to help provide prevention and screening to our community.



TeamWalk for CancerCare 2017

With smiles, sneakers and inspiring stories, more than 5,000 cancer survivors, walkers, supporters, sponsors and volunteers participated in Lowell General Hospital's 18th annual TeamWalk for CancerCare held on May 21, 2017. The largest single-day fundraising event in Merrimack Valley brought in \$920,000 to provide services and support for local cancer patients and their families. The funds enable Lowell General Hospital to provide assistance, support, and services to help people feel better, build confidence and instill hope throughout the cancer journey.



Quality Reporting

Adherence to National Comprehensive Cancer Network® Guidelines for Early Breast Cancer – Part II

NCCN Guidelines for Surveillance/Follow-Up

- Interval history and physical exam every 6-12 months for 5 years, then annually
- Mammogram every 12 months (and 6-12 months post radiation therapy) if breast conserved
- If treated with endocrine therapy, monitor per Guideline for Breast Cancer Risk Reduction

This group of patients was reported in 2015. In adhering to the NCCN guidelines, Year Two of the follow-up must take place every 6-12 months, Year One (2015) and Year Two (2016). The same patient panel was reviewed again to assure continuity to the guideline for early breast cancer surveillance/follow-up for Year Two.

TOPIC: Monitor compliance to NCCN surveillance/follow-up at desired intervals to assure standard of care and practice is in place.

OBJECTIVE: Assure compliance with NCCN Guideline for Early Breast Cancer.

MEASUREMENT: Original nine charts from 2015 – LCIS/DCIS Stage 0.

FINDINGS: All nine cases were reviewed against the NCCN guidelines for Year Two compliance and followed at proper intervals as suggested by the guideline. One patient was later dropped from this study due to progressive disease and mastectomy performed; this patient was removed from this study.

RECOMMENDATIONS/ACTIONS: Review complete. NCCN guidelines for surveillance/follow-up determined to be compliant with suggested guideline. No further action required.

Adherence to National Comprehensive Cancer Network Guidelines for Invasive Breast Cancer – Part II

NCCN Guidelines for Surveillance/Follow-Up

- Interval history and physical exam 1-4 times per year as clinically appropriate for 5 years, then annually
- Mammogram every 12 months
- Women on aromatase inhibitor or who experience ovarian failure secondary to treatment should have monitoring of bone health with a bone mineral density determination at baseline and periodically thereafter.

These patients, similar to the Early Stage Breast Cancer patients, were reported in 2015. These patients were reviewed against Year Two surveillance criteria for compliance to the suggested guideline.

TOPIC: Monitor compliance to NCCN surveillance/follow-up at desired intervals to assure standard of care and practice is in place.

OBJECTIVE: Assure compliance with NCCN Guideline for Invasive Breast Cancer.

MEASUREMENT: Original 14 charts from 2015 – Invasive.

FINDINGS: All 14 cases were reviewed against the NCCN guidelines for Year Two compliance. All 14 cases were reviewed and followed at proper intervals as suggested by the guideline. Bone density testing reported when applicable.

RECOMMENDATIONS/ACTIONS: Review complete. NCCN guidelines for surveillance/follow-up determined to be compliant with suggested guideline. An additional element was added to the review in Completed Survivorship Care Plans. Eight-out of the 14 patients had completed care plans per Commission on Cancer Guideline. No further action required.

Palliative Care

The Palliative Care department at Lowell General Hospital provides supportive care services to people facing life-threatening illnesses and/or complex medical situations. Palliative care is special health care that can ease pain and other symptoms and side effects from one's illness or treatment. It can help patients and their families with your illness, and emotional, practical and spiritual concerns.



Medical and Radiation Oncology

Medical Oncology

The Medical Oncology Infusion Suite is a 19 chair treatment room staffed by oncology-trained registered nurses and pharmacists. The infusion suite is open Monday through Friday 8:00am-5:30pm. Treatments administered consist of IV chemotherapy, immunotherapy and targeted therapies, as well as monitoring of oral cancer medications. Treatment education and symptom management (including blood transfusions, IV hydration, supportive care, and medication administration) are some of the other services we provide. In the infusion room we aim to give personalized care to each individual that we touch.

Radiation Oncology

Radiation treatments play a key role for 50-60% of cancer patients. Radiation can be used to cure cancer by making surgery more effective or in some cases it may replace the need for surgery. When a cure isn't possible, radiation often is an effective way to relieve cancer-related symptoms.

With better planning and research, radiation can be completed in shorter times than before. The treatments are mostly delivered with a high-energy X-ray beam designed specifically to treat each patient. Often these treatments are given daily in 15 minute appointments over a period of weeks. But more precise targeting allows treatment to be equally effective in shorter numbers of treatments.

For early stage breast cancer, women used to have to come for 6-7 weeks. Now it can be completed for most women in 3-4 weeks. For early stage prostate cancer, radiation can work as well as surgery but used to take up to 9 weeks. With advances in care planning and organ protection, eligible patients may be treated for prostate cancer in as little as 5½ weeks with hypofractionated radiation treatment. For some early inoperable lung cancers, treatment has been shortened from 6-7 weeks to 3-5 days.

When the goal is to improve quality of life and lessen pain rather than cure the disease, treatment can also be effectively shortened. If cancer spreads to the brain, some people may only need a single longer session of treatment rather than 2-3 weeks. If patients develop bone metastasis causing pain, treatment time can also be condensed. The most common schedule nationally is a two week treatment course. At Lowell General Hospital, 80% of patients with bone metastasis receive treatment in one week or less; 28% only need a single dose to help with pain relief.

Much research is needed to see if there are other ways to improve radiation therapy. But we have made great strides to make effective cancer treatment shorter and easier for patients.





Complete connected careSM