

SISTER CARITAS CANCER CENTER

2009 Annual Report
Statistical Analysis Using 2008 Data



Mercy
MEDICAL CENTER

SISTER CARITAS CANCER CENTER

Dear Friends of the Cancer Center,

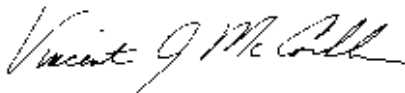
We are pleased to present the 2009 Annual Cancer Report. The Sister Mary Caritas Cancer Center is proud to have received full accreditation without contingencies from the American College of Radiology in 2009. Only 20 percent of community cancer centers in the country have received this level of accreditation.

In addition to accreditation by the ACR, our cancer center is accredited by the American College of Surgeons Commission on Cancer. The American College of Surgeons certifies those centers that adhere to highly selective standards of superb care.

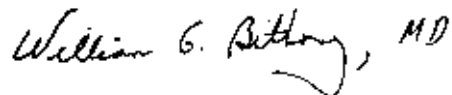
We are proud to have board-certified physicians in radiation oncology, palliative care, and hematologic oncology. Our board-certified dosimetrists and physicists assure accurate and individualized administration of radiation on a daily basis. Therapists who deliver the daily treatments are specialty board-certified as are our nurses.

Mercy Medical Center provides many services to complete the full array of clinical care for cancer patients, including the Breast Care Center, diagnostic imaging, advanced CT/Positron Emission Tomography used in staging cancer treatment, specialty surgical services, palliative care, specialized pathology service, hospice care, spiritual, nutritional and social services. As advancements are made in radiation, drug therapies, combined therapies and care for palliative patients, our cancer center is at the forefront of bringing these programs to our patients. For example, the daVinci robotically-assisted surgical system is now being used in GYN and prostate surgery. The Sister Caritas Cancer Center has successfully treated more than 18,000 patients since 1992 and we look forward to having the privilege of providing quality care into the future.

On behalf of our physicians and staff, we hope you enjoy reading about the ways we have brought hope and healing to patients who we assist in the battle against cancer.



Vincent J. McCorkle, FACHE
President and Chief Executive Officer
Sisters of Providence Health System



William G. Bithoney, MD
Chief Operating Officer
Mercy Medical Center
Chief Medical Officer
Sisters of Providence Health System



Chairperson's Report



*B. Catherine Carton, MD
Chairperson,
Cancer Program*

Mercy Medical Center provides cancer services to the community with facilities for diagnosis and management of adult malignancies. The Sister Caritas Cancer Center is located on the Mercy Medical Center Campus and houses the department of radiation oncology, infusion services, oncologic nursing, social services and administration. We are a Community Hospital Comprehensive Cancer Program accredited by the American College of Surgeons. Our radiation oncology program is one of only 20% in the country which is accredited by the American College of Radiology, and the only one in Western Massachusetts. Our cancer committee oversees the oncology services and consists of a group of dedicated physicians and allied health care professionals including, pharmacy, social service, quality management, American Cancer Society, hospice, cancer registry, administration and mammography. The committee meets quarterly to review activities and set goals for our program. Program Coordinators include Registry Coordinator, Quality Improvement Coordinator, Community Outreach Physician and Quality Control.

Cancer conferences are held on a weekly basis and include dedicated conferences for breast and thoracic malignancies. Cases are presented and discussed prospectively by a multidisciplinary group including surgeons, medical oncologists, radiation oncologists, pathologists, radiologists and urologists. There is active participation by all physicians and the conferences are well attended. In 2008, there were 31 general conferences with 80 cases presented, 19 thoracic conferences presenting 65 cases and five breast conferences presenting eight cases.

The American Cancer Society provides volunteers and support services to our patients, offering literature, internet access and information regarding all ACS services. Screening clinics are offered for mammography, prostate and cervical cancers.

Two breast surgeons, Dr. Steven Schonholz and Dr. Lisa Planeta provide excellent care for women with breast cancer. MRI guided biopsies are performed in the radiology suite as well as biopsies utilizing the "Intact System." Drs. Schonholz and Planeta continue to bring state-of-the-art diagnosis and treatment approaches to our patients.

The Radiation Oncology Department provides radiation services to over five hundred patients per year. Services include external beam radiation using IMRT, superficial radiation for skin cancers, prostate implants and stereotactic radiosurgery for brain tumors. The department is staffed by three board-certified radiation oncologists, PhD and Masters trained physicists, two board-certified radiation dosimetrists, three oncology certified nurses, eight board-certified radiation therapists, a chief therapist, social worker, administration and dedicated clinical staff.

Chairperson's Report

The Cancer Registry collects all data on patients diagnosed and/or treated at Mercy Medical Center, and submits the data to the Massachusetts Cancer Registry and National Cancer Data Base. The Registry participates in national conferences and has recently improved the Collaborative Staging System to align with ACS standards.

Community involvement continues both through participation in the We Can Weekend for cancer survivors, as well as a Survivor Day celebration held at the Elms College campus in September. The Survivor Day was sponsored, planned and coordinated by a dedicated group of volunteers from Mercy Medical Center and was a grand success in its 5th anniversary year. Mario Taylor of the Mercy Audiovisual Department organized the 5th Annual Tennis Tournament and donated the proceeds to the Patient Services Fund.



B. Catherine Carton, MD
Chairperson, Cancer Program

Cancer Registrar's Report

The Cancer Registry at Mercy Medical Center utilizes a data system designed for the collection, management, analysis and reporting of information regarding patients with cancer who have been diagnosed and/or treated at Mercy Medical Center. Mercy's Cancer Registry is a part of the Massachusetts Cancer Registry and the National Cancer Data Base. Submitting our data yearly to the NCDB also allows the public to view Mercy Medical Center's resources, services and cancer caseload information. The registry has been in existence since 1973, but our reference date is January 1, 1992 with over 23,000 cases entered into the database. The registry is staffed by two full-time registrars.

Each analytic patient is followed on an annual basis. Follow-up is used as an automatic reminder to both the physician and patient to monitor and schedule annual exams. The registry followed over 7,000 patients in 2008 with a successful follow-up rate of 92% (90% is mandated by the ACS).

As an approved Cancer Program, the American College of Surgeons mandates that we perform studies and implement improvements each year. For the year 2008, we conducted the following **Patient Care Enhancements**:

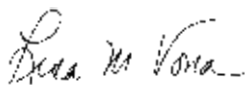
- Introduction of robotic-assisted laparoscopic prostatectomy: the first 26 patients and a review of the positive margins.
- Quantitative analysis of prostate motion using implanted fiducial markers based on port film image guidance.
- Continual evaluation of margin assessment of all breast biopsies.
- Evaluation of all patients identified for Hereditary Breast and Ovarian Cancer Syndrome.

We also conducted the following **Quality Management Studies**:

- Lymph Node Retrieval in Colorectal Cancer Resections: Are We in Compliance with National Guidelines.
- Detailed statistical analysis of prostate cancer (Annual Report).

New in 2008 – We did two special studies with the American College of Surgeons titled "Impact of Neoadjuvant Therapy on Staging of Breast and Rectal Cancer Cases (2004-2005 diagnoses). A change was made by the Commission on Cancer to Standard 4.3 – AJCC Staging with the intent of reducing the work burden on programs along with developing methods to measure physician use of AJCC Staging in the treatment planning process. More changes were made by the CoC to Standards 2.8, 2.10, 3.2, 4.3, 7.1, 3.7 and 4.6.

The registrars kept up-to-date with the changes made in 2008 from the American College of Surgeons and the Massachusetts State Registry. They attended state and regional seminars and the NCRA conference in New Orleans, LA.



Lisa Vona, CTR
Cancer Program Coordinator



Barbara Lamy, RHIT
Cancer Registrar

SISTER CARITAS CANCER CENTER

Statistical Summary of Registry Data

In 2008, the Mercy Medical Center cancer registry accessioned 1,110 total cases of which 1,044 were diagnosed and/or treated at this facility (analytic cases). This is slightly less than in 2007 where there were 1,157 total cases and 1,070 analytical cases.

The most common sites were breast (24%), prostate (13%), lung (12%), colorectal (12%), and bladder (6%). The remainder were head and neck, gynecologic, brain, lymphomas and miscellaneous.

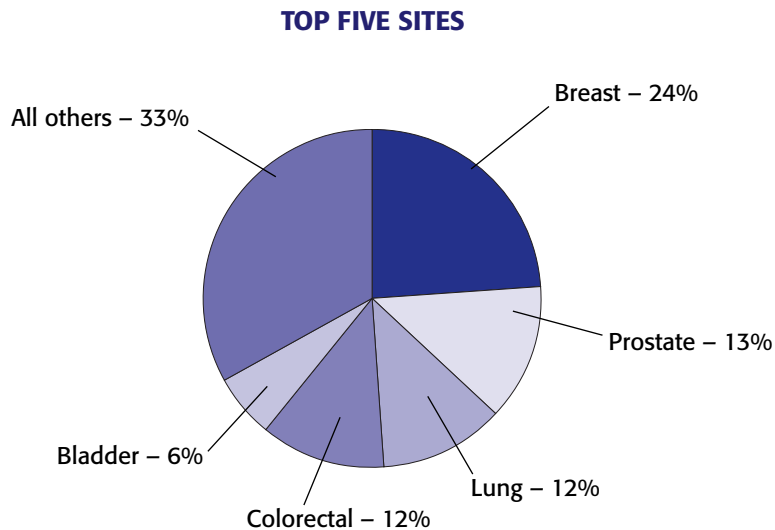
Fifty-three point six percent of the patients were female and 46.4% were male. In females the five most common sites were breast (23.1%), gastrointestinal (15.3%), lung (11.1%), CNS (5.8%), and genitourinary (10.3%).

In males, the most common sites were prostate (28.8%), gastrointestinal (21.9%), genitourinary (other than prostate) (17.1%), and lung (12.8%).

These percentages are relatively unchanged from previous years.



B. Catherine Carton, MD
Chairperson, Cancer Program



SISTER CARITAS CANCER CENTER

Request Log

1/22/2008

*2006 Radiation Therapy Patients by Zip Code
2006 Analytical Patients by Zip Code*

Requested by: Yvonne Pola
Purpose: Sr. Caritas Cancer Center
Completed: 1/22/2008

2/27/2008

*Number of patients accessioned for 2006 and
number of those patients that were uninsured,
on Medicaid or military insurance.*

Requested by: Melinda Miffitt, MPH
Purpose: Cancer.org
Completed: 2/27/2008

4/18/2008

*Number of breast cases for 2006,
under the age of 50.*

Requested by: Dr. Steven Schonholz
Purpose: Mercy Breast Care Center
Completed: 4/18/2008

5/30/2008

Lists of deaths for radiation therapy patients.

Requested by: Tammy Carlin
Purpose: Radiation Therapy Death Clearance
Completed: 5/31/2008

6/11/2008

*Number of breast cases from the
years 2000 to 2007.*

Requested by: Holly Mason, MD – BMC
Purpose: Demographic Study
Completed: 6/12/2008

7/11/2008

*Number of Hairy Cell Leukemias since
start of Cancer Registry.*

Requested by: Jeffrey Sussman, MD – Pathology
Purpose: Cancer Conference
Completed: 7/11/2008

7/21/2008

*Race, Histology and Insurance for
2007 Breast Cases.*

Requested by: Beverly Matakaetis – Spiritual Care
Purpose: Susan B. Komen Grant
Completed: 7/30/2008

10/3/2008

List of deaths for radiation therapy patients.

Requested by: Tammy Carlin
Purpose: Radiation Therapy Death Clearance
Completed: 10/3/2008

10/16/2008

*Number of breast cases for 2007,
under the age of 50.*

Requested by: Steven Schonholz, MD
Purpose: Breast Conference
Completed: 10/16/2008

10/29/2008

Statistics for various primary sites.

Requested by: Jaiteerth Avadhani
Purpose: American College of Radiology Survey
Completed: 11/4/2008

SISTER CARITAS CANCER CENTER

Summary by Body System, Sex, Class, Status and Best Stage

First Contact Year 2008

PRIMARY SITE	Total	Sex		Class of Case		Status		Stage Distribution – Analytic Cases Only							
		M	F	Analy	NA	Alive	Exp	0	I	II	III	IV	88	Unk	Inv
Oral Cavity & Pharynx	21(1.9%)	17	4	21	0	17	4	0	1	6	4	8	1	1	0
Tongue	5(0.4%)	5	0	5	0	4	1	0	0	1	2	2	0	0	0
Floor of Mouth	1(0.1%)	1	0	1	0	0	1	0	0	0	0	1	0	0	0
Gum & Other Mouth	4(0.4%)	1	3	4	0	4	0	0	1	3	0	0	0	0	0
Nasopharynx	1(0.1%)	1	0	1	0	1	0	0	0	1	0	0	0	0	0
Tonsil	5(0.4%)	4	1	5	0	4	1	0	0	0	1	3	0	1	0
Oropharynx	1(0.1%)	1	0	1	0	1	0	0	0	0	0	1	0	0	0
Hypopharynx	3(0.3%)	3	0	3	0	2	1	0	0	1	1	1	0	0	0
Other Oral Cavity & Pharynx	1(0.1%)	1	0	1	0	1	0	0	0	0	0	0	1	0	0
Digestive System	207(18.5%)	118	89	195	12	131	76	47	29	23	29	38	5	24	0
Esophagus	17(1.5%)	15	2	16	1	6	11	0	2	4	3	1	0	6	0
Stomach	16(1.4%)	11	5	14	2	7	9	0	3	1	2	6	0	2	0
Small Intestine	6(0.5%)	4	2	6	0	5	1	0	0	0	1	0	3	2	0
Colon Excluding Rectum	101(9.0%)	51	50	98	3	73	28	40	15	11	14	14	1	3	0
Cecum	26	12	14	26	0	16	10	9	4	4	6	3	0	0	0
Appendix	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0
Ascending Colon	21	11	10	21	0	16	5	8	3	5	4	0	1	0	0
Hepatic Flexure	1	0	1	1	0	1	0	1	0	0	0	0	0	0	0
Transverse Colon	4	2	2	4	0	3	1	1	1	0	0	0	0	2	0
Splenic Flexure	5	2	3	5	0	2	3	3	0	0	1	0	0	1	0
Descending Colon	6	3	3	5	1	5	1	2	2	0	1	0	0	0	0
Sigmoid Colon	28	13	15	28	0	24	4	15	5	1	2	5	0	0	0
Large Intestine, NOS	9	7	2	8	1	5	4	1	0	1	0	6	0	0	0
Rectum & Rectosigmoid	30(0.4%)	14	16	27	3	25	5	5	3	5	6	5	1	2	0
Rectosigmoid Junction	8	3	5	6	2	6	2	1	0	2	3	0	0	0	0
Rectum	22	11	11	21	1	19	3	4	3	3	3	5	1	2	0
Anus, Anal Canal & Anorectum	5(0.4%)	3	2	5	0	4	1	2	0	1	0	0	0	2	0
Liver & Intrahepatic Bile Duct	10(0.9%)	8	2	9	1	5	5	0	3	0	2	1	0	3	0
Gallbladder	1(0.1%)	0	1	1	0	0	1	0	0	0	0	1	0	0	0
Other Biliary	5(0.4%)	2	3	4	1	3	2	0	1	1	0	1	0	1	0
Pancreas	16(1.4%)	10	6	15	1	3	13	0	2	0	1	9	0	3	0
Respiratory System	136(12.2%)	71	65	125	11	71	65	0	28	8	37	42	3	7	0
Larynx	2(0.2%)	2	0	2	0	2	0	0	2	0	0	0	0	0	0
Lung & Bronchus	134(12.0%)	69	65	123	11	69	65	0	26	8	37	42	3	7	0

SISTER CARITAS CANCER CENTER

Summary by Body System, Sex, Class, Status and Best Stage

First Contact Year 2008

PRIMARY SITE	Total	Sex		Class of Case		Status		Stage Distribution – Analytic Cases Only							
		M	F	Analy	NA	Alive	Exp	0	I	II	III	IV	88	Unk	Inv
Soft Tissue	3(0.3%)	0	3	3	0	3	0	0	1	0	0	0	0	2	0
Soft Tissue (including Heart)	3(3.0%)	0	3	3	0	3	0	0	1	0	0	0	0	2	0
Skin Excluding Basal & SQ	39(3.5%)	20	19	38	1	34	5	16	14	6	0	1	1	0	0
Melanoma–Skin	38(3.4%)	20	18	37	1	33	5	16	14	6	0	1	0	0	0
Other Nonepithelial Skin	1(0.1%)	0	1	1	0	1	0	0	0	0	0	0	1	0	0
Breast	259(23.1%)	2	257	247	12	243	16	47	107	61	15	4	0	13	0
Breast	259(23.1%)	2	257	247	12	243	16	47	107	61	15	4	0	13	0
Female Genital System	26(2.3%)	0	26	24	2	22	4	6	9	1	1	2	0	5	0
Cervix Uteri	7(0.6%)	0	7	6	1	7	0	5	0	0	0	0	0	1	0
Corpus & Uterus, NOS	12(1.1%)	0	12	11	1	12	0	0	9	1	0	0	0	1	0
Ovary	2(0.2%)	0	2	2	0	0	2	0	0	0	0	1	0	1	0
Vagina	3(0.3%)	0	3	3	0	1	2	0	0	0	1	0	0	2	0
Vulva	1(0.1%)	0	1	1	0	1	0	1	0	0	0	0	0	0	0
Other Female Genital Organs	1(0.1%)	0	1	1	0	1	0	0	0	0	0	1	0	0	0
Male Genital System	162(14.5%)	162	0	143	19	154	8	0	5	125	8	4	0	1	0
Prostate	155(13.9%)	155	0	136	19	147	8	0	0	125	6	4	0	1	0
Testis	7(0.6%)	7	0	7	0	7	0	0	5	0	2	0	0	0	0
Urinary System	119(10.6%)	85	34	107	12	103	16	34	38	14	7	7	1	6	0
Urinary Bladder	75(6.7%)	59	16	66	9	67	8	32	18	8	0	3	0	5	0
Kidney & Renal Pelvis	40(3.6%)	23	17	37	3	33	7	2	18	5	7	4	0	1	0
Ureter	2(0.2%)	2	0	2	0	2	0	0	1	1	0	0	0	0	0
Other Urinary Organs	2(0.2%)	1	1	2	0	1	1	0	1	0	0	0	1	0	0
Eye & Orbit	2(0.2%)	2	0	1	1	1	1	0	0	0	0	0	1	0	0
Eye & Orbit	2(0.2%)	2	0	1	1	1	1	0	0	0	0	0	1	0	0
Brain & Other Nervous System	50(4.5%)	16	34	49	1	38	12	0	0	0	0	0	49	0	0
Brain	15(1.3%)	7	8	15	0	6	9	0	0	0	0	0	15	0	0
Other Nervous System	35(3.1%)	9	26	34	1	32	3	0	0	0	0	0	34	0	0
Endocrine System	7(0.6%)	1	6	7	0	7	0	0	4	0	1	1	0	1	0
Thyroid	7(0.6%)	1	6	7	0	7	0	0	4	0	1	1	0	1	0
Lymphomas	37(3.3%)	22	15	36	1	32	5	0	6	8	11	11	0	0	0
Hodgkin Lymphoma	4(0.4%)	2	2	4	0	4	0	0	0	1	3	0	0	0	0
Non-Hodgkin Lymphoma	33(2.9%)	20	13	32	1	28	5	0	6	7	8	11	0	0	0
NHL-Nodal	21	12	9	21	0	17	4	0	4	3	7	7	0	0	0
NHL-Extranodal	12	8	4	11	1	11	1	0	2	4	1	4	0	0	0

SISTER CARITAS CANCER CENTER

Summary by Body System, Sex, Class, Status and Best Stage

First Contact Year 2008

PRIMARY SITE	Total	Sex		Class of Case		Status		Stage Distribution – Analytic Cases Only								
		M	F	Analy	NA	Alive	Exp	0	I	II	III	IV	88	Unk	Inv	
Multiple Myeloma	8(0.7%)	4	4	7	1	7	1	0	0	0	0	0	0	7	0	0
Multiple Myeloma	8(0.7%)	4	4	7	1	7	1	0	0	0	0	0	0	7	0	0
Leukemias	8(0.7%)	5	3	7	1	7	1	0	0	0	0	0	0	7	0	0
Lymphocytic Leukemia	4(0.4%)	2	2	4	0	4	0	0	0	0	0	0	0	4	0	0
Acute Lymphocytic Leukemia	1	0	1	1	0	1	0	0	0	0	0	0	0	1	0	0
Chronic Lymphocytic Leukemia	3	2	1	3	0	3	0	0	0	0	0	0	0	3	0	0
Myeloid & Monocytic Leukemia	3(0.3%)	2	1	2	1	3	0	0	0	0	0	0	0	2	0	0
Acute Myeloid Leukemia	2	1	1	2	0	2	0	0	0	0	0	0	0	2	0	0
Chronic Myeloid Leukemia	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0
Other Leukemia	1(0.1%)	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0
Mesothelioma	2(0.2%)	1	1	2	0	1	1	0	0	0	0	0	1	1	0	0
Mesothelioma	2(0.2%)	1	1	2	0	1	1	0	0	0	0	0	1	1	0	0
Miscellaneous	33(2.9%)	12	21	32	1	11	22	0	0	0	0	0	0	32	0	0
Miscellaneous Sites	33(2.9%)	12	21	32	1	11	22	0	0	0	0	0	0	32	0	0
Total	1,119	538	581	1,044	75	882	237	150	242	252	113	119	108	60	0	0

Note:

- This report excludes primary sites with a count of “0”.
- Groups in blue font aggregate to form the category immediately above the first item in the group.

** Invalid Site Group includes:

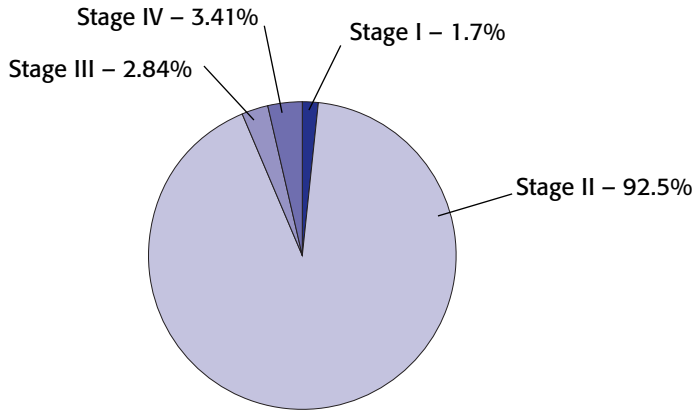
1. Any site or histology code not within valid range or site code not found in the primary site table.
2. Cases with unusual primary site/histology codes that have been over-riden in an edit.
3. Sites with a primary site code of C44* with histology codes 8000-8110.

Invalid Site Group does NOT include cases where the behavior code is 0 or 1.

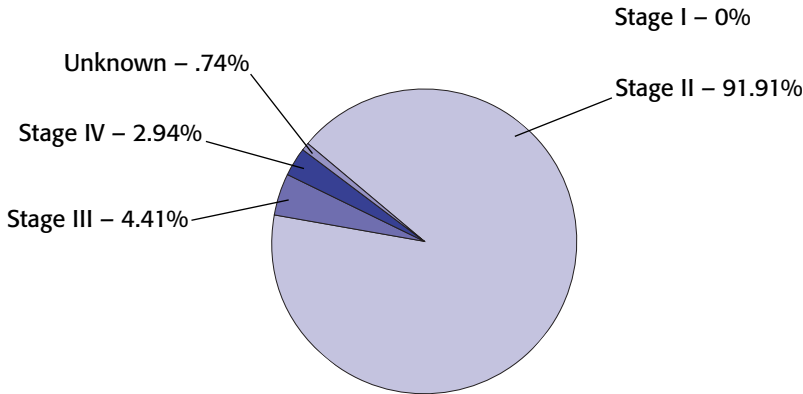
(NAACCR Volume III. Data Analysis and Reporting, Process Standards Chapter III.B.1)

SISTER CARITAS CANCER CENTER

Detailed Statistical Analysis of Prostate Cancer

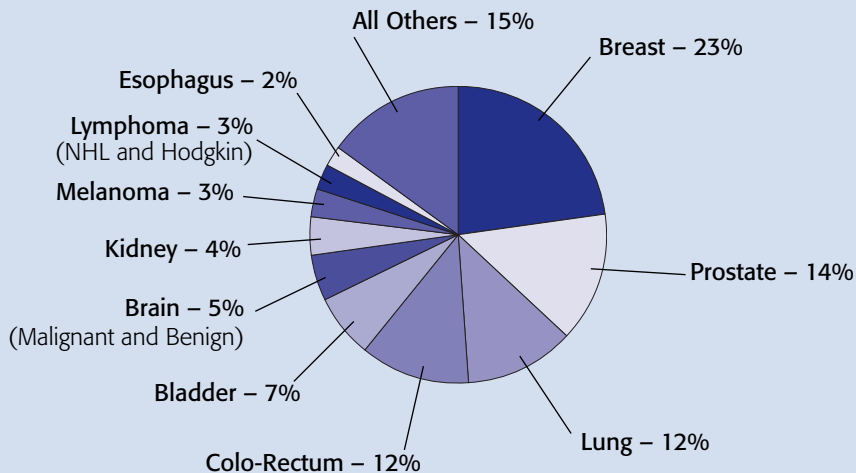


2003 PROSTATE CANCER
 Stage at Diagnosis
 Total cases = 176 cases

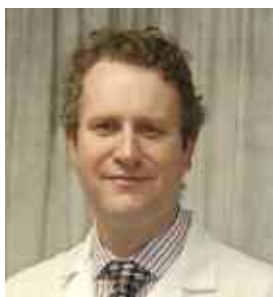


2008 PROSTATE CANCER
 Stage at Diagnosis
 Total cases = 136

2008 ANALYTIC/NON-ANALYTIC CASES Case Distribution/Primary Sites



Detailed Statistical Analysis of Prostate Cancer



*Alexander Berry, MD
Urologist*

Prostate cancer remains a significant burden in the United States and is by far the most commonly diagnosed cancer amongst men. In 2009, 192,000 men were diagnosed with prostate cancer and approximately 27,000 men died from their disease, second only to lung cancer. Although overall prostate cancer incidence rates and mortality have declined since the introduction of PSA testing 20 years ago, uncertainty and controversy remains regarding screening for early detection due to concerns regarding treatment related quality-of-life impacts.

Over the past 25 years, the 5 year survival for all stages of prostate cancer combined has increased from 69% to almost 99%. With the advent of PSA screening and more frequent testing more than 90% of prostate cancers are discovered in a local or regional stage. Age-adjusted prostate cancer mortality rates rose 3% annually from 1987-1991, fell 0.6% per annum 1992-1994, and fell 4% per annum from 1995-2006. Current mortality rates are now significantly lower than at the end of the pre-PSA era (1987). While these improvements are dramatic, they may reflect stage migration which incorporates a large number of clinically insignificant prostate cancers that would never have shortened life expectancy if left untreated.

Prostate cancer risk generally increases with age. The median age at diagnosis is 72 years. A strong family history and ethnicity also increase risk. African-American men and Caribbean men have the highest prostate cancer incidence rates in the world and are at two-fold risk of dying from their disease compared to White males at comparable stage. Incidence and mortality rates amongst all other ethnic populations (Asian and Hispanic) are lower than White males, however, recent evidence suggests mortality risks may be increased by obesity.

Adenocarcinoma of the prostate tumor growth varies from very slow to moderately rapid and frequently is cured when localized at detection, and generally responds well to treatment when widespread. Many older men with localized disease will die of illnesses other than prostate cancer without suffering disability from the cancer. It is the variability in age of onset and tumor growth that contributes to the controversy regarding screening for prostate cancer and optimal treatment for each stage of the disease.

The lifetime risk of a man developing prostate cancer is 1 in 6 or 16.7%. What remains uncertain is the benefit gained from routine PSA testing. The American Cancer Society recently concluded (2010) there was insufficient data to recommend for, or against, routine testing for early prostate cancer detection. They do suggest men with a 10 year or greater life expectancy should have an opportunity to make an informed decision with their health care provider about prostate cancer screening. For men at average risk, this should occur at age 50 years. For men with increased risk (first degree relative diagnosed under 65 years), the discussion should occur at age 40 years.

Detailed Statistical Analysis of Prostate Cancer

The decision of the ACS regarding screening reflects the recent publication of two large prospective randomized controlled trials of prostate cancer screening with PSA testing that reported differing conclusions (2009). The European ESPRC demonstrated a 20% reduction in prostate cancer mortality at average 8.8 year follow-up using PSA screening every 4 years. The investigators noted that 48 men underwent treatment for every death that was prevented. The US based PLCO study demonstrated no benefit at 7 years follow-up, however contamination of the control arm with out-of-study PSA screening reached over 50% leaving the study significantly underpowered.

At the heart of the discussion over the benefits of PSA screening are the risks associated with over-diagnosis and overtreatment. Radical prostatectomy adverse effects include perioperative complications, in addition to long-term incontinence and sexual side effects. Contemporary series suggest incontinence requiring a secondary procedure in 8% to 9% of patients, with long-term erectile dysfunction in 19% to 27% of patients. Similarly, radiation therapy, although improved with newer conformal techniques, has long-term erectile dysfunction in up to 50% of patients, with urge incontinence requiring therapy in 3% to 4% of patients. Quality-of-life studies comparing different treatment modalities have concluded there is minimal difference in modalities 24 months after therapy, and all modalities have significant quality-of-life impacts.

The American Cancer Society also suggested men with a life expectancy less than 10 years should not be offered PSA testing. Included in this group are men with Class IV congestive heart failure, moderate-to-severe chronic pulmonary disease, end-stage renal disease, moderate-to-severe dementia and life-limiting cancer. If PSA testing is to be performed, screening intervals with men whose PSA is less than 2.5 ng/mL can be extended to every 2 years. It is estimated this simple change could save approximately \$1 billion annually in testing related expenses and unnecessary biopsy procedures.

Diagnosis of prostate cancer is achieved through tissue sampling of the prostate via transrectal ultrasound guidance. Current standard practice to ensure adequate prostate sampling is to take 10-12 needle cores. More extended biopsy schema involving up to 20 cores have not been shown to increase diagnostic yield in general use. Gleason score (the degree of microscopic derangement), clinical stage and PSA levels are incorporated into risk stratification models that determine the likelihood of regional nodal involvement and/or metastatic spread. Imaging is used in high risk patients to assess gross nodal status and metastatic bone uptake. Endorectal coil MRI has shown usefulness in preoperative assessment of younger high risk men to identify locally advanced disease. Therapy is offered based on a combination of expected risk and patient age and ranges from active surveillance (deferred therapy) to localized prostate tissue ablation, surgery, brachytherapy, external beam radiation, hormonal manipulation, chemotherapy and watchful waiting.

Recent (2010) National Comprehensive Cancer Network (NCCN) guidelines have introduced a new risk class defined as Ultra-Low Risk for men with 1 or 2 cores of low grade (Gleason 6) disease. First line therapy for men with a life expectancy of 25 years or less (average 55 year old) is active surveillance. With the acknowledgement that many prostate cancers discovered are clinically insignificant, the

Detailed Statistical Analysis of Prostate Cancer

importance that knowing active surveillance (delayed therapy) will have comparable long-term outcomes to intervention based therapy may swing the balance of risk in the screening debate back toward favoring screening.

The biggest change in therapy for locally confined disease in younger men in the past 4-6 years has been the move away from open surgical procedures to robotic assisted prostatectomy. It is now estimated that over 85% of prostatectomies are performed robotically up from 5% in 2004. There is good evidence to suggest robotic procedures have a lower rate of perioperative complications such as blood transfusion and shorter length of hospital stay, however the benefit on quality-of-life endpoints such as continence or recovery of erectile dysfunction is more uncertain.

At the other end of the spectrum, slow progress is being made on the treatment of metastatic disease. Hormonal manipulation remains the cornerstone of therapy and a number of different protocols that combine multiple agents to create total androgen blockade can be used. Intermittent blockade has been shown to reduce metabolic side effects compared to continuous administration, while use of chemotherapy incorporating taxane based agents has a small benefit in individuals with hormone-refractory disease. Clinical trials continue to define the role of chemotherapy in high risk individuals in the hope multi-modal therapy with surgery or radiation may prove advantageous.

In reviewing the registry data at Mercy Medical Center for 2008 there were 136 cases of prostate cancer either diagnosed at Mercy Medical Center, or diagnosed elsewhere but treated at Mercy Medical Center. This compares to 159 cases in 2003. The age range for 2008 was 50-89 (similar to 2003), and there were 5 cases (3.7%) in other age groups. The peak group in 2008 was age 60-69 (44.12%) and in 2003 it was 70-79 (39.2%). In 2008, 90.1% were White and 8.9% were African-American, 0% were other ethnicity. In 2003, 89.6% were White, 9.6% were African-American and 0.7% were of other ethnicity.

The stage grouping in 2008 and 2003 data reflect national trends: in 2008 Stage II or lower (91.9%), Stage III (4.4%), and Stage IV (2.9%); in 2003, Stage II or lower (93.7%), Stage III (2.8%), and Stage IV (3.4%). Robotic prostatectomies started at Mercy Medical Center during 2008. For 2008, 13 prostatectomies were performed open and 33 prostatectomies were performed robotically. This shift reflects national trends.

Alexander Berry, MD
Urologist

SISTER CARITAS CANCER CENTER

Prostate Cancer 2003 vs. 2008

TABLE 1 – CLASS OF CASE		2003		2008	
(0) Diagnosed here, treatment elsewhere		17	9.66%	0	.00%
(1) Diagnosed here, treatment here		124	70.45%	79	58.09%
(2) Diagnosed elsewhere, treatment here		35	19.89%	51	37.50%
(3) Diagnosed elsewhere, treatment elsewhere		0	.00%	0	.00%
TABLE 2 – RACE		2003		2008	
(1) White		159	90.34%	123	90.44%
(2) Black		17	9.66%	12	8.82%
(99) Other		1	.74%	0	.00%
TABLE 3 – SEX		2003		2008	
(1) Male		176	100.00%	136	100.00%
TABLE 4 – AGE RANGE & DIAGNOSIS		2003		2008	
50-59		33	18.75%	27	19.85%
60-69		57	32.39%	60	44.12%
70-79		69	39.20%	32	23.53%
80-89		11	06.25%	12	08.82%
Other		6	03.41%	5	03.68%
TABLE 5 – AJCC STAGE		2003		2008	
Stage I		3	1.70%	0	.00%
Stage II		162	92.05%	125	91.91%
Stage III		5	2.84%	6	4.41%
Stage IV		6	3.41%	4	2.94%
Unknown		0	.00%	1	.74%
TABLE 6 – FIRST COURSE OF TREATMENT SUMMARY		2003		2008	
Biopsy Only		33	18.75%	0	.00%
Biopsy/Hormone		20	11.36%	0	.00%
Biopsy/Radiation		16	9.09%	28	20.59%
Biopsy/Radiation/Hormone		47	26.70%	39	28.68%
Biopsy/Surgery		38	21.59%	48	35.29%
Biopsy/Surgery/Hormone		9	5.11%	0	.00%
Surgery Only		10	5.68%	9	6.62%
Other		3	1.70%	12	8.82%

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Updated/Revised as needed.

Glossary

In-Situ	Intraepithelial, noninvasive, noninfiltrating.
Local	Invasive cancer confined to organ of origin.
Regional	Neoplasm beyond the organ or origin. (a) by direct extension to adjacent organs/tissues. (b) to regional lymph nodes. (c) both of above; regional by direct extension and lymph nodes.
Distant	Direct extension or metastasis. Direct continuity to other organs. Discontinuous metastasis. Distant lymph nodes. Determined to be systemic in origin.
Unknown	Not recorded, insufficient work-up, stage could not be medically determined.
88	Not applicable.

Analytic	Class 0: diagnosed at Mercy Medical Center/ treated elsewhere. Class 1: diagnosed at Mercy Medical Center. Class 2: diagnosed elsewhere/treated here.
Non-analytic	Class 3: diagnosed elsewhere, first course of treatment elsewhere and seen here for further treatment of recurrence. Class 4: diagnosed here prior to reference date (1992). Class 5: diagnosed at autopsy only.
First Course Treatment	Planned first course of therapy – within four months of initial diagnosis. Includes any therapeutic procedure directed at cancer tissue, whether in a primary or metastatic site. Palliative/non-curative treatment (i.e., thoracentesis) is not considered treatment.
AJCC Stage	TNM classification of malignant tumors. (T) local tumor growth (N) spread to regional lymph nodes (M) metastasis



Sister Caritas Cancer Center

271 Carew Street
Springfield, MA 01104
MercyCares.com



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