



DELRAY MEDICAL CENTER

Cancer Program 2017 Annual Report



Cancer Statistical Data From 2016

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Program Report

The Cancer Committee at Delray Medical Center is pleased to present the Cancer Program 2017 Annual Report. This report highlights important cancer statistics for Delray Medical Center. Data being reported in this addition of the report reflects Tumor Registry reporting for the calendar year of 2016. The Cancer Registry staff continues to collect data on all patients diagnosed and treated for cancer at the hospital. The Cancer Committee, Delray's Administrative Team, and the Tumor Registry, monitors the delivery of care for our cancer patients. The American College of Surgeon's Commission on Cancer Program Standards set the benchmark for our standards of practice, performance, and excellence.

Multidisciplinary tumor boards are held at Delray to review prospective cases. In this forum, physicians and support staff are given an opportunity to discuss newly diagnosed cancer patients in a collegial and consultative setting. This multidisciplinary team reviews data on surgery, pathology, radiology, and other diagnostic tests. The oncology cases are discussed thoroughly and attendees form a consensus and recommendation regarding the best therapeutic management of our patients. All members of the medical staff are encouraged to participate and attend this valuable part of the oncology program. It is an educational and collaborative event which benefits our practice and our patients.

Our dedicated Oncology Team continues to provide care to oncology patients throughout Delray Medical Center. Our RN staff and case management team provide consistent, compassionate and supportive care to our patients and their families. Our dedicated tumor registry staff provides statistical data as well as case finding and follow up for tumor conferences.

I am extremely thankful to everyone involved in the care of our patients, including Delray's administration, physicians, nurses, therapists, registry and all ancillary personnel. Their commitment and efforts to continuously improve the quality of care for the patients in our community will impact this disease, and help us to better manage the quality of lives for the patients we treat.

I sincerely hope that you enjoy this issue of the 2017 Annual Report for our Cancer Program here at Delray Medical Center.

Susan Th  roux, RN, BSN, MBA, DHS
Director of Oncology Program

CANCER COMMITTEE MEMBERS 2017

PHYSICIAN MEMBERS	NON-PHYSICIAN MEMBERS
Spencer Bachow, M.D. Medical Oncology	Cheri Archer Director of Rehab Services
Mindy Bohrer, M.D. Medical Oncology	Lisa Brundage Director Clinical Quality Improvement
Felix Rodriguez-Pinero, M.D. Medical Oncology	William Fagan Pharmacy
Terry Bachow, M.D. Radiology	Glenda Kalt, RN Case Management
Anthony Dardano, M.D. Dept. of Medicine/Surgery	Susan Koff, ARNP Palliative Care
Stephen Leighton, M.D. Diagnostic Radiology	Susan Koff, ARNP Palliative Care
Timothy Williams, M.D. Radiation Oncology	Deylis Sequeira, CTR Registry Quality Coordinator
Gregg Golding, M.D. Radiation Oncology	Susan Theroux, RN, BSN, MBA, DHSc Director of Oncology
David Nowak, M.D. Pathology	Jan Tucker Director of Lab
John Fortune, M.D. Pathology	Celia Zapata, CTR Cancer Conference Coordinator
Michel Betancourt, M.D. Pathology	
Fernando Rivera, M.D. Diagnostic Radiology	
Paul Schwartz, M.D. Internal Medicine	
Vinay Sharma, M.D. Radiation Oncology	
Lloyd Zucker, M.D. Neurosurgery	
Ronald Young, M.D. Neurosurgery	

The Tumor Registry at Delray Medical Center

The Tumor Registry Department at Delray captures and follows all patients who have a diagnosis of cancer in our hospital. This department is responsible for compiling a complete summary of patient history, diagnosis, primary site/morphology, treatment, recurrences and status for every cancer patient admitted in this institution. The information becomes a key to enable doctors, researchers, and public health professionals to best understand cancer treatment and trends.

The data that is maintained in the registry files is electronically reported to the Florida Department of Health through the Florida Cancer Data System (FCDS). These data are held in anonymity and shared with the Surveillance Epidemiology Endpoint Registry (SEER) program of the National Cancer Institute to generate the national cancer database. This is the database which tracks and trends cancer diagnoses throughout the nation, and helps to identify patterns and changes in cancer diagnoses among communities and patient demographics. In addition, the Cancer Registry produced reports throughout the year at the request of physicians, administration and ancillary departments for research and planning purposes.

On staff here at Delray, there are two tumor registrars. Both employees are active members of the National Cancer Registrars Association. They attend national and state meetings to keep current in their field. Registry personnel serve as members of the Cancer Committee and they help to coordinate the hospital's Oncology Conferences/Tumor Boards. In addition, they help to coordinate and ensure compliance with the Cancer program's guidelines set forth by the American College of Surgeons.

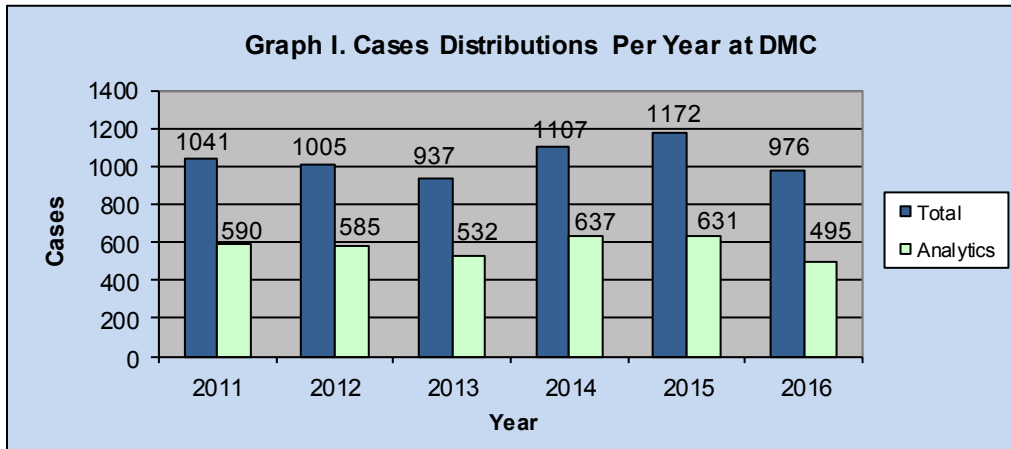
The primary site table summarizes all cases entered into the Delray Medical Center's Tumor Registry in 2016 by class, gender, AJCC staging (at the time of diagnosis). This table also shows all major cancer diagnosis organ systems as well as sub-sites, within each system. The AJCC stage group only demonstrates analytic cases. **Table I.**

Table I. Primary site tabulation for total cases 2016 at DMC

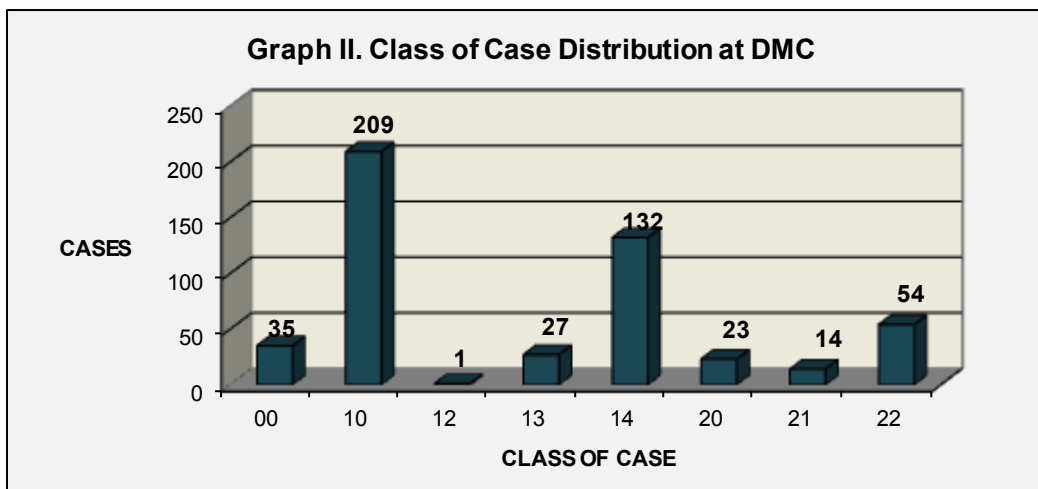
	TOTAL	CLASS		SEX		AJCC STAGE GROUP*						
		A	NA	M	F	0	I	II	III	IV	UNK	N/A
ALL SITES	976	495	481	514	462	42	106	59	63	83	56	86
ORAL CAVITY	20	7	13	16	4	0	0	1	1	2	3	0
LIP	1	1	0	1	0	0	0	0	0	0	1	0
TONGUE	9	3	6	8	1	0	0	1	0	1	1	0
OROPHARYNX	1	1	0	1	0	0	0	0	1	0	0	0
OTHER	9	2	7	6	3	0	0	0	0	1	1	0
DIGESTIVE SYSTEM	187	120	67	104	83	7	28	24	15	22	17	7
ESOPHAGUS	13	7	6	9	4	1	2	2	0	0	2	0
STOMACH	16	13	3	11	5	1	2	2	0	3	5	0
COLON	59	43	16	28	31	3	7	10	12	8	3	0
RECTUM	25	15	10	9	16	2	5	4	1	3	0	0
ANUS/ANAL CANAL	2	0	2	0	2	0	0	0	0	0	0	0
LIVER	15	5	10	10	5	0	1	0	0	0	0	4
PANCREAS	41	26	15	26	15	0	9	5	0	8	4	0
OTHER	16	11	5	11	5	0	2	1	2	0	3	3
RESPIRATORY SYSTEM	161	93	68	76	85	0	21	8	16	42	6	0
NASAL/SINUS	1	1	0	1	0	0	0	0	0	0	1	0
LARYNX	3	2	1	2	1	0	0	0	2	0	0	0
OTHER	2	0	2	2	0	0	0	0	0	0	0	0
LUNG/BRONCHUS -SMALL CELL	15	8	7	12	3	0	1	0	2	5	0	0
LUNG/BRONC-NON SMALL CELL	100	69	31	44	56	0	20	7	10	27	5	0
OTHER BRONCHUS & LUNG	40	13	27	15	25	0	0	1	2	10	0	0
BLOOD & BONE MARROW	114	22	92	66	48	0	0	0	0	0	0	22
LEUKEMIA	75	14	61	47	28	0	0	0	0	0	0	14
MULTIPLE MYELOMA	21	6	15	11	10	0	0	0	0	0	0	6
OTHER	18	2	16	8	10	0	0	0	0	0	0	2
BONE	1	0	1	1	0	0	0	0	0	0	0	0
CONNECT/SOFT TISSUE	10	3	7	5	5	0	0	1	1	0	1	0
SKIN	21	7	14	15	6	1	1	0	0	0	4	1
MELANOMA	19	6	13	14	5	1	1	0	0	0	3	1
OTHER	2	1	1	1	1	0	0	0	0	0	1	0
BREAST	48	9	39	1	47	2	1	1	1	2	2	0
FEMALE GENITAL	82	55	27	0	82	6	23	4	10	1	6	5
CERVIX UTERI	9	6	3	0	9	0	3	1	1	0	1	0
CORPUS UTERI	36	25	11	0	36	0	18	0	4	1	2	0
OVARY	23	11	12	0	23	0	1	3	5	0	1	1
VULVA	10	9	1	0	10	6	1	0	0	0	2	0
OTHER	4	4	0	0	4	0	0	0	0	0	0	4
MALE GENITAL	72	16	56	72	0	0	2	6	2	4	2	0
PROSTATE	68	15	53	68	0	0	1	6	2	4	2	0
TESTIS	4	1	3	4	0	0	1	0	0	0	0	0
URINARY SYSTEM	101	72	29	80	21	26	17	9	5	2	13	0
BLADDER	87	64	23	73	14	24	15	8	2	2	13	0
KIDNEY/RENAL	10	4	6	6	4	1	0	1	2	0	0	0
OTHER	4	4	0	1	3	1	2	0	1	0	0	0
BRAIN & CNS	38	26	12	22	16	0	0	0	0	0	0	26
BRAIN (BENIGN)	5	5	0	2	3	0	0	0	0	0	0	5
BRAIN (MALIGNANT)	19	10	9	12	7	0	0	0	0	0	0	10
OTHER	14	11	3	8	6	0	0	0	0	0	0	11
ENDOCRINE	23	15	8	8	15	0	4	1	6	1	2	1
THYROID	20	14	6	7	13	0	4	1	6	1	2	0
OTHER	3	1	2	1	2	0	0	0	0	0	0	1
LYMPHATIC SYSTEM	65	25	40	31	34	0	9	4	6	6	0	0
HODGKIN'S DISEASE	3	2	1	1	2	0	1	0	0	1	0	0
NON-HODGKIN'S	62	23	39	30	32	0	8	4	6	5	0	0
UNKNOWN PRIMARY	28	23	5	14	14	0	0	0	0	0	0	23
OTHER/ILL-DEFINED	5	2	3	3	2	0	0	0	0	1	0	1

* AJCC stage group only demonstrates analytic cases

In the year 2016, a total of 976 cases were added to the registry, 495 were analytic. **Graph I.**

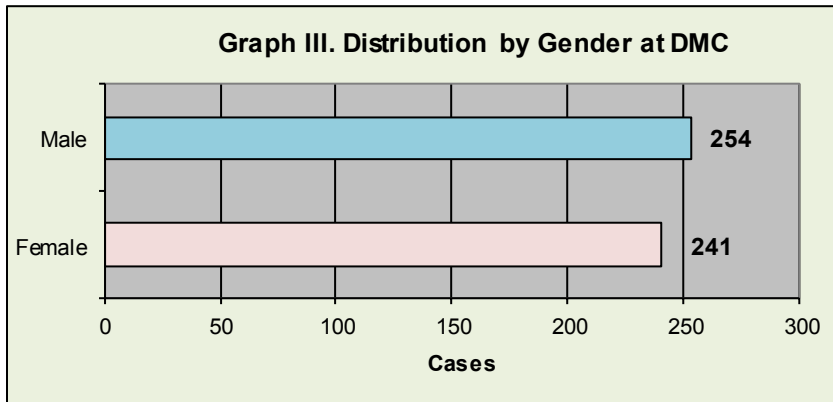


The graph on class of case displays the distribution of analytic cases. Class of case 10 (First diagnosed at DMC and part or all of first course treatment at DMC, NOS) holds the highest amount of cases with 209, followed by class of case 14 (First diagnosed and all first course treatment at DMC) with 132 cases. **Graph II.**

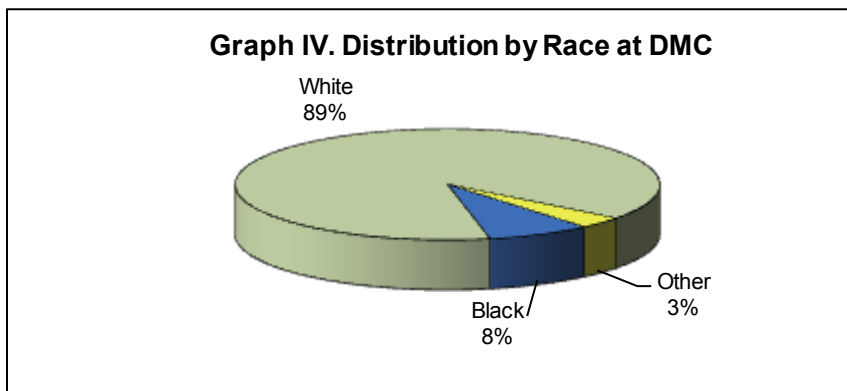


*Please refer to page 17 for the class of case definitions.

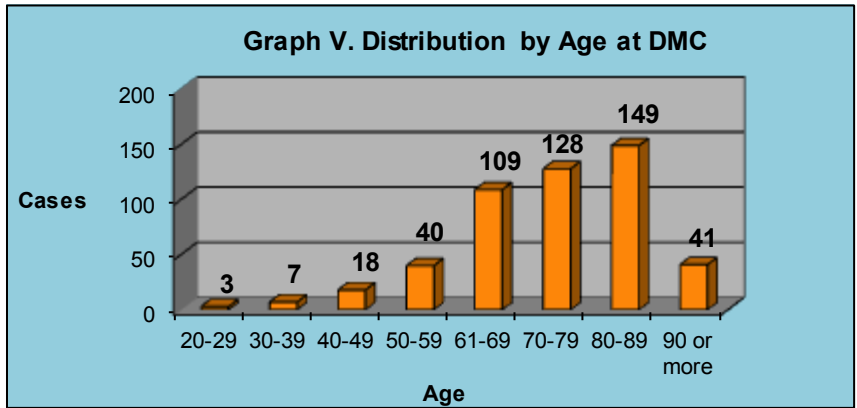
The distribution by gender graph shows there were more males than females diagnosed and/or treated at DMC in 2016. **Graph III.**



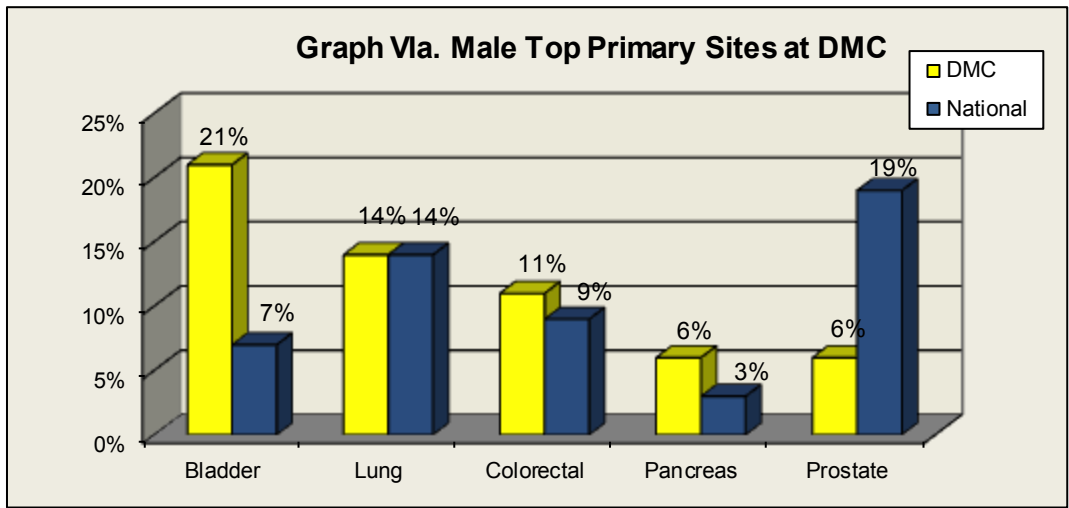
The leading race diagnosed and/or treated at DMC was the white population with 89% compared to the black population with 8% and other or unknown with 3%. **Graph IV.**



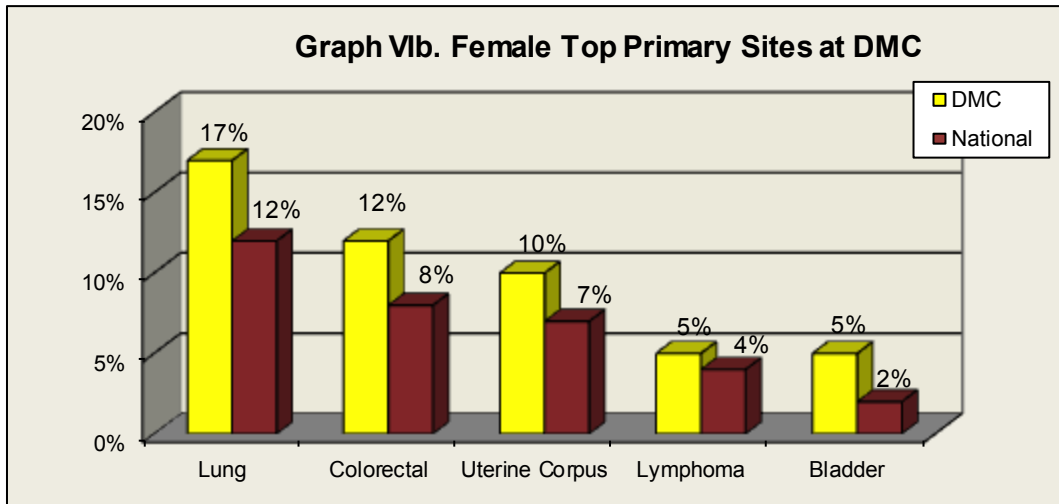
The predominant age group at diagnosis was the 80-89 years old population with 149 cases, followed by 70-79 years old population with 128 cases. **Graph V.**



The leading cancer diagnosed and/or treated at DMC among males in 2016 was bladder cancer with 21% followed by lung cancer with 14%. The third primary site was colorectal cancer with 11%. Pancreas and Prostate completed the top five sites representing 6% of cases each. This graph also demonstrates the comparison between Delray Medical Center’s male top sites to national statistics. **Graph VIa.**



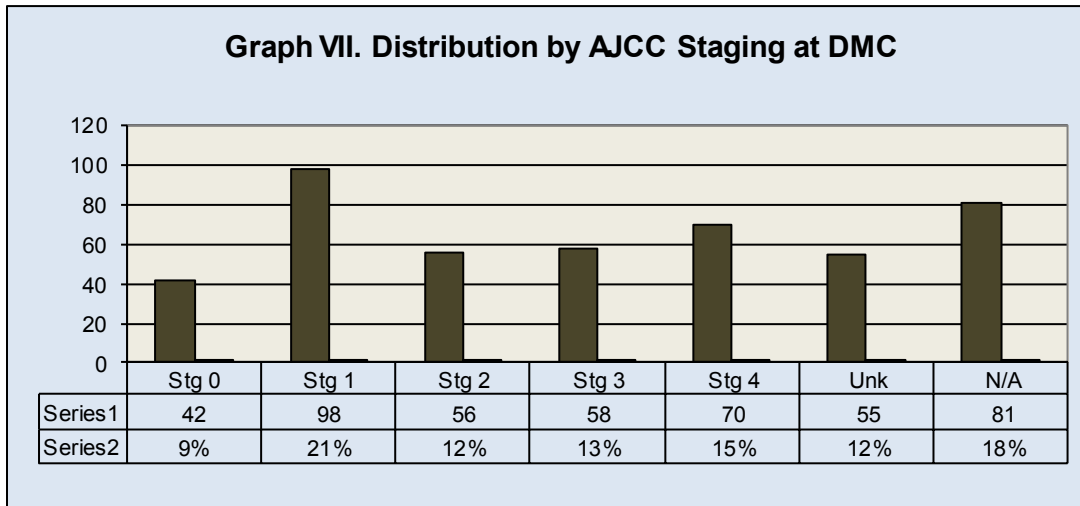
The top female primary site diagnosed and/or treated at DMC was lung cancer with 17% followed by colorectal cancer with 12%. The third leading site was uterine corpus with 10%. Lymphoma and bladder cancer were each 5% of the cases. This graph shows a comparison with national statistics and Delray Medical Center’s female top primary sites. **Graph VIb.**



*American Cancer Society (Cancer Facts & Figures 2017)

The American Joint Committee on Cancer (AJCC) TNM Staging System is used to describe the extent of the primary tumor and its spread in the body. It is utilized as a guideline to help physicians plan the most appropriate treatment and determine a prognosis.

There were 196 analytic cases that were diagnosed Stages 0, I, or II. These are considered to be potentially curable. More advanced stages of cancers, stage III and IV, totaled 128 cases. Fifty five cases were staged Unknown representing cases in which certain criteria did not meet the staging standards, or there was not enough information at the time of diagnosis. The non-applicable cases (81) represent those for which there is not an AJCC staging requirement, such as Leukemia and Brain primaries. According to the AJCC guidelines, class of case 00 is excluded which reduces the number of analytics from 495 to 460. **Graph VII.**



Most patients received surgery as their first course of treatment representing 224 cases. The majority of the cases in the non-treated category are bronchus & lung cancers being diagnosed at an advanced stage. This table excludes all benign tumors and class of case 00, which reduces the total of analytic cases from 495 to 447. **Table II.**

Table II. Analytic Cases Distribution by First Course Treatment

SITE NAME	TOTAL CASES	SURG	SURG/ CHEMO	CHEMO	NONE	ALL OTHERS
LIP	1	1	0	0	0	0
BASE OF TONGUE	1	0	0	0	0	1
TONSIL	2	0	0	0	2	0
ESOPHAGUS	6	0	0	0	6	0
STOMACH	14	4	0	0	10	0
SMALL INTESTINE	6	3	1	0	2	0
COLON	43	31	4	0	8	0
RECTOSIGMOID JUNCTION	5	4	1	0	0	0
RECTUM	9	4	0	0	4	1
LIVER & BILE DUCTS	5	0	0	0	5	0
GALLBLADDER	2	1	1	0	0	0
PANCREAS	21	2	0	1	18*	0
OTHER DIGESTIVE ORGANS	3	0	0	0	3	0
NASAL CAVITY & MIDDLE EAR	1	1	0	0	0	0
LARYNX	2	0	0	0	2	0
BRONCHUS & LUNG	79	25	1	1	50**	2
HEART MEDIASTINUM PLEURA	1	0	0	0	1	0
BLOOD & BONE MARROW	20	0	0	6	14	0
SKIN	6	6	0	0	0	0
CONNECTIVE SUBCUTANEOUS OTHER SOFT TISSUE	3	1	0	0	2	0
BREAST	9	7	0	0	2	0
VULVA	9	9	0	0	0	0
CERVIX UTERI	6	4	1	0	0	1
CORPUS UTERI	25	23	2	0	0	0
OVARY	11	8	3	0	0	0
OTH FM. GENITAL ORGAN	4	2	0	0	2	0
PROSTATE GLAND	14	8	0	0	6	0
TESTIS	2	1	1	0	0	0
KIDNEY	1	1	0	0	0	0
KIDNEY, RENAL PELVIS	2	2	0	0	0	0
URETER	4	3	0	0	1	0
URINARY BLADDER	64	56	1	0	7	0
BRAIN	12	4	0	0	7	1
THYROID GLAND	14	12	0	0	1	1
OTHER ILL DEFINED SITES	1	0	0	0	1	0
LYMPH NODES	16	1	2	2	11***	0
UNK PRIMARY	21	0	0	1	20****	0
OVERALL TOTALS	445	224	18	11	185	7

* Out of 18 pancreatic cases: 6 cases went to hospice, 5 cases were distant stage, 1 case refused treatment, 1 patient expired

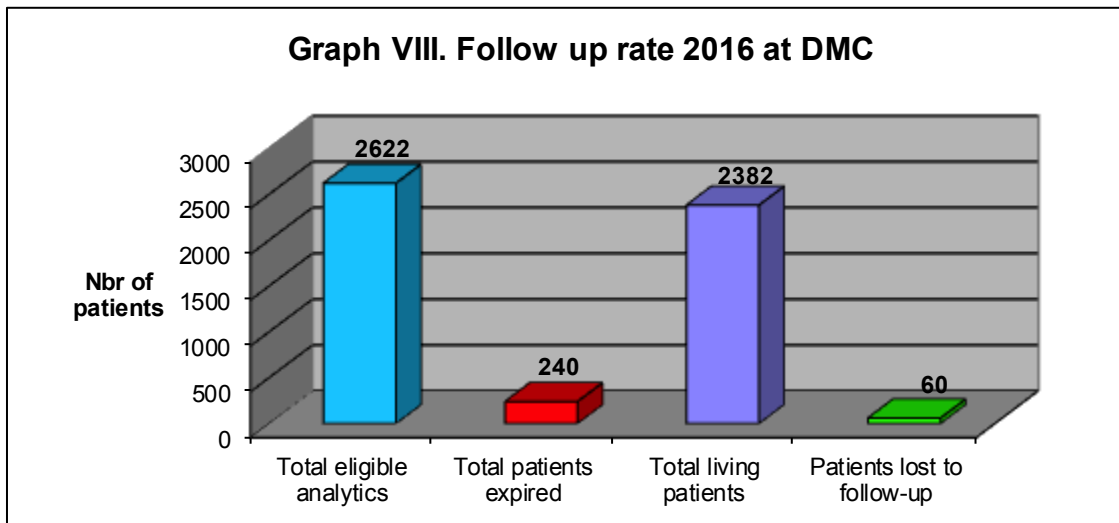
** Out of 50 lung cases: 37 cases were diagnosed at a distant stage (According to SEER statistics 57% of cases with lung cancer are diagnosed after the cancer has already metastasized), 3 cases were not recommended treatment due to risk factors, 1 case went to hospice due to other issues

*** Out of 13 lymphoma cases: 7 cases were distant stage, 4 cases went to hospice

**** Out of 20 unknown primary cases: 7 cases went to hospice, 1 patient was not a candidate for chemo

In accordance with the American College of Surgeons and the Florida Cancer Data Systems (FCDS), each patient is provided with an annual

lifetime follow-up service that is essential to evaluate cancer care outcomes. The Cancer Registry follows over 2,600 patients annually throughout Florida and the United States where our patients reside. Per the Commission on Cancer's Standard 5.4, our cancer registry is required to uphold at least 90% follow-up rate. Currently we have a successful rate of 97%. **Graph VIII.**



Leukemia at Delray Medical Center, 2011-2016

Leukemia is a cancer of the blood and bone marrow. The four main groups of leukemia, which is classified according to cell type and rate of growth, are: acute lymphocytic (ALL), chronic lymphocytic (CLL), acute myeloid (AML), and chronic myeloid (CML). According to the American Cancer Society, an estimated 62,130 new cases of leukemia will be diagnosed in the US during 2017 and an estimated 24,500 deaths will occur. Among adults, the most common types are CLL (37%) and AML (31%).

Symptoms may include fatigue, paleness, weight loss, repeated infections, fever, bleeding or bruising easily, bone or joint pain, and swelling in the lymph nodes or abdomen. In acute leukemia, these signs can appear suddenly because it is a fast-growing cancer. Chronic leukemia typically progresses slowly with few symptoms and is often diagnosed during routine blood tests.

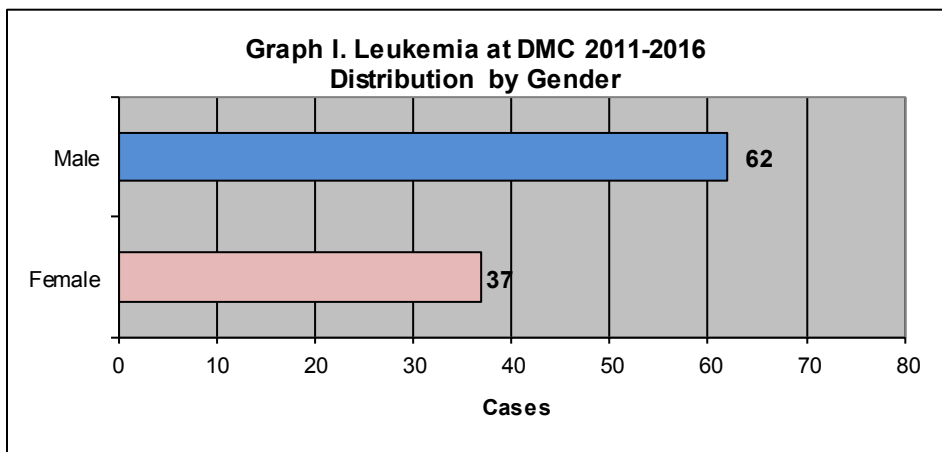
Exposure to ionizing radiation increases the risk of most types of leukemia. Medical radiation, such as that used in cancer treatment, is one of the most common sources of radiation exposure. The risk of leukemia is also increased in patients treated with chemotherapy and in children with Down syndrome and certain other genetic abnormalities. Some occupational exposures increase risk, such as the rubber-manufacturing industry. Family history is a strong risk factor for CLL. Cigarette smoking is a risk factor for AML in adults. Exposure to certain chemicals, such as formaldehyde and benzene, increases the risk of myeloid leukemia. Studies suggest that obesity may increase risk of some leukemia subtypes.

Although there are currently no recommended screening tests for the early detection of leukemia, it is sometimes diagnosed early because of abnormal results on blood tests performed for other indications.

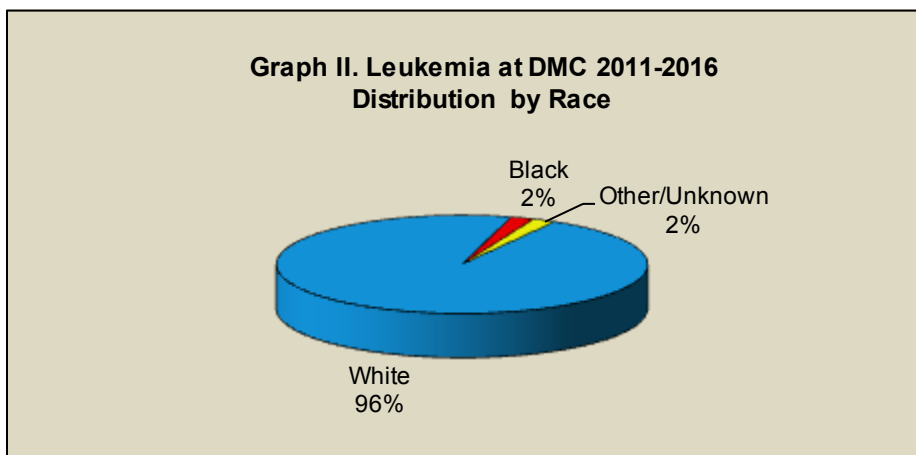
Chemotherapy is used to treat most acute leukemias. Several targeted drugs are effective for treating CML because they attack cells with the Philadelphia chromosome, the genetic abnormality that is the hallmark of CML. Some of these drugs are also used to treat a type of ALL involving a similar genetic defect. People diagnosed with CLL that is not progressing or causing symptoms may not require treatment. For patients who do require treatment, promising new targeted drugs have changed how CLL is treated in recent years. Certain types of leukemia may be treated with high-dose chemotherapy followed by stem cell transplantation under appropriate conditions. Newer experimental treatments that boost the body's immune system, such as chimeric antigen receptor (CAR) T-cell therapy, have recently shown much promise, even against some hard-to-treat leukemias.

According to the American Cancer Society, survival rates vary substantially by leukemia subtype, ranging from a 5-year relative survival of 27% for patients diagnosed with AML to 83% for those with CLL. Nationwide, the overall 5-year relative survival for ALL is 71% and 66% for CML. For Delray Medical Center, the 5 year relative survival rates are 84% for AML, 78% for CLL, 53% for ALL and 100% for CML. (American Cancer Society, 2017)

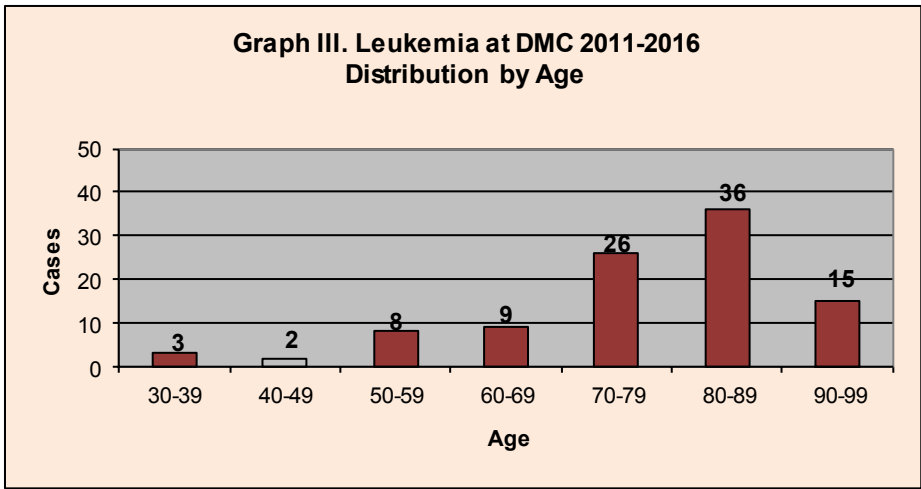
There were a total of 99 leukemia cases diagnosed and/or treated at Delray Medical Center from 2011-2016. The distribution by gender graph shows there were more males than females. **Graph I.**



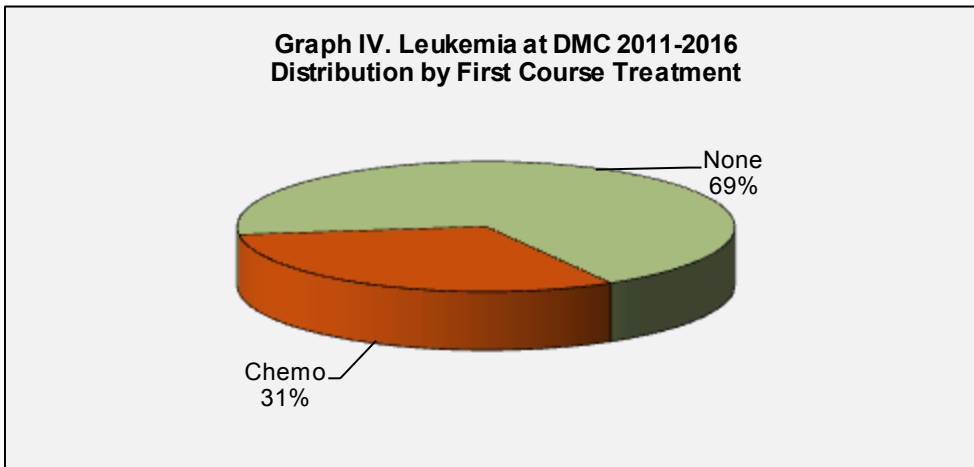
The distribution by race graph shows that the majority were among the white population representing 96%. **Graph II.**



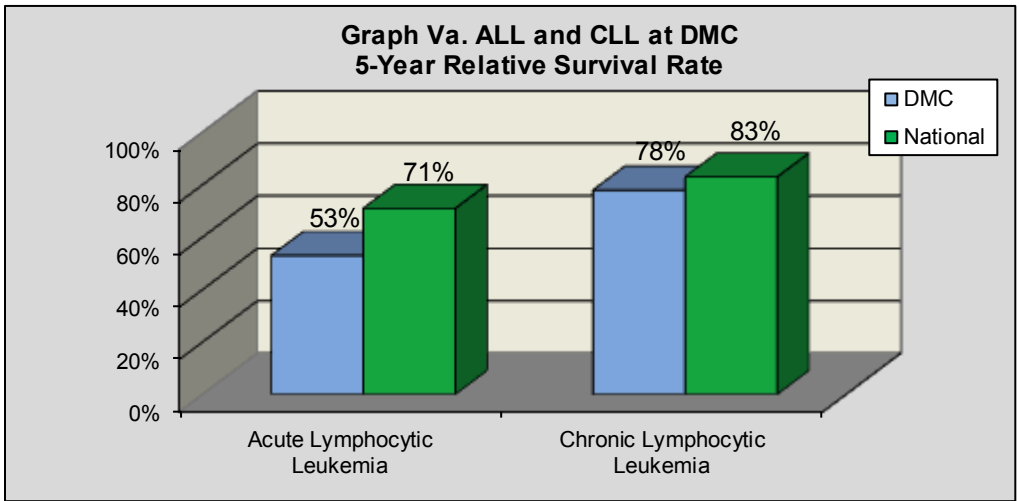
The age of presentation at diagnosis was highest in the 80-89 years old population with 36 cases. Followed by, 26 cases in the 70-79 years old population. **Graph III.**



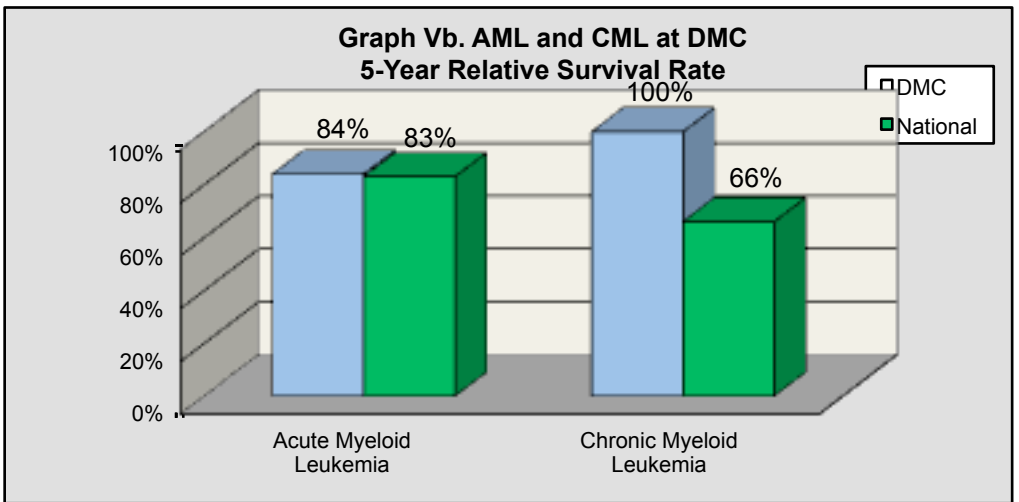
Treatment distribution shows that chemotherapy alone was used in 31% of the cases. Most leukemia cases not treated are due to patient age, patient refused any treatment, patient expired before treatment or patient went to hospice. **Graph IV.**



Delray Medical Center's overall five-year relative survival rate for ALL is 53% compared to 71% nationwide. For CLL the five-year relative survival rate for DMC is 78% and 83% nationwide. **Graph Va.**



Delray Medical Center's overall five-year relative survival rate for AML is 84% compared to 83% nationwide. For CML the five-year relative survival rate for DMC is 100% and 66% nationwide. **Graph Vb.**



Definitions

Analytic: A case that was either initially diagnosed or received all or part of the first course of treatment at the reporting institution.

Class 00: Initial diagnosis at DMC and all treatment or a decision not to treat was done elsewhere

Class 10: Initial diagnosis at DMC and part or all of first course treatment or a decision not to treat was at DMC, NOS. (If it is not known that the patient actually went somewhere else, code Class of Case 10)

Class 11: Initial diagnosis in staff physician's office AND part of first course treatment was done at DMC

Class 12: Initial diagnosis in staff physician's office AND all first course treatment or a decision not to treat was done at DMC

Class 13: Initial diagnosis at DMC and part of first course treatment was done at the reporting facility; part of first course treatment was done elsewhere.

Class 14: Initial diagnosis at DMC and all first course treatment or a decision not to treat was done at DMC

Class 20: Initial diagnosis elsewhere AND all or part of first course treatment was done at DMC, NOS

Class 21: Initial diagnosis elsewhere AND part of first course treatment was done at DMC

Class 22: Initial diagnosis elsewhere AND all first course treatment or a decision not to treat was done at DMC

Non-analytic (includes Class 32): Patient diagnosed and received all first course of treatment at another institution, patients diagnosed at autopsy, and patients diagnosed and treated at the reporting facility before the registry's reference day.

Stage: The Tumor Registry collects the staging by using the Tumor, Nodes and Metastasis (TNM) system from the American Joint Committee on Cancer, and Local, Regional or Distant from (SEER) Surveillance, Epidemiology and End Results Program. **Stage 0** = In-situ, **Stage 1** = Local, **Stage 2** = Regional/Direct Extension, **Stage 3** = Regional/Nodes Only, **Stage 4** = Regional/Direct Extension & Nodes.

First course of treatment: Includes all methods of treatments recorded in the treatment plan and administered to the patient before disease progression or recurrence.

Successful follow up: Is the percent of dead and living patients that were contacted by the Tumor Registry in the last 12 months. It is required to use registry data for survival analysis.

Lost to follow up: Represents the percentage of patients that have not been contacted by the Tumor Registry in the last 15 months. They are also known as "delinquent cases".

References:

American Cancer Society. (2017). *Cancer Facts & Figures*. Retrieved from American Cancer Society: <http://www.cancer.org/research/cancerfactsstatistics/index>