



**Rhode Island Hospital**



**The Miriam Hospital**



**Newport Hospital**

**Cancer Program Annual Report  
2018**

**Report of the Cancer Committee**

# 2018 Annual Report

## Rhode Island Hospital : The Miriam Hospital : Newport Hospital

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## Introduction

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In August 2013, the cancer programs at Rhode Island Hospital, The Miriam Hospital, and Newport Hospital officially merged into one, system-wide Integrated Network Cancer Program. The mission of the program is to provide patient centered, research focused, high quality, high value care that is consistent across our network.

The Lifespan Cancer Institute a Program of Rhode Island Hospital, brings together world-renowned physicians whose level of knowledge and experience are unparalleled in Rhode Island. A multidisciplinary team of specialists from Rhode Island Hospital, The Miriam Hospital and Newport Hospital provide patients diagnosed with cancer or hematologic disorders access to a full range of cancer services.

The hematology and oncology program has a disease specific focus, led by highly trained board-certified specialists. Teams of expert medical oncologists, hematologists, radiation oncologists, oncology surgeons, radiologists, pathologists, nurse practitioners, physician assistants, nurses, clinical pharmacists, patient navigators, rehabilitation specialists, geneticists, social workers and dietitians are dedicated to the diagnosis, treatment and prevention of cancer. Our model of care provides patient access to disease specific multidisciplinary clinics where patients see all disciplines in one setting and a proposed treatment plan is developed. The team works closely and compassionately with patients and families to ensure the highest standard of care is provided to achieve the best possible outcome. Nurse, financial and lay navigators ensure patients have the information and resources they require. When treatment is completed the Institute continues to support patients and their families through survivorship, support groups and wellness programs.

The Cancer Program at Rhode Island Hospital, The Miriam Hospital and Newport Hospital was surveyed by the Commission on Cancer (CoC) of the American College of Surgeons (ACoS) in 2018. This voluntary accreditation validates that our Integrated Network Cancer Program meets and exceeds the rigorous standards set by the Commission on Cancer of the American College of Surgeons.

This 2018 Annual Report summarizes Cancer Program statistics for 2017, during which time 4,164 cases were accessioned. The analytic case count was 3,441 and the non-analytic case count was 723. For patients diagnosed and treated at Rhode Island Hospital, The Miriam Hospital and Newport Hospital a lifelong follow-up rate of at least 90% is maintained.

In 2018, the Cancer Committee conducted a bladder cancer outcome analysis to assess the program's overall experience with this disease. It is estimated 81,190 new cases of bladder cancer will be diagnosed in the United States during 2018 and 360 residents in Rhode Island will be affected by this disease. Overall the chance of developing bladder cancer during one's lifetime is about 1 in 27 for men, making bladder cancer the fourth most commonly diagnosed cancer in this gender. For women, bladder cancer is less common. The chance of developing this disease is about 1 in 89 and death rates among women have decreased slightly in recent years. For men, incidence rates are noted to be decreasing and death rates have remained stable. However, it's important to note, smoking can increase one's risk of developing bladder cancer by four to seven times.

The programmatic and clinical goals for 2018 were as follows:

***Programmatic:*** *Improve communication and education with our Hispanic/Latino population*

Background: In 2017, 7.5% of LCI patients who had a provider (physician) visit were noted as Hispanic/Latino. The Lifespan Cancer Institute's emphasis on access to care recognizes the importance of the Hispanic/Latino population which is expected to increase by 15% in the upcoming years.

- To achieve this goal, a Community Needs Assessment was developed in conjunction with Lifespan's Community Outreach Department and was conducted to guide future planning and interventions.
- An inventory of Spanish and Portuguese speaking staff across all LCI sites was conducted. Opportunities were identified and an emphasis was placed on hiring clinicians, secretarial and phone triage personnel who were bilingual.
- The availability and utilization of Spanish written materials has been increased within the Lifespan Cancer Institute.
- Training of all Lifespan Cancer Institute staff on cultural sensitivity, diversity, and equitable care was completed.

***Clinical: Initiation of an LCI Opioid Protocol***

Objective: To provide optimal pain management to oncology patients while implementing a safe opioid prescribing initiative addressing patient and provider concerns of diversion, dependence, storage, and disposal.

Background: The current opioid crisis has had wide ranging implications across medicine, especially in oncology.

- The oncologist has a challenging role caring for patients with preexisting pain conditions, acute cancer-related pain, and pain at end of life and cancer survivors who live with cancer as a chronic condition after treatment.
- American Society of Clinical Oncology (ASCO) has put forth comprehensive guidelines for the safe use and monitoring of opioids.

**Achievements:**

- Opioid Safety Program Policy developed for the Lifespan Cancer Institute.
- Opioid safety information sheet developed and implemented.
- Initial Lifespan Cancer Institute clinical staff as well as patient / family education completed and is consistently reinforced.
- Education focuses on opioid prescribing: dependence, storage, diversion, disposal, and bowel regimen.
- Patient-Provider Agreement live in LifeChart (Epic).

## 2018 Cancer Oversight Committee Membership

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Sheryl Amaral, MBA, MS CCC-SLP	Community Representative	RIH Foundation, Board of Trustees
Megan Begnoche, RN, AOCN	Nursing Quality & Safety Manager <i>Quality Improvement Coordinator</i>	Lifespan Cancer Institute
Carrie Bridges-Feliz	Director <i>Community Outreach Coordinator</i>	Community Outreach
Laura Butterfield, RN, OCN	Director	Lifespan Cancer Institute
Christine Collins, MBA, RPh	Director	Pharmacy
Mary Cordo	Cancer Registrar	Oncology Data Management
Thomas DiPetrillo, MD	Radiation Oncologist <i>Chair, Cancer Committee Cancer Conference Coordinator</i>	Radiation Oncology
Don Dizon, MD	Medical Oncologist	Lifespan Cancer Institute
Sheila Earle, CTR	Cancer Registrar	Oncology Data Management
Mary Flynn, PhD, RD, LDN	Nutritionist	Nutrition Services
Theresa Graves, MD	Director, Breast Program Breast Surgeon	Surgery
Angela Hall-Jones	Community Representative	American Cancer Society
Arnold Herman, MD	Cancer Committee Liaison	Surgery (Retired)
Jason Iannuccilli, MD	Radiologist	Diagnostic Imaging
Theresa Jenner	Administrative Director <i>Psychosocial Services Coordinator</i>	Clinical Social Work
Susan Korber, MS, RN, OCN	Cancer Program Administration Vice President	Lifespan Cancer Institute
Mark LeGolvan, MD	Pathologist	Pathology Services
Kara Lynne Leonard, MD	Radiation Oncologist, CLP	Radiation Oncology
Carrie Marcil, PT, LANA	Physical Therapist	Rehabilitation Services
Camille Higel-McGovern, NP	Survivorship Administration	Lifespan Cancer Institute
Charlene Hokanson, RN, OCN	Clinical Manager	Clinical Manager, Inpatient, TMH
Alessandro Papa, MD	Medical Oncologist	Lifespan Cancer Institute

## 2018 Cancer Oversight Committee Membership

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Julie Principe, MS, RN	Director	Lifespan Cancer Institute
Debra Pultman, CTR	Cancer Registrar	Oncology Data Management
Thomas Renaud, MD	Pediatric Medical Oncologist	Hasbro Children's Hospital
Jayne Ritz, MS, RN, OCN	Manager	Lifespan Cancer Institute
Andrew Schumacher, CCRP	Manager <i>Clinical Research Coordinator</i>	Lifespan Oncology Clinical Research
Jennifer Schwab, MS, CGC	Genetics Counselor	Genetics Clinic
Marsha Stephenson, RN	Clinical Coordinator	Hope Hospice & Palliative Care of Rhode Island
Rochelle Strenger, MD	Medical Oncologist	Lifespan Cancer Institute
Tara Szymanski, CTR	Manager, Quality, Data Mngt. <i>Cancer Registry Coordinator</i>	Oncology Data Management
Angela Taber, MD	Palliative Care / Medical Oncologist	Lifespan Cancer Institute
Christine Vieira, CTR	Cancer Registrar	Oncology Data Management

**2017 Analytic Case Distribution by Primary Site**

**Rhode Island Hospital : The Miriam Hospital : Newport Hospital**

PRIMARY SITE	TOTAL	SEX		AJCC STAGE					Stage Not Applicable	Stage Unknown
		M	F	0	1	2	3	4	88	99
<b>Oral Cavity</b>	80	51	29	0	6	12	15	39	1	7
Lip	1	1	0	0	1	0	0	0	0	0
Tongue	27	19	8	0	2	3	3	19	0	0
Salivary Gland	8	3	5	0	2	1	1	3	0	1
Floor of Mouth	4	3	1	0	0	1	1	2	0	0
Gum & Other Mouth	9	6	3	0	0	2	2	3	0	2
Nasopharynx	4	2	2	0	0	1	3	0	0	0
Tonsil	15	12	3	0	1	3	2	8	0	1
Oropharynx	6	2	4	0	0	0	3	1	0	2
Hypopharynx	5	3	2	0	0	1	0	3	0	1
Other Oral Cavity Organs	1	0	1	0	0	0	0	0	1	0
<b>Digestive System</b>	597	320	277	7	109	138	127	143	36	37
Esophagus	47	34	13	0	6	14	7	17	0	3
Stomach	63	40	23	0	16	8	13	17	2	7
Small Intestine	17	11	6	0	1	3	2	4	7	0
Colon	182	85	97	3	44	51	38	30	10	6
Rectum & Rectosigmoid	81	41	40	1	12	18	25	15	2	8
Anus & Anorectum	22	6	16	2	4	8	7	0	1	0
Liver & Intrahepatic Duct	44	28	16	0	10	7	11	8	6	2
Gallbladder	8	1	7	0	0	0	4	2	2	0
Other Biliary	21	10	11	0	3	6	2	5	0	5
Pancreas	107	61	46	1	11	23	18	45	3	6
Retroperitoneum	2	1	1	0	2	0	0	0	0	0
Other Digestive Organs	3	2	1	0	0	0	0	0	3	0
<b>Respiratory System</b>	577	267	310	2	215	48	89	197	14	12
Larynx	21	15	6	1	3	4	4	6	0	3
Lung & Bronchus	552	250	302	1	211	44	85	191	12	8
Other Respiratory	4	2	2	0	1	0	0	0	2	1
<b>Mesothelioma</b>	4	3	1	0	0	0	1	1	0	2
<b>Bone &amp; Soft Tissue</b>	44	31	13	0	17	10	6	5	3	3
Bone & Joints	10	9	1	0	5	2	0	1	0	2
Soft Tissue	34	22	12	0	12	8	6	4	3	1
<b>Skin Excluding Basal &amp; Squamous Cell</b>	202	103	99	41	93	26	21	7	2	12
Melanoma – Skin	189	94	95	41	91	22	18	7	0	10
Other Non-Epithelial Skin	13	9	4	0	2	4	3	0	2	2
<b>Other Defined Sites</b>	53	26	27	0	0	0	0	0	53	0
<b>Breast</b>	615	9	606	122	291	123	40	20	0	19

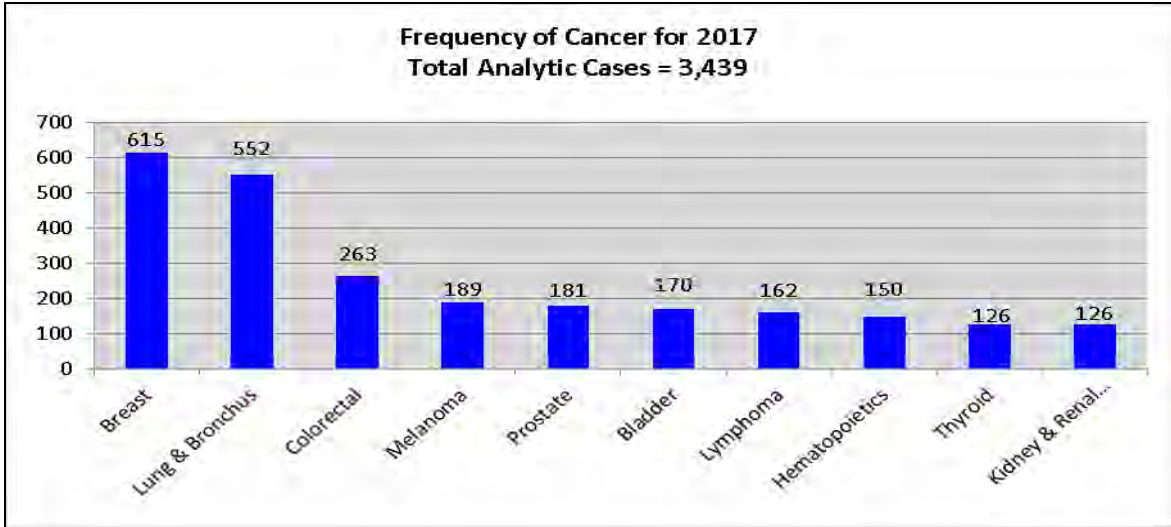
PRIMARY SITE	TOTAL	SEX		AJCC STAGE					Stage Not Applicable	Stage Unknown
		M	F	0	1	2	3	4	88	99
<b>Female System</b>	134	N/A	134	1	59	7	28	24	8	7
Cervix Uteri	17	N/A	17	0	5	4	4	4	0	0
Corpus & Uterus, NOS	69	N/A	69	0	47	0	10	2	6	4
Ovary	33	N/A	33	0	4	1	7	18	1	2
Vagina	3	N/A	3	0	0	2	1	0	0	0
Vulva	7	N/A	7	1	3	0	3	0	0	0
Other Female Organs	5	N/A	5	0	0	0	3	0	1	1
<b>Male System</b>	198	198	N/A	1	34	83	40	38	0	2
Prostate	181	181	N/A	0	23	80	39	37	0	2
Testis	13	13	N/A	0	9	3	1	0	0	0
Penis	4	4	N/A	1	2	0	0	1	0	0
Other Male Organs	0	0	N/A	0	0	0	0	0	0	0
<b>Urinary System</b>	313	212	101	92	109	27	31	42	7	5
Urinary Bladder	170	125	45	84	43	22	4	15	0	2
Kidney & Renal Pelvis	126	78	48	3	63	4	26	26	2	2
Ureter	10	5	5	4	3	0	1	1	0	1
Other Urinary Organs	7	4	3	1	0	1	0	0	5	0
<b>Brain &amp; Other Nervous System</b>	163	71	92	0	0	0	0	0	163	0
Brain	87	45	42	0	0	0	0	0	87	0
Cranial Nerves & Other	76	26	50	0	0	0	0	0	76	0
<b>Endocrine System</b>	147	41	106	0	84	10	15	14	21	3
Thyroid Gland	126	31	95	0	84	10	15	14	0	3
Other including Thymus	21	10	11	0	0	0	0	0	21	0
<b>Hematopoietic System</b>	150	85	65	0	0	0	0	0	150	0
Leukemia	104	63	41	0	0	0	0	0	104	0
Myeloma	46	22	24	0	0	0	0	0	46	0
<b>Lymphomas</b>	162	88	74	0	37	27	27	51	2	18
Hodgkin's Disease	37	25	12	0	6	13	5	10	0	3
Non-Hodgkin's	125	63	62	0	31	14	22	41	2	15
<b>Total Analytic Cases</b>	<b>3,438</b>	<b>1,505</b>	<b>1,933</b>	<b>266</b>	<b>1,054</b>	<b>511</b>	<b>440</b>	<b>581</b>	<b>460</b>	<b>127</b>
		<b>44%</b>	<b>56%</b>	<b>8%</b>	<b>30%</b>	<b>15%</b>	<b>13%</b>	<b>17%</b>	<b>13%</b>	<b>4%</b>



## Top Ten Sites and Residence at Diagnosis

### Top Ten Sites

The ten most common sites for the Cancer Program, based on 2017 analytic\* cases are (in descending order by percent of total incidence Breast (17%), Lung & Bronchus (16%), Colorectal (7%), Melanoma (5%), Prostate (5%), Bladder (4%), Lymphoma (4%), Hematopoietic Malignancy (Leukemia & Myeloma) (4%), Thyroid (3%), Kidney & Renal Pelvis (3%). This distribution differs from that of the American Cancer Society (ACS) which was noted to be (in descending order by percent of total incidence) Breast (15%), Lung and Bronchus (13%), Prostate (9%), Colorectal (8%), Hematopoietic Malignancy's (5%), Melanoma (5%), Lymphoma (4%), Bladder (4%), Kidney & Renal Pelvis (3%), Uterine Corpus (3%).



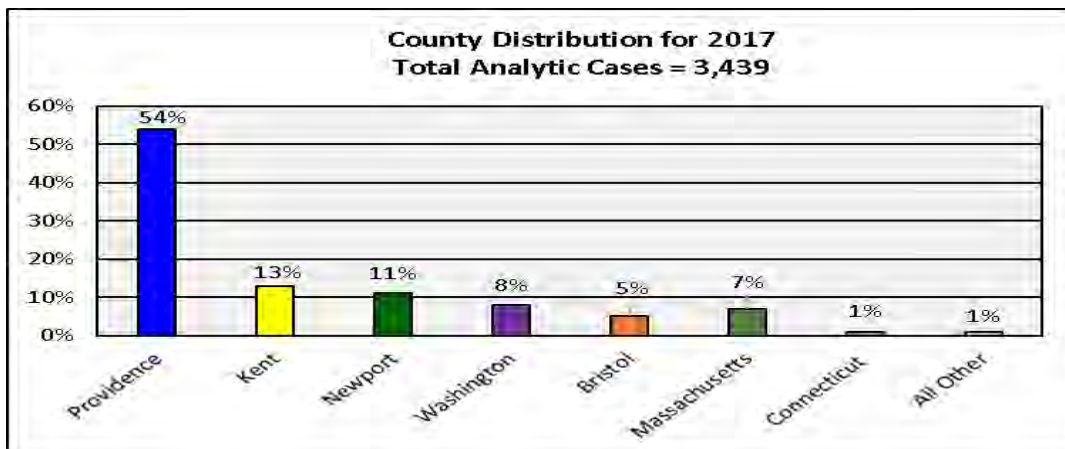
\*Analytic - cancer case that was diagnosed and/or received all or part of the first course treatment at the reporting facility.

Source: Rhode Island, Miriam, & Newport Hospital Oncology Data Management Departments

Source: <https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2017/cancer-facts-and-figures-2017.pdf>

### Residence at Diagnosis

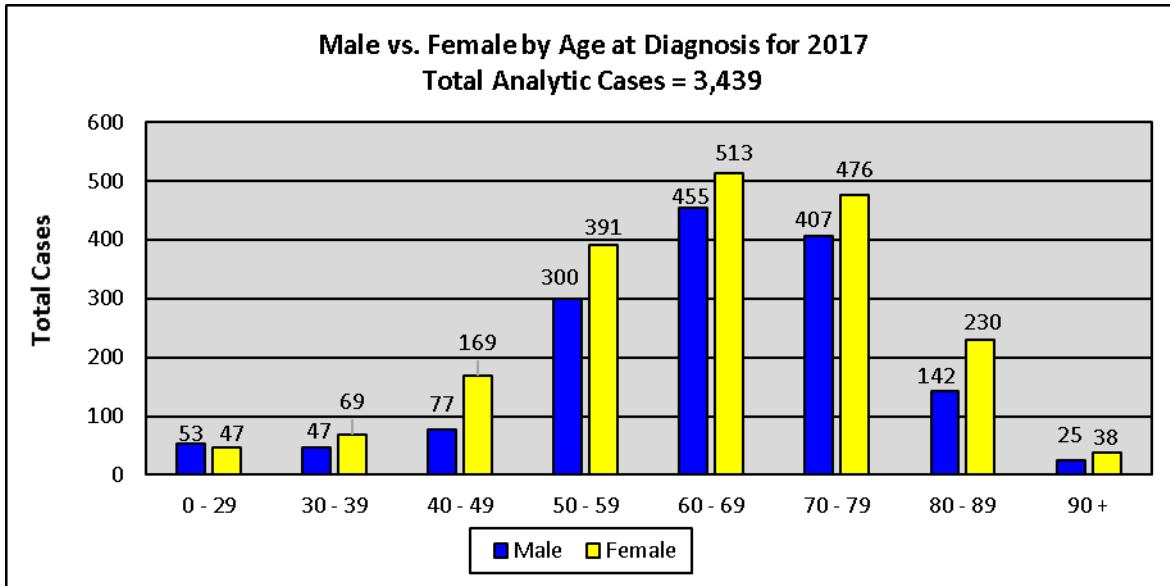
Rhode Island Hospital and The Miriam Hospital are located in Providence County and serve as major referral centers for Rhode Island, Massachusetts, and the surrounding areas. More than 50% of the Hospital's analytic cancer patients accessioned in 2017 reside in Providence County. The remainder of the Hospital's cancer patient population is distributed throughout Rhode Island and Massachusetts. Newport Hospital however, is located on Aquidneck Island and serves as the major referral center for Newport and Bristol County. More than 88% of Newport Hospital's analytic cancer patients accessioned in 2017 reside in Newport County.



## Gender by Age and Stage of Disease at Diagnosis

### Gender by Age

In 2017, the gender distribution for the program was 44% male and 56% female. This distribution differs from the American Cancer Society (ACS) gender distribution. Based on American Cancer Society (ACS) data, the estimated gender distribution of US cancer cases in 2017 was 49% male and 51% female. The most common age group for the Lifespan Cancer Institute was 60 – 69; approximately 28% of patients were in this age group at the time of initial diagnosis.

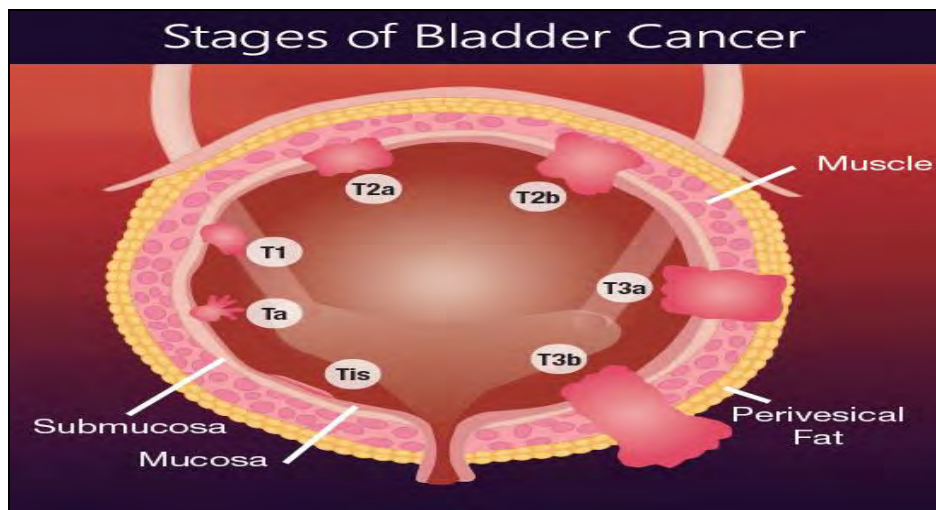


Source: Rhode Island, Miriam, & Newport Hospital Oncology Data Management Departments

Source: <https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2017/cancer-facts-and-figures-2017.pdf>

### Stage of Disease at Diagnosis

Cases entered into the Cancer Registry are categorized according to the tumor / node / metastases (TNM) staging system developed by the American Joint Committee on Cancer (AJCC) to describe the extent or spread of disease at diagnosis, which is generally predictive of survival. Of the analytic cases entered into the Cancer Registry during 2017, 266 (8%) were classified as TNM stage 0, 1,054 (30%) as stage I, 511 (15%) as stage II, 440 (13%) as stage III, 581 (17%) as stage IV, 127 (4%) were classified as not staged, and 460 (13%) were not applicable to the TNM staging system.



## Cancer Program Practice Profile Report (CP3R)

Cancer Program Practice Profile Reports (CP3R) – were developed by the Commission on Cancer of the American College of Surgeons to encourage quality improvement. Evidence based measures and accountability measures promote improvements in care delivery and are the highest standard for measurement. The 2015 preliminary data findings displayed below demonstrate accountability and promote transparency.

BREAST	2015 CP3R Rates	Rhode Island Hospital	The Miriam Hospital	Newport Hospital	Combined Program
	Breast conservation surgery rate for women with AJCC clinical stage 0, I, or II breast cancer (Surveillance) (BCS) <b>(Compliance – N/A)</b>	84.3%	87.9%	45.5%	82.9%
	Image or palpation-guided needle biopsy (core or FNA) of the primary site is performed to establish diagnosis of breast cancer (Quality Improvement) (nBx) <b>(Compliance – 80%)</b>	91.5%	100%	81.3%	90.8%
	Radiation therapy is considered or administered following any mastectomy within 1 year of diagnosis of breast cancer for women with > = 4 positive regional lymph nodes (Accountability) (MASTRT) <b>(Compliance – 90%)</b>	100%	No applicable cases	No applicable cases	100%
	Radiation therapy is administered within 1 year (365 days) of diagnosis for women under age 70 receiving breast conserving surgery for breast cancer (Accountability) (BCS/RT) <b>(Compliance – 90%)</b>	95.4%	95.5%	75%	94.3%
	Combination chemotherapy is considered or administered within 4 months (120 days) of diagnosis for women under 70 with AJCC T1c N0 M0, or Stage II or III ERA and PRA negative breast cancer (Accountability) (MAC) <b>(Compliance – N/A)</b>	93.8%	100%	No applicable cases	93.8%
	Tamoxifen or third generation aromatase inhibitor is considered or administered within 1 year (365 days) of diagnosis for women with AJCC T1c N0 M0, or Stage II or III ERA and/or PRA positive breast cancer (Accountability) (HT) <b>(Compliance – 90%)</b>	92.2%	81.8%	87.5%	91.3%

CERVIX	2015 CP3R Rates	Rhode Island Hospital	The Miriam Hospital	Newport Hospital	Combined Program
	Radiation therapy completed within 60 days of initiation of radiation among women diagnosed with any stage of cervical cancer (Surveillance) (CERRT) <b>(Compliance – N/A)</b>	85.7%	No applicable cases	No applicable cases	80%
	Chemotherapy administered to cervical cancer patients who received radiation for stages IB2-IV cancer (Group 1) or with positive pelvic nodes, positive surgical margin, and/or positive parametrium (Group 2) (Surveillance) (CERCT) <b>(Compliance – N/A)</b>	87.5%	No applicable cases	No applicable cases	100%
Use of brachytherapy in patients treated with primary radiation with curative3 intent in any stage of cervical cancer (Surveillance) (CBRRT) <b>(Compliance – N/A)</b>	88.9%	No applicable cases	No applicable cases	100%	

BLADDER	2015 CP3R Rates	Rhode Island Hospital	The Miriam Hospital	Newport Hospital	Combined Program
	At least 2 lymph nodes are removed in patients under 80 undergoing partial or radical cystectomy (Surveillance) (BL2RLN) <b>(Compliance – N/A)</b>	No applicable cases	100%	No applicable cases	100%
	Radical or partial cystectomy; or tri-modality therapy for clinical T234N0M0 patients with urothelial carcinoma of the bladder, 1 <sup>st</sup> treatment within 90 days of diagnosis (Surveillance) (BLCSTRI) <b>(Compliance – N/A)</b>	62.5%	72.2%	50%	61.1%
Neo-adjuvant or adjuvant chemotherapy recommended or administered for patients w/ muscle invasive cancer undergoing radical cystectomy (Surveillance) (BLCT) <b>(Compliance – N/A)</b>	No applicable cases	71.4%	No applicable cases	55.6%	

## Cancer Program Practice Profile Report (CP3R)

COLON	2015 CP3R Rates	Rhode Island Hospital	The Miriam Hospital	Newport Hospital	Combined Program
	Adjuvant chemotherapy is considered 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) (ACT) <b>(Compliance – N/A)</b>	92.9%	77.8%	75%	82.4%
	At least 12 regional lymph nodes are removed and pathologically examined for resected colon cancer (Quality Improvement) (12RLN) <b>(Compliance – 85%)</b>	93.3%	98.2%	66.7%	94.3%

LUNG	2015 CP3R Rates	Rhode Island Hospital	The Miriam Hospital	Newport Hospital	Combined Program
	At least 10 regional lymph nodes are removed and pathologically examined for AJCC stage IA, IB, IIA, and IIB resected NSCLC (Surveillance) (10RLN) <b>(Compliance – N/A)</b>	45.8%	21.2%	No applicable cases	37.4%
	Surgery is not the first course of treatment for cN2, M0 lung cases (Quality Improvement) (LNoSurg) <b>(Compliance – 85%)</b>	78.3%	100%	No applicable cases	80%
Systemic chemotherapy is administered within 4 months to day preoperative or day of surgery to 6 months postoperatively, or it is considered for surgically resected cases with pathologic lymph node positive (pN1) and (pN2) NSCLC (Quality Improvement) (LCT) <b>(Compliance – 85%)</b>	72.2%	100%	No applicable cases	76.2%	

RECTUM	2015 CP3R Rates	Rhode Island Hospital	The Miriam Hospital	Newport Hospital	Combined Program
	Preoperative chemo and radiation are administered for clinical AJCC T3N0, T4N0, or Stage III; or Postoperative chemo and radiation are administered within 180 days of diagnosis for clinical AJCC T1-2 N0 with pathologic AJCC T3N0, T4N0, or Stage III; or treatment is considered; for patients under the age of 80 receiving resection for rectal cancer (Quality Improvement) (RECRCT) <b>(Compliance – 85%)</b>	90.9%	88.9%	No applicable cases	92.3%

ENDOMETRIUM	2015 CP3R Rates	Rhode Island Hospital	The Miriam Hospital	Newport Hospital	Combined Program
	Chemotherapy and/or radiation administered to patients with Stage IIIC or IV Endometrial cancer (Surveillance) (ENDCTR) <b>(Compliance – N/A)</b>	100%	No applicable cases	No applicable cases	100%
Endoscopic, laparoscopic, or robotic performed for all Endometrial cancer (excluding sarcoma and lymphoma), for all stages except stage IV (Surveillance) (ENDLRC) <b>(Compliance – N/A)</b>	100%	No applicable cases	100%	100%	

OVARY	2015 CP3R Rates	Rhode Island Hospital	The Miriam Hospital	Newport Hospital	Combined Program
	Salpingo-oophorectomy with omentectomy, debulking/cytoreductive surgery, or pelvic exenteration in Stages I-IIIC Ovarian cancer (Surveillance) (OVSAL) <b>(Compliance – N/A)</b>	53.3%	No applicable cases	No applicable cases	53.3%

GASTRIC	2015 CP3R Rates	Rhode Island Hospital	The Miriam Hospital	Newport Hospital	Combined Program
	At least 15 regional lymph nodes are removed and pathologically examined for resected gastric cancer (Quality Improvement) (G15RLN) <b>(Compliance – 80%)</b>	80%	0%	No applicable cases	80%

## 2018 Community Outreach Summary

The mission of the Lifespan Community Health Institute (LCHI) is to eliminate health disparities and promote health equity through healthy behaviors, healthy relationships, and healthy environments.

The LCHI envisions a Rhode Island/region in which all people can achieve their full health potential. We will do this by improving the social, economic and environmental conditions in our communities and by increasing access to high quality health services. Strategies include developing, implementing, evaluating, and disseminating initiatives to improve the health status of the people in Rhode Island and southern New England. Through strategic partnerships, LCHI also serves as a liaison/bridge between Lifespan departments and the community, through one-off events and through ongoing relationships. This includes our work through the Community Health Ambassadors and other stakeholder groups.

Below is an overview of some of the Prevention & Screening program offered in 2018.

Community Need Addressed	Program Name	Program Activities	Program Date	Num. of Participants	Summary of Effectiveness	Guidelines Used
Healthwise is a proprietary training program developed to help people- 1) do as much for themselves as they can 2) ask for the health care they need, and 3) say "no" to the care they do not need.	Healthwise	1-hour workshop in English or Spanish, delivered at community organizations; teaches people how to use the Healthwise self-care guide to make better health decisions	1/17/18	13	LCHI launched a new evaluation format this year. In addition to a pre/post survey on the day of the course, we have also launched a 3-6 month follow-up to assess if/how participants are applying the skills & resources from the course.	Healthwise, Inc. has maintained full accreditation by URAC since 2001, expires 1/1/2020
			3/27/18	13		
			4/5/18	15		
			4/11/18	6		
			4/24/18	14		
			5/16/18	15		
			5/26/18	5		
			6/6/18	17		
			6/15/18	12		
			6/19/18	16		
7/10/18	14					
8/1/18	25					
8/2/18	12					
8/14/18	13					

Community Need Addressed	Program Name	Program Activities	Program Date	Num. of Participants	Summary of Effectiveness	Guidelines Used
Age-adjusted incidence of melanoma is up 86% (21.2/100,000) in RI from 1987-91 to 2006-10.  Age-adjusted mortality is up 4% to 2.6/100,000 during the same time period.  RI experienced more growth in the incidence of and mortality from melanoma than the national average during this reporting period. (RIDOH)	Skin Check (formerly known as Sun Smarts)	In collaboration with the Partnership to Reduce Cancer in RI (statewide coalition), Brown Dermatology & LCHI offer free melanoma screening and educational materials at local beaches and community events	3/6/18	21	11 follow-up referrals 6 follow-up referrals 13 follow-up referrals  20 follow-up referrals 28 follow-up referrals 17 follow-up referrals 25 follow-up referrals	American Academy of Dermatology – Melanoma/Skin Screening Form
			4/25/18	23		
			6/24/18	41		
			7/6/18	Canceled-weather		
			7/13/18	76		
			7/21/18	97		
			7/29/18	74		
			8/10/18	123		
			8/17/18	103		
				558 total participants		

## 2018 Bladder Cancer Analysis

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Bladder cancer is one of the most common malignancies in Western society. It is estimated 81,190 new cases of bladder cancer will be diagnosed in the United States during 2018. Occurring at a rate of about 1 in 27 for men and 1 in 89 for women, bladder cancer is the fourth most commonly diagnosed cancer in men and is much less common in women. Incidence rates of new bladder cancers and deaths have decreased slightly in women in recent years. For men, incidence rates are noted to be decreasing and death rates have remained stable. It is estimated that 360 residents in Rhode Island will be affected by bladder cancer during 2018.

As with most cancers, the exact cause of bladder cancer is uncertain. However, researchers have identified certain risk factors and are beginning to understand how these factors cause cells in the bladder to become cancerous.

### **Risk Factors**

**Tobacco Use** - smokers are four to seven times more likely to develop bladder cancer than nonsmokers.

**Age** - about 9 out of 10 people with this disease are over the age of 55.

**Gender** - Men are more than twice as likely as women to develop bladder cancer.

**Race and Ethnicity** - Caucasians are about twice as likely to develop bladder cancer as African Americans. Hispanics, Asian Americans, and American Indians are noted to have lower rates of bladder cancer.

**Chronic Bladder** - urinary infections, kidney and bladder stones, irritation & infections and other causes of chronic bladder irritation have been linked with this disease (especially squamous cell carcinoma) but they do not necessarily cause bladder cancer.

**Workplace Exposures** - certain industrial chemicals called aromatic amines, such as benzidine and beta-naphthylamine, which are sometimes used in the dye industry, can cause bladder cancer.

**Family History** - individuals with a family history of bladder cancer are at greater risk as they inherit a certain susceptibility to the disease.

### **Signs/Symptoms of Bladder Cancer**

- Blood in urine (hematuria)
- Abdominal pain
- Bone pain or tenderness
- Painful urination
- Urinary frequency
- Urinary urgency
- Urine leakage (incontinence)
- Weight loss

Note: These symptoms may be attributed to a number of conditions other than cancer and it is important to consult with a medical professional.

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## 2018 Bladder Cancer Analysis

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There are also several accepted screening and diagnostic techniques that assist the physician in diagnosing the disease and planning the treatment.

### Screening Tests and Diagnostic Techniques

**Urinalysis** - this test is used to check for blood in the urine (hematuria). Blood in the urine is usually caused by benign (non-cancerous) conditions such as infections, but it can be the first sign of bladder cancer.

**Urine tests for tumor markers** - several newer tests such as UroVysion and Immunocyt look for substances in the urine that may indicate bladder cancer.

**Intravenous Pyelogram (IVP)** - also called intravenous urogram (IVU), is an x-ray of the urinary system, taken after injecting special dye into a vein. This will clearly outline the organs on x-ray and help identify tumors in the urinary tract.

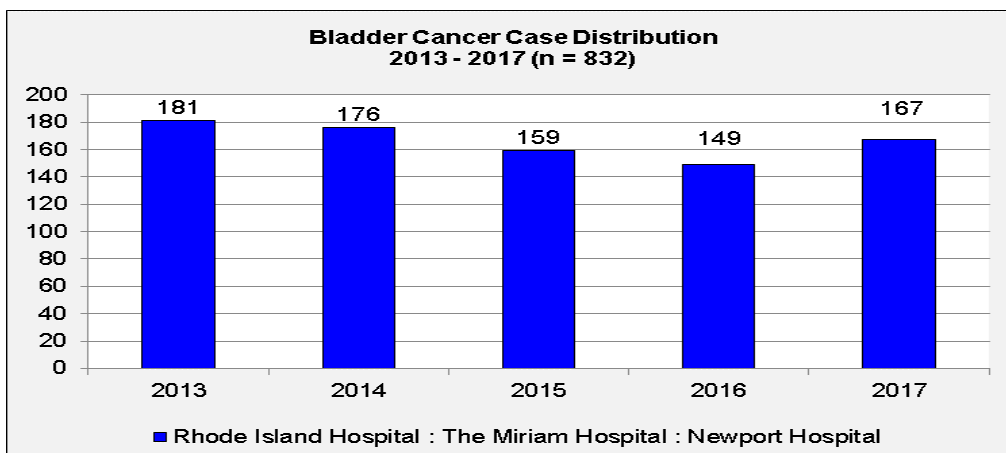
**Retrograde Pyelogram** - this procedure uses a thin tube (catheter) which is inserted through the urethra and up into the bladder or into a ureter. A dye is injected through the catheter to make the lining of the bladder, ureters, and kidneys easier to identify on x-ray. This test is not used as often as IVP, but may be done for individuals who cannot have an IVP.

**Ultrasound** - utilizes sound waves to create pictures of internal organs and can be useful in determining the size of a bladder cancer and whether it has spread beyond the bladder to nearby tissue or organs.

**Cystoscopy** - is performed using a cystoscope which is a slender tube with a light and lens or a small video camera on the end. The cystoscope is inserted through the opening in the urethra and advances into the bladder. Sterile salt water is then injected through the scope to expand the bladder and allow the physician to look at the bladder lining. If an abnormal area or growth is seen, it will be biopsied.

**Bladder biopsy** - bladder biopsy samples are most often obtained during cystoscopy and are used to identify important features of the cancer, such as the invasiveness. The invasiveness will show how deeply the cancer has invaded into the bladder wall, which is important in deciding treatment.

For 2013 through 2017, the Lifespan Cancer Institute accessioned 832 bladder cancer patients.



## 2018 Bladder Cancer Analysis

### ACoS Commission on Cancer – National Cancer Database Hospital Comparison Benchmark Reports

Hospital comparison benchmark reports are available from the NCDB for the years 2006 to 2015. Various comparisons can be made by primary site, hospital type (Academic, Comprehensive Community, and Community Cancer Programs), by geographical location (individual state, ACS Division, or all states) and diagnostic year (2006 to 2015, or combined).

Throughout this report are samples of hospital comparison benchmarks on bladder cancer generated for all ACoS approved Cancer Programs in the United States and the ACoS Cancer Programs in the ACS New England Division. This will be a valuable tool for assessing our diagnostic and therapeutic efforts as more data from proceeding years is added to the database.

**Bladder Cancer Diagnosed 2007 to 2016 by YEAR**  
 All Diagnosed Cases – Hospital Type: All Types/Systems  
**Lifespan Cancer Institute vs.**  
**Other Hospitals in the State of Rhode Island**

YEAR	Number of Bladder Cases				
	Rhode Island Hospital	The Miriam Hospital	Newport Hospital	Lifespan Cancer Institute Combined Total	Combined Total All Other Hospitals In Rhode Island
2007	58	78	20	156	164
2008	52	79	19	150	176
2009	45	77	12	134	174
2010	29	63	15	107	159
2011	37	106	18	161	191
2012	31	116	18	165	205
2013	39	134	15	188	225
2014	33	137	22	192	240
2015	41	126	20	187	201
2016	36	108	24	168	180
<b>Total</b>	401	1,024	183	1,608	1,915

Source: ©2018 National Cancer Data Base (NCDB) - Commission on Cancer (CoC) - Friday, December 7, 2018



## 2018 Bladder Cancer Analysis

In 2018, it is estimated 81,190 individuals will learn they have bladder cancer. The highest overall bladder cancer incidence rates are in Caucasians. Caucasians are twice as likely as other races to develop bladder cancer. Hispanics and American Indians are noted to have lower incidence rates and Asians have been found to have the overall lowest incidence rate for developing this cancer.

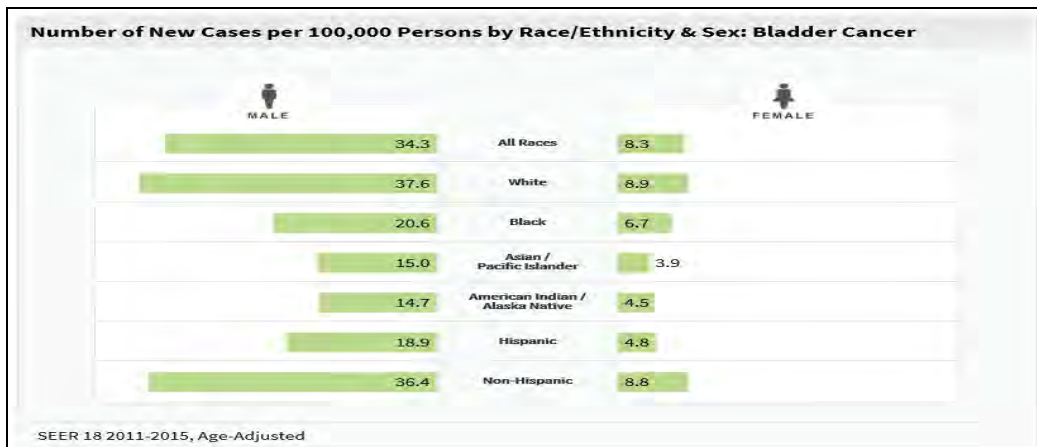
The table below is based on bladder cancer and contains information obtained from the National Cancer Database (NCDB) which illustrates a race comparison between the Lifespan Cancer Institute and all other hospitals in all other states.

**Bladder Cancer** Diagnosed 2007 to 2016 by RACE  
All Diagnosed Cases – Hospital Type: All Types/Systems  
**Lifespan Cancer Institute vs.**  
**All Hospitals in All States**

RACE	Number of Cases		Percent of Total Bladder Cancer Cases by Race	
	Lifespan Cancer Institute	National Reporting Hospitals	Lifespan Cancer Institute	National Reporting Hospitals
White	1,412	408,197	94.07%	88.52%
Black	34	25,347	2.27%	5.5%
Hispanic	27	13,565	1.8%	2.94%
Asian & Pacific Islander	3	7,219	0.2%	1.57%
Native American	0	714	0%	0.15%
Other/Unknown	25	6,108	1.67%	1.32%
<b>Total</b>	<b>1,501</b>	<b>461,150</b>	<b>100%</b>	<b>100%</b>

Source: ©2018 National Cancer Data Base (NCDB) - Commission on Cancer (CoC) - Friday, December 7, 2018

### SEER 2011 - 2015: New Cases of Bladder Cancer by Race/Ethnicity & Sex



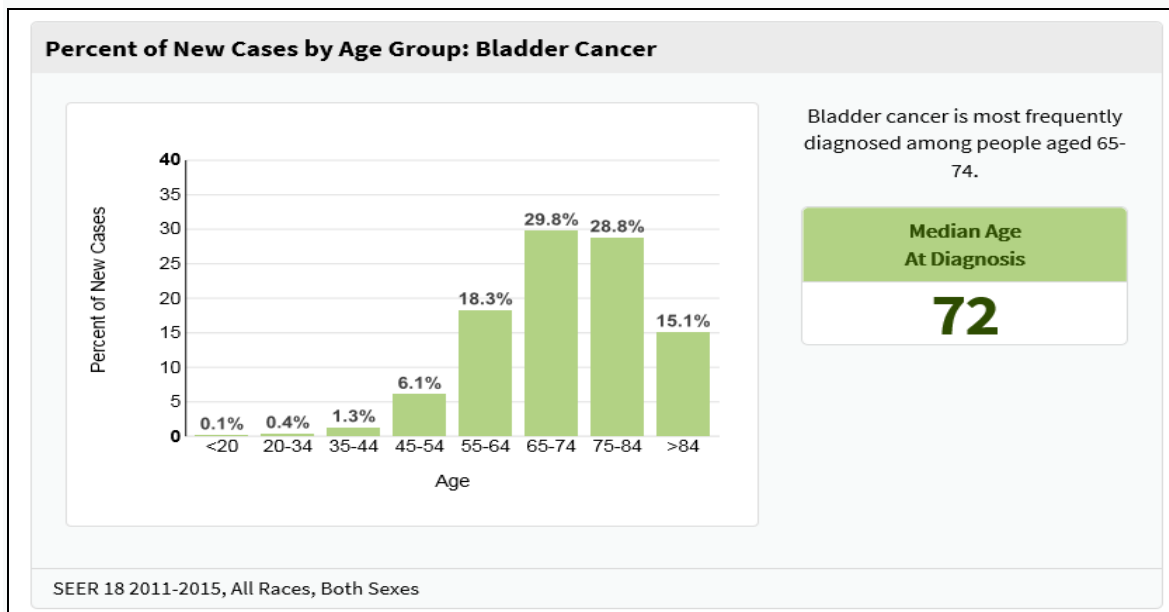
## 2018 Bladder Cancer Analysis

**Bladder Cancer** Diagnosed 2007 to 2016 by AGE  
 All Diagnosed Cases – Hospital Type: All Types/Systems  
**Lifespan Cancer Institute vs. All Type Hospitals in ACS Division of New England  
 vs. All Hospitals in All States**

AGE	Number of Cases			Percent of Total Bladder Cancer Cases by Age		
	Lifespan Cancer Institute	ACS Division of New England	National Reporting Hospitals	Lifespan Cancer Institute	ACS Division of New England	National Reporting Hospitals
<b>Under 20</b>	2	7	241	0.13%	0.03%	0.05%
<b>20-29</b>	6	33	779	0.4%	0.16%	0.17%
<b>30-39</b>	11	130	3,111	0.73%	0.64%	0.67%
<b>40-49</b>	53	681	14,289	3.53%	3.35%	3.1%
<b>50-59</b>	179	2,469	56,163	11.93%	12.13%	12.18%
<b>60-69</b>	387	5,122	115,911	25.78%	25.17%	25.14%
<b>70-79</b>	456	6,421	143,473	30.38%	31.55%	31.11%
<b>80-89</b>	356	4,631	107,400	23.72%	22.76%	23.29%
<b>90+</b>	51	856	19,783	3.4%	4.21%	4.29%
<b>Total</b>	1,501	20,350	461,150	100%	100%	100%

Source: ©2018 National Cancer Data Base (NCDB) - Commission on Cancer (CoC) - Friday, December 7, 2018

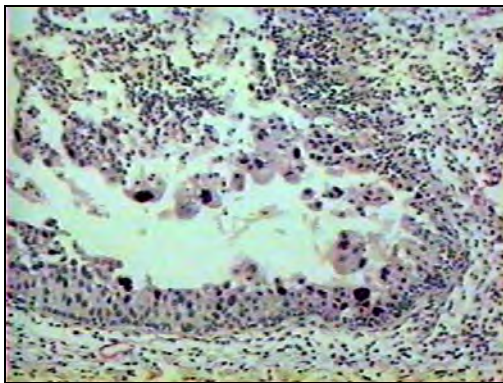
### SEER 2011 - 2015: New Cases of Bladder Cancer by Age



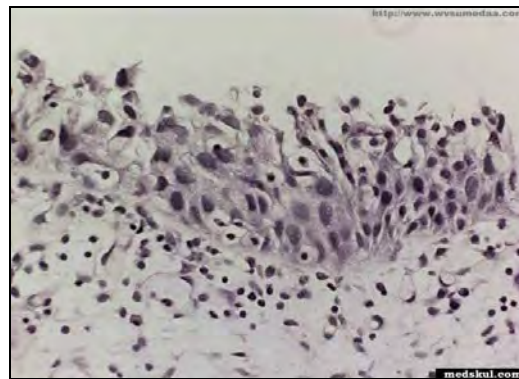
## 2018 Bladder Cancer Analysis

There are four (4) main types of bladder cancers with transitional cell carcinomas (urothelial carcinoma) accounting for the majority (95%). Transitional cell carcinomas are divided into two (2) subtypes, papillary and flat. Papillary carcinomas grow in small, finger-like projections from the inner surface of the bladder toward the hollow center without invading the deeper layers whereas flat carcinomas do not grow toward the hollow center. In both cases if the tumor is limited to the inner layers of the bladder it will be classified as a non-invasive carcinoma or a carcinoma in-situ. Papillary and flat carcinomas may also invade the lamina propria or deeper into the muscle layer. In this instance they are termed invasive carcinomas and are more likely to spread to adjacent tissue or organs. In about half of all cases, patients are diagnosed while the cancer is in the non-invasive or in-situ phase.

Other histology's found in bladder cancers include Squamous cell carcinomas which account for 1% to 2% of bladder carcinomas. These are followed closely by adenocarcinoma which account for only 1%. Small cell carcinomas have also been identified in bladder cancers and account for less than 1%.



Papillary Transitional Cell Carcinoma



Urothelial Carcinoma In-Situ

The bladder cancer histological distribution for the Lifespan Cancer Institute between 2013 and 2017 are displayed in the table below.

<b>Bladder Cancer Histological Distribution</b>	<b>Number of Cases Per Histology</b>	<b>Percentage of Cases Per Histology</b>
Papillary Transitional Cell Carcinoma, Non-Invasive	343	41.23%
Papillary Transitional Cell Carcinoma	305	36.66%
Transitional Cell Carcinoma	118	14.18%
Transitional Cell Carcinoma, In-Situ	24	2.88%
Small Cell Carcinoma	9	1.08%
Other Histology's	33	3.97%

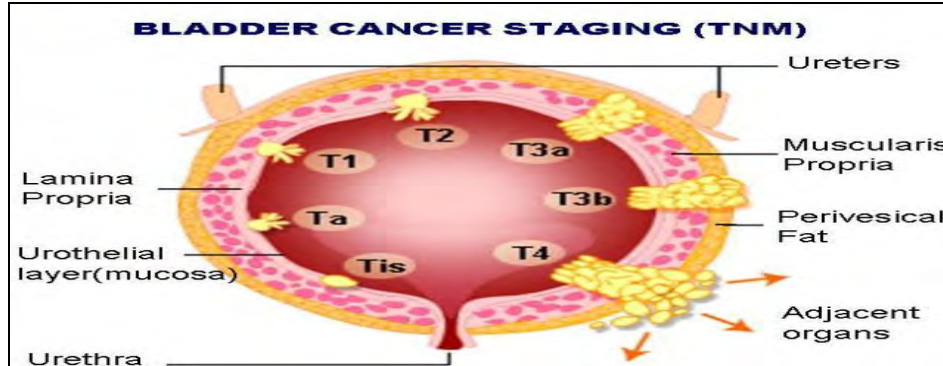
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Source Image 2: <http://www.wvsumedaa.com>

## 2018 Bladder Cancer Analysis

### Staging System

The most widely used staging scheme is the AJCC Cancer Staging Manual (TNM). The TNM describes the extent of primary Tumor (T stage), whether or not the cancer has spread to regional lymph Nodes (N stage), and the absence or presence of distant Metastasis (M stage). Patients diagnosed with bladder cancer after January 1, 2010 are staged with the AJCC Cancer Staging Manual 7th Edition. The 8th Edition Staging Manual was implemented for all cancers diagnosed on or after January 1, 2018.



Source: <http://diseasesdoctor.com/wp-content/uploads/2015/07/Bladder-Cancer.jpg>

The table below contains information obtained from the National Cancer Database (NCDB) and illustrates a stage comparison between the Lifespan Cancer Institute and the other hospitals within the ACS Division of New England as well as all other hospitals in all other states.

**Bladder Cancer** Diagnosed 2007 to 2016 by STAGE  
All Diagnosed Cases – Hospital Type: All Types/Systems  
**Lifespan Cancer Institute vs. All Type Hospitals in ACS Division of New England  
vs. All Hospitals in All States**

STAGE	Number of Cases			Percent of Total Bladder Cancer Cases by Stage		
	Lifespan Cancer Institute	ACS Division of New England	National Reporting Hospitals	Lifespan Cancer Institute	ACS Division of New England	National Reporting Hospitals
0	682	9,567	221,843	45.44%	47.01%	48.11%
I	420	4,119	99,092	27.98%	20.24%	21.49%
II	140	2,623	56,348	9.33%	12.89%	12.22%
III	70	1,022	22,016	4.66%	5.02%	4.77%
IV	105	1,673	35,357	7%	8.22%	7.67%
Not Applicable	4	34	670	0.27%	0.17%	0.15%
Unknown	80	1,312	25,824	5.33%	6.45%	5.6%
<b>Total</b>	1,501	20,350	461,150	100%	100%	100%

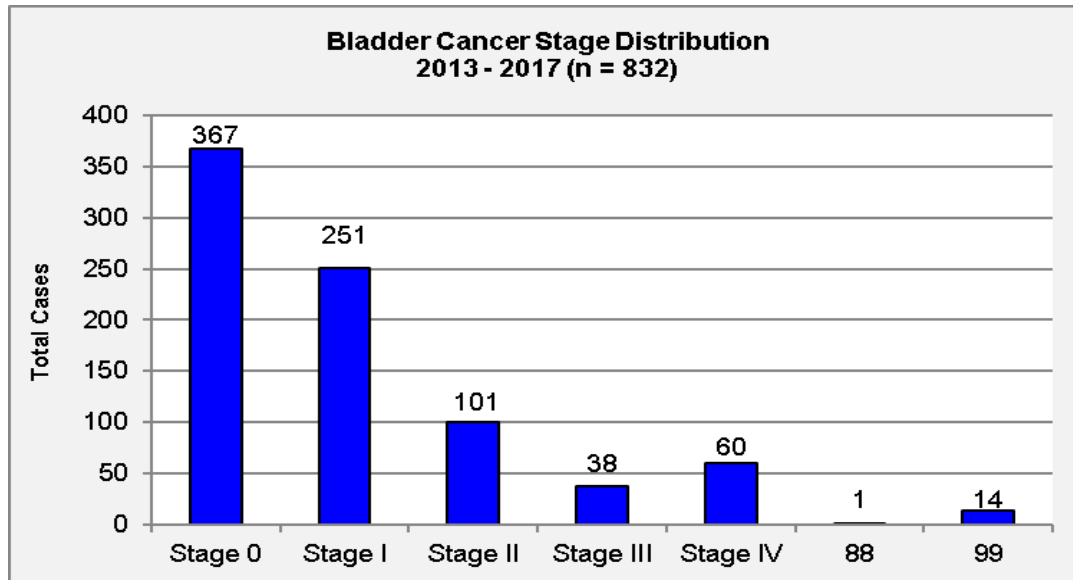
Source: ©2018 National Cancer Data Base (NCDB) - Commission on Cancer (CoC) - Friday, December 7, 2018

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## 2018 Bladder Cancer Analysis

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The stage distribution for the 832 bladder cancer patients diagnosed at Rhode Island, Miriam, and Newport Hospital from 2013 to 2017 is illustrated in the graph below.



Source: Rhode Island, Miriam, & Newport Hospital Oncology Data Management Departments; \*88 – N/A; 99 - Unknown

### Bladder Cancer Treatment

There are four (4) main categories of treatment for bladder cancer: intravesical therapy, chemotherapy, radiation therapy, and/or surgery. The treatment options will depend on the stage of the tumor, the severity of the symptoms, and the patients' overall health status. In general, tumors involving the lining of the bladder are treated with surgery that removes the cancerous tissue and/or systemic therapy. More invasive tumors that have penetrated the wall of the bladder require surgery that removes a portion of the bladder. Systemic therapy and/or radiation therapy may be administered.

- Transurethral Resection (TUR) – is the most common treatment for bladder cancer. For this procedure a resectoscope is placed into the bladder through the urethra. The resectoscope has a wire loop at its end to remove any abnormal tissue or tumors.
- Partial Cystectomy – procedure which removes only a portion of the bladder, leaving enough to store urine and urinate comfortably. Nearby lymph nodes may also be removed.
- Radical Cystectomy – this operation removes the entire bladder and nearby lymph nodes. In men, the prostate is also removed. In women, the ovaries, fallopian tubes, the uterus, and a small portion of the vagina are often removed along with the bladder.

*Bladder cancer treatment continued on next page.*

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## 2018 Bladder Cancer Analysis

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- **Reconstructive Surgery** – if the whole bladder is removed, you will need another way to store and remove urine. Several types of reconstructive surgery can be done depending the patient’s overall health status. One option may be to remove a small piece of the intestine and connect it to the ureters, creating a passageway known as an ileal conduit. The conduit is connected to the skin on the front of the abdomen by an opening called a urostomy. Another option may be a continent diversion. For this, a valve is created in a pouch made from a piece of intestine. The valve allows urine to be stored in the pouch. The pouch is emptied several times a day by placing a catheter into the urostomy through the valve. A newer method is to use a neobladder which also utilizes a reservoir made from a piece of intestine. As with the ileal conduit and continent diversion, the ureters are connected to the neobladder. The difference is that the neobladder is also sewn to the urethra. This allows patients to urinate normally.
- **Intravesical Therapy** – is used only for non-invasive (stage 0) or minimally invasive (stage 1) bladder cancers. A drug called Bacillus Calmette-Guerin (BCG) is administered directly into the bladder through a catheter and will cause a treatment inflammation but have little or no long-term effect on cells surrounding the tissue. This may be administered along with a transurethral resection of the cancer.
- **Chemotherapy** – utilizes anticancer drugs to destroy actively growing cancer cells. Chemotherapy may be given prior to surgery to shrink a large tumor allowing for easier surgical resection. This method is referred to as neoadjuvant therapy. Chemotherapy may also be given after surgery to kill any remaining cancer cells and lower the risk of disease recurrence. This method is referred to as adjuvant therapy.
- **Radiation Therapy** – External beam radiation, most often used to treat bladder cancer focuses radiation from outside of the body on the cancer. This therapy may be used to treat earlier stage bladder cancer, after limited surgery. It may also be used for patients with early stage cancers who can’t undergo a surgical procedure. Radiation therapy is also used to prevent or treat symptoms caused by advanced bladder cancer.

### Bladder Cancer Clinical Trials Available at The Lifespan Cancer Institute

**LS-P-SIMCAP:** SIMCAP (Surgery in Metastatic Carcinoma of Prostate): Phase 2.5 multi institution randomized prospective clinical trial evaluating the impact of cytoreductive radical prostatectomy combined with best systemic therapy on oncologic and quality of life outcomes in men with newly diagnosed metastatic prostate cancer (PI: Golijanin)

**LS-P-7465-CL-0301:** An Open-Label, Randomized Phase 3 Study to Evaluate Enfortumab Vedotin vs. Chemotherapy in Patients with Previously Treated Locally Advanced or Metastatic Urothelial Cancer, 234767 (PI: Carneiro)

**LS-P-RiboTax:** A Phase 1b/2 Study of the Oral CDK4/6 Inhibitor LEE011 (Ribociclib) in Combination with Docetaxel plus Prednisone in Metastatic Castration Resistant Prostate Cancer (PI: Carneiro)

## 2018 Bladder Cancer Analysis

The table below is based on information obtained from the National Cancer Database (NCDB) and illustrates a treatment comparison between the Lifespan Cancer Institute and other hospitals within the ACS New England Division as well as all hospitals in all other states.

**Bladder Cancer Diagnosed 2007 to 2016 by TREATMENT**  
 All Diagnosed Cases – Hospital Type: All Types/Systems  
**Lifespan Cancer Institute vs. All Type Hospitals in ACS Division of New England**  
**vs. All Hospitals in All States**

TREATMENT	Number of Cases			Percent of Total Bladder Cancer Cases by Treatment		
	Lifespan Cancer Institute	ACS Division of New England	National Reporting Hospitals	Lifespan Cancer Institute	ACS Division of New England	National Reporting Hospitals
<b>Surgery Only</b>	764	12,008	272,642	50.9%	59.01%	59.12%
<b>Surgery, &amp; Chemo</b>	409	4,312	85,020	27.25%	21.19%	18.44%
<b>Surgery &amp; BRM</b>	152	1,619	42,749	10.13%	7.96%	9.27%
<b>Surgery, Chemo, &amp; BRM</b>	49	470	9,442	3.26%	2.31%	2.05%
<b>Surgery, Radiation, &amp; Chemo</b>	38	569	12,657	2.53%	2.8%	2.74%
<b>Other Specified Therapy</b>	32	308	8,350	2.13%	1.51%	1.81%
<b>No 1<sup>st</sup> Course Treatment</b>	26	451	15,977	1.73%	2.22%	3.46%
<b>Surgery &amp; Radiation</b>	13	286	6,739	0.87%	1.41%	1.46%
<b>Chemotherapy Only</b>	6	154	3,387	0.4%	0.76%	0.73%
<b>Radiation Only</b>	4	41	1,273	0.27%	0.2%	0.28%
<b>Total</b>	1,501	20,350	461,150	100%	100%	100%

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## 2018 Bladder Cancer Analysis

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### GU Multidisciplinary Clinic

Several years ago, a Multidisciplinary Clinic (MDC) focused on the diagnosis and treatment of genitourinary cancer was established at The Miriam Hospital campus. To ensure timely patient assessment and coordination of care, patients referred to the GU MDC are seen by medical oncology, radiation oncology and surgical oncology during their initial visit. At the conclusion of this visit, a preliminary plan of care is established and discussed with the patient.

GU MDC physicians include: genitourinary surgeons Dr. Dragan Golijanin and Dr. Boris Gershman, medical oncologists Dr. Anthony Mega, Dr. Benedito Carneiro, and Dr. Andre De Souza, and radiation oncologists Dr. Thomas DiPetrillo and Dr. Scott Triedman.

### Summary

This is a review of the bladder cancer patients who presented to the Lifespan Cancer Institute over a five year period from 2013-2017. The number of bladder cancer cases within Lifespan fluctuated slightly over the years, ranging between 149 and 181 newly diagnosed cases, with a decrease noted in 2015 and 2016. Further review, revealed the same fluctuation within the rest of the state.

As seen in all other national reporting hospitals, Caucasians made-up the vast majority of bladder cancer cases at the Lifespan Cancer Institute. This was followed by African Americans and Hispanics which is also consistent with the distribution seen at other national reporting hospitals. Lifespan's distribution of bladder cancers by age was similar to that found in the ACS Division of New England as well as other national reporting hospitals with the majority of bladder cancers occurring between the ages of 70 and 79.

The stage distribution of bladder cancer at the Lifespan Cancer Institute was similar to that found in other hospitals for most stage groups. When compared to other hospitals in the ACS Division and other national reporting hospitals, a higher percent of stage I cancers was noted at Lifespan. Overall stage 0 cancers were the most frequently reported by the Lifespan Cancer Institute, hospitals in the ACS Division, and other national reporting hospitals.

The Lifespan Cancer Institute adheres to NCCN (National Comprehensive Cancer Network) Clinical Practice Guidelines for treatment of all cancers. The majority of patients treated for bladder cancer at Lifespan underwent surgery alone, which is consistent with the treatment distribution seen at other hospitals in the ACS Division, and at other national reporting hospitals.