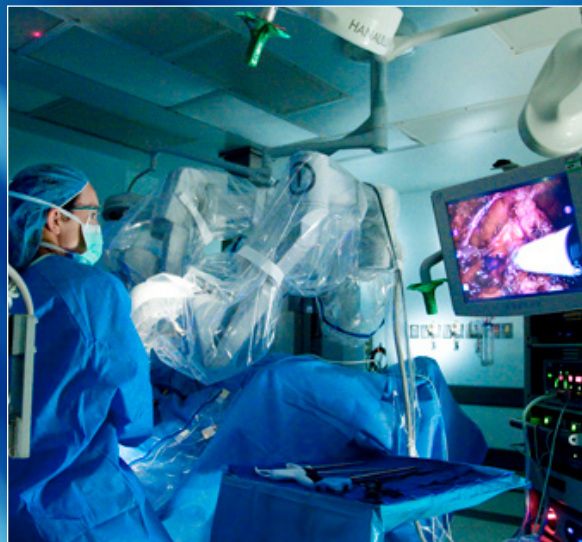


# CANCER

## THE CANCER PROGRAM AT SENTARA POTOMAC HOSPITAL



### 2010 ANNUAL REPORT

— *Based on 2009 statistics* —



SENTARA<sup>®</sup>  
HEALTHCARE

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NOVEMBER 2010

*The information contained in this report is based on 2009 statistics. The report can be viewed online at [www.potomachospital.com](http://www.potomachospital.com) under "Services - Cancer Center."*

*Information about Sentara Potomac Hospital's Cancer Program can also be found at [www.cancer.org/asp/search/ftc/ftc\\_global.asp](http://www.cancer.org/asp/search/ftc/ftc_global.asp).*

*Martha See, RHIT, CTR, Cancer Registrar compiled this report.  
(703) 670-1859*

**O**n behalf of the Sentara Potomac Hospital Cancer Committee, I am privileged to present the Sentara Potomac Hospital Cancer Program's 2010 Annual Report.

This information describes Sentara Potomac Hospital's commitment to provide excellence in comprehensive cancer care including prevention, early detection and state-of-the-art treatment, recovery, and supportive care for members of our community.

The Cancer Program at Sentara Potomac Hospital has been accredited by the American College of Surgeons Commission on Cancer since 1996. Our last survey in October of 2009 was accredited with commendation. The Cancer Registry at Sentara Potomac Hospital has been very active for the last 19 years collecting data, which is available to compare with major Virginia and national databases. Some of the impressive statistics that describe our patients and programs are highlighted in this report.

The Sentara Potomac Hospital Cancer Program maintains a strong emphasis on the latest information and therapeutic options for the community. We offer an array of educational programs on healthy living, disease prevention, and early diagnosis as well as frequent screening programs for colon, prostate, skin and breast cancer.

We have support groups and regular meetings in place to reach out to cancer patients and their families in an attempt to get them through this most difficult time, and to improve the quality of their lives while living with cancer. Cancer information is available on the hospital's website, in hospital publications, and in the Cancer Network Newsletter to keep community awareness up-to-date on the broad range of resources and literature we have available for our patients.

To help ensure that all patients receive the highest quality and coordinated comprehensive care, the Cancer Committee members include representatives of multiple medical disciplines and ancillary services. The dedication and commitment of these individuals and that of our entire hospital community are major

reasons for the continuing success of our cancer program. We are all very appreciative of their hard work and dedication to this program, and I wish to personally thank everyone involved that helps make the cancer program at Sentara Potomac Hospital the success that it is.

In March of 2006, Sentara Potomac Hospital opened a new patient care building, which included 16 dedicated oncology beds and four Hospice beds in a private suite. In 2007 Sentara Potomac Hospital met another goal by opening an Outpatient Infusion Center, which is in operation Monday through Friday. Interventional radiology services expanded to offer local therapies such as chemotherapy embolization for metastatic primary liver neoplasm.

Continuing with this growth and development in 2009 Sentara Potomac Hospital arranged for PET scans to be done Monday and Fridays through Woodbridge PET/CT, a service of Sentara Potomac Hospital and Inova Health System, through a mobile unit with Alliance Imaging. Digital mammography, which enhances diagnoses, and da Vinci® robotics, which is revolutionizing urological procedures, are both now available at the hospital. These all ease the delivery of cancer patient care in our community.

We hope that you find this report useful and informative. Further information on any of the data presented or components of our cancer program can be obtained by calling the Cancer Registry at (703) 670-1859. We thank you for your continued support of our program here at Sentara Potomac Hospital.

Sincerely,



**Masoom Kandahari, M.D.**

*Chairman, Cancer Committee*

**S**entara Potomac Hospital has shared its contact, resource and service information with the Commission on Cancer Facility Information Profile System (FIPS), which also sends the information to the American Cancer Society (ACS). Sentara Potomac's information can be found online at the Commission on Cancer's hospital locator at <http://www.facs.org/cancerprogram/index.html>.

Also reported with the FIPS information was <http://www.facs.org/cancerprogram/index.html> the 2009 research experience of Sentara Potomac Hospital's patients and physicians. In addition to providing information on clinical trials to patients, families and physicians, Sentara Potomac Hospital reported 8 patients (2% of analytic cases) in clinical trials in 2009.

**Sentara Potomac Hospital's Cancer Program is an American College of Surgeons approved cancer program.** In October 2009, the cancer program received the highest accolade from the ACoS by achieving the ACoS Commission on Cancer Outstanding Achievement Award.

**Sentara Potomac Hospital continues to maintain our close working relationship with the local ACS chapter in Vienna, Virginia,** and promotes education for the community, physicians and allied health personnel. The ACS website is [cancer.org](http://cancer.org) and the local chapter telephone number is (703) 938-5550. The Patient Resource Center (Reach to Recovery, Transportation, etc.) is available at (888) 227-6333. Our local cancer control specialists and

their areas of expertise are JoAnn Murchison for prevention efforts and Brenda Silvia for patient services/support groups (i.e. Man to Man, Reach to Recovery, I Can Cope, Look Good/Feel Better, etc.)

**Sentara Potomac Hospital offers an array of cancer prevention and management programs** on the hospital campus that include free cancer screenings, nutritional therapy, and several cancer support groups. More information can be obtained by calling Sentara Potomac Hospital Health Connection at (703) 221-2500 or by visiting Sentara Potomac Hospital's website at [potomachospital.com](http://potomachospital.com).

**The Cancer Committee provides leadership for the hospital's cancer program. The Committee includes multidisciplinary members from diagnostic and therapeutic specialties as well as allied health professionals who provide care to patients with cancer. Interested members of the medical staff may serve on the Cancer Committee.**

Committee members are appointed by the medical staff president and are selected on the basis of willingness to participate and medical subspecialty. While the Cancer Committee meets quarterly to evaluate the management and administration of the program, its members provide guidance and expertise on a daily basis to hospital staff, the Cancer Registry, and community physicians while demonstrating excellence in the quality care of the cancer patient.

The Cancer Committee provides the cancer program management and administration as well as supervising the registry. The committee is also required to demonstrate its ability to acquire, display and analyze data related to cancer care with the goal of improving cancer care and survival rates.

The Cancer Committee reports to the Chairman of the Performance Evaluation Committee who updates the Medical Executive Committee on the Cancer Committee's activities. Following are the 2009 committee members:

**Masoom Kandahari, M.D.**

CHAIRMAN  
Medical Oncology

**Abucar Abdulle, M.D.**

Internal Medicine

**Amir Bajoghli, M.D.**

Dermatology

**Stephen Bane, M.D.**

Otorhinolaryngology

**Norbertina Banson, M.D.**

Diagnostic Radiology

**Susan Boylan, M.D.**

Radiation Oncology

**Joanne Brown, R.N., MSN**

Patient Education

**Michael Brown, M.D.**

Gastroenterology

**Robert Cohen, M.D.**

Cancer Liaison Physician  
Surgery

**Pratik Desai, M.D.**

Urology

**Maureen Deutermann R.N., MSN**

Community Education and Health  
Promotion

**Leigh Dunlap**

Marketing

**Beverly Foreman, RHIA**

Health Information

**Ann Fulenwider, M.D.**

Co-Chair, Pathology

**Valerie Garland, R.N.**

Assistant Director, Oncology

**Tina Gillispie, RHIA, CTR**

Cancer Registry

**Joanne Grant, R.N., MSN, ONC**

Director, Medicine Oncology Services

**Alice Hough, R.N., MSN, CCM**

Care Coordination

**Daniel Katcher, M.D.**

Medical Oncology

**Valerie E. Keane, FACHE, VP**

QI/Risk Management

**Hamed Khosravi, M.D.**

Medical Oncology

**Andrew Kriegel, M.D.**

General Surgery

**Joseph Magalski, Jr., M.D.**

General Surgery

**Jackie Mason**

Radiation Oncology

**Rebecca McAfee, M.D.**

Pathology

**Donna Meyer, R.N.**

Radiation Oncology

**Roz Minett**

Hospice

**JoAnn Murchison**

American Cancer Society

**A.H. Nagia, M.D.**

Pain Management

**Cherry Nichols, MS/PT**

Nutrition

**Dimitrios Papadouris, M.D.**

Interventional Radiology

**Hamid Pourshojae, M.D.**

Surgery

**Lynda Reha, RPT**

Rehabilitative Services

**Gail Russell, R.N., MSN**

Vice President, Nursing

**Martha See, RHIT, CTR**

Cancer Registry Manager

**Gary Spanik, BS, Pharm**

Pharmacy

**Mary Jo Ward, R.N.**

Nursing Education

**Carol Wille**

Hospital Chaplain

**Chris Potito R.N.**

Surgery

**T**he Cancer Registry maintains a complete database of information on all cancer cases diagnosed and/or treated at Sentara Potomac Hospital. The Tumor Registry database contains 7,123 abstracts of cases from 1991 to 2009. In 2009, 464 new cases were added. Of these new cases, 399 were analytic cases. This database is an important patient care and quality assessment tool.

**The purpose of the Cancer Registry is to develop and maintain a statistical database** on those patients who meet specific criteria and who were either diagnosed with and/or treated for cancer or other select reportable diagnoses at Sentara Potomac Hospital. All necessary records, manuals and statistics as required by the American College of Surgeons Commission on Cancer are maintained in order to be an approved community hospital cancer program.

**Data on newly diagnosed cancers are reported to the Virginia Cancer Registry**, a statewide central database. Other data are submitted annually to the National Cancer Data Base (NCDB), which requests cases for special studies. Data submitted to the NCDB are shared with and included in reports published by the American Cancer Society, the National American Association of Central Cancer Registries and the International Union Against Cancer. Sentara Potomac Hospital cancer data are also available for use by the medical staff and administration for special studies, medical planning, education and research. Reports generated from state and national sources are useful when comparing quality of care and assist the

Cancer Committee in monitoring patient care and recognizing opportunities for improvement.

**Life-long follow-up activities are conducted annually to confirm the accuracy of the survival data** for statistics, as well as to remind patients and their physicians of the importance of continued cancer surveillance. Core follow-up data include the dates and types of treatment for persistent or recurrent disease, the site of distant metastases, the site and histology of subsequent primaries, the date of the last contact and the status of the patient. As of November 2010 there are 5,952 analytic cases under active follow-up with a follow-up rate that consistently exceeds the 90% required rate set by the American College of Surgeons Commission on Cancer for approved cancer centers. In addition to the certified cancer registrars and other registry staff, the Cancer Committee is thankful for the follow-up efforts provided by the members of the Sentara Potomac Hospital Auxiliary.

**Sentara Potomac offers two cancer conferences as educational sessions for the benefit of the medical staff and other health professionals within the hospital. Surgical and medical oncology, radiation therapy, and pathology are present at each session. The physicians involved with cancer from related specialties conduct discussions regarding diagnosis and current management in cancer care.**

The Tumor Board is an educational conference held at noon on the third Monday of each month. Cases in the major cancer sites treated at Sentara Potomac Hospital are presented. Current cases are discussed, including the patient's history, clinical course and stage, with radiological and pathological review. Treatment modalities are discussed employing the expertise of the participants.

The Prostate Cancer Conference is a newly formed conference that began in January 2009. The conference is held at 12:30 p.m. on the third Wednesday of every other month. This conference

brings together surgery, medical oncology, radiation oncology, pathology, radiology, and other disciplines to discuss the latest state-of-the-art treatment approaches for prostate cancer.

Sentara Potomac Hospital is accredited by the Medical Society of Virginia to sponsor continuing medical education for physicians. Sentara Potomac Hospital designates these continuing medical education activities for one credit hour in Category I of the Physician's Recognition Award of the American Medical Association.

## SITE SPECIFIC CONFERENCE TOPICS IN 2009

### JANUARY

- Metastatic Melanoma/Skin of Back
- Clear Cell Carcinoma/Kidney
- Infiltrating Ductal Carcinoma/Breast
- Invasive and In Situ Ductal Carcinoma/Breast

### FEBRUARY

- Metastatic Melanoma, Skin of Back
- Merkel Cell Carcinoma, Right Shoulder
- Adenocarcinoma, Ulcerated/Transverse Colon
- Adenocarcinoma, Sigmoid Colon

### MARCH

- Melanoma, Skin of Back
- Non-Small Cell Carcinoma, Right Lung
- Large B Cell Lymphoma
- Squamous Cell Carcinoma, Right Lung

### APRIL

- Gastric Adenocarcinoma
- Renal Cell Carcinoma/Left Kidney
- Mixed epithelial and stromal tumor/ Right Kidney

### MAY

- Cutaneous Lymphoma/Skin
- Non-Hodgkin's Lymphoma/Tonsil
- Transitional Cell Carcinoma/Bladder
- Non-Small Cell Carcinoma/Right Lung
- Keratinizing Squamous Cell Carcinoma/Larynx
- Papillary Urothelial Carcinoma/Bladder

### JUNE

- Metastatic Papillary Carcinoma of Thyroid
- Papillary Carcinoma of Thyroid
- Metastatic Carcinoma/Unknown Primary

### JULY

- Squamous Cell Carcinoma/Pyriform Sinus
- Squamous Cell Carcinoma/Parotid Gland
- Invasive Ductal Carcinoma/Breast x2

### AUGUST

- Unknown Primary
- Metastatic Colon Cancer
- Squamous Cell Carcinoma/Right Lung
- Invasive Mammary Carcinoma/Right Breast

### SEPTEMBER

- Invasive Ductal Carcinoma/Breast
- Adenocarcinoma/Sigmoid Colon

### OCTOBER

- Invasive Ductal Carcinoma/Breast
- Current Controversies in Sentinel Node Biopsy in Breast Cancer
- Infiltrating Squamous Cell Carcinoma/Right Lung

### NOVEMBER

- Invasive Squamous Cell Carcinoma/Pharyngeal Wall
- Papillary Carcinoma of Thyroid
- Gastric Adenocarcinoma
- Squamous Cell Carcinoma/Unknown Primary

### DECEMBER

- Invasive Adenocarcinoma/Gastric
- Infiltrating Adenocarcinoma/Ileocecal Valve

**T**he Care Coordination Department at Sentara Potomac Hospital is staffed by Social Work Care Coordinators, Registered Nurse (BSN) discharge planners, Registered Nurse (R.N.) Care Coordinators, and a Prince William County Eligibility Worker.

The Care Coordinators provide a wide range of services to patients and their families, whether they are from the inpatient or outpatient setting. Counseling services are directed towards helping the patient and family identify and address emotional and practical issues that may impact their ability to respond constructively to the changes brought about by the diagnosis of cancer. Special care is taken to be aware of and responsive to the variety of cultural backgrounds presented by our hospital's patients.

Facilitating open dialogue on end-of-life decision-making, including Advance Directives, Hospice involvement, and grief counseling, are frequently requested counseling interventions. Concrete patient services include planning for discharge, which may include Hospice involvement, and referrals to community resources for such needs as support groups, home health, financial aid/disability, and medical equipment.



# Community Outreach Programs

**Sentara Potomac offers two cancer conferences as educational sessions for the benefit of the medical staff and other health professionals within the hospital. Surgical and medical oncology, radiation therapy, and pathology are present at each session. The physicians involved with cancer from related specialties conduct discussions regarding diagnosis and current management in cancer care.**

**Screenings:** Each year, Sentara Potomac Hospital offers a free skin cancer screening to the community and low cost mammograms to all women who meet ACS guidelines. Free breast health information packets are made available at all women's programs, to all employees and to women who come to Sentara Potomac Hospital for mammograms. Cancer prevention, screening, and other educational materials are available at all health fairs. An annual free cancer screening program is offered for women 40 years and older who do not have a regular physician or healthcare insurance. This includes mouth, skin, breast, rectal, pelvic exams, pap smear, and mammograms.

**Health Education:** In addition to programs offered at the hospital, community health educators also present programs on cancer prevention, nutrition and breast health to women's and senior citizens' groups and civic organizations. Anti-smoking and other health topics are presented at schools, local businesses, churches and senior centers.

**Community Education:** The American Cancer Society "Great American Smokeout" campaign is conducted for hospital employees. In addition, a self-guided smoking cessation program is offered to individuals who want to stop smoking.

During the month of October, **Breast Health Kits** are distributed at all community events, health fairs, and given to inpatients and outpatients, as well as those getting mammograms. Breast health education materials are displayed in the Hylton Education Center foyer and health kits are given out.

**Support Groups:** Monthly meetings are offered for cancer patients and their families. A general support group meets once a month and features guest speakers on issues selected by the group. Look Good, Feel Better, cosponsored with the American Cancer Society and local cosmetologists, is offered several times a year for those patients undergoing radiation or chemotherapy treatments. Sentara Potomac Hospital also partners with Westminster at Lake Ridge to sponsor a chapter of US TOO International Prostate Cancer Support Group. A Nicotine Anonymous Support Group meets weekly at Sentara Potomac Hospital.

**Annual Programs:** Support group participants form teams every year to join in the American Cancer Society's annual Relay for Life. A biannual employee health fair includes a cancer display and free cancer prevention information.

In June of 2010, Sentara Potomac Hospital, in partnership with Potomac Radiation Oncology Center, once again hosted a very successful "**Cancer Survivors' Day**" that included guest speakers, entertainment, refreshments, fun and fellowship for cancer survivors and their families.

**Newsletter:** Information on education programs, services, screenings, and resources is provided in the *Cancer Network* newsletter, mailed quarterly to cancer patients who wish to receive it and to physicians' offices. The Cancer Center column provides educational health information to the community in Sentara Potomac Hospital's quarterly *Vim & Vigor* magazine and *Health Connection* newsletter.

**T**he Cancer Program at Sentara Potomac Hospital provides specialized care for our cancer and hospice patients. The Hematology/Oncology Hospice Unit is a 16-bed unit consisting of 12 hematology oncology beds and a four-bed hospice unit. All rooms are single occupancy. Nurses deliver primary, patient-focused, personalized care and work with state-of-the-art equipment. They are encouraged to become certified in Oncology Nursing by the Oncology Nursing Certification Corporation (ONCC). We currently have nine Certified Oncology Nurses (OCN) on staff.

**The Division Director of Medicine and Oncology Services is a master's-prepared oncology nurse who is certified by the ONCC.** She and the Assistant Director of Oncology Services, who is also certified, oversee the unit and all aspects of nursing care provided by the specially trained staff. Certified nurses provide the coordination of care for patients with cancer and consistently utilize the Oncology Nursing Society (ONS) standards in providing care.

**Pain management is an important aspect of care** on this unit and is provided according to the patient's individual needs. Staff undergoes annual continuing education, oncology competency training, pain management, chemotherapy administration and other oncology aspects of care.

**The care provided is multidisciplinary, bringing together rehabilitative services, dietary, the pharmacy, social work and all other disciplines** necessary for high quality, current cancer care. The nursing staff participates in the American Cancer Society's community education for colon, breast and lung cancer. Several of the certified nurses participate in the cancer support group. Many belong to the Oncology Nursing Society. Sentara Potomac Hospital received the 2001 Employer Recognition Award from the Oncology Nursing Certification Corporation for supporting and fostering education, commitment and certification of the nursing staff. We use this as our incentive to encourage our staff to become certified.

**Our six-bay Outpatient Infusion Center provides a quiet pleasant setting for outpatient oncology infusions.** Patients can be treated with a variety of outpatient infusions including blood products, chemotherapy, antibiotic and other infusion therapies. Patients can relax in comfortable recliner chairs and listen to music or watch individual DVD players. More than 1,800 patients were treated FY 2009-2010.

**For May 2009 - March 2010 the Infusion Center averaged 96.3% inpatient satisfaction** for their overall rating of care, according to Press Ganey. Additionally, Sentara Potomac Hospital presently works in conjunction with Hospice of Northern Virginia and Community Hospice to provide four contract hospice inpatient rooms. These beds are utilized when the focus of care may no longer be deemed curative and the ultimate goal is palliative, providing comfort, pain management and support to the patient in the final stages of terminal illness and his or her family. The rooms are designed to afford the patient and family comfort and privacy. Staff receive annual training on end of life care and special training in working with families at the end of life.

**The Richard Immerman Memorial Library has an experienced, trained medical librarian who is fully versed in information retrieval techniques and computer operations. Several databases that are routinely available and accessed at the library include the following:**

- 1. PubMed (MEDLINE via the Internet)**
- 2. National Cancer Institute's PDQ (Physician Data Query)**
- 3. National Cancer Institute's website at cancer.gov**
- 4. MedlinePlus**

Computer printouts of material are usually available within one day. PubMed is also available via the library's public access computer for those individuals wishing to perform their own literature searches. The librarian also has access to resources on the Internet and provides information via fax, pdf attachments to email, surface mail or pick up. Numerous journals (both electronic and print formats) and standard textbooks (both electronic and print) on cancer and related subjects are available. In addition, several Internet Point of Care Learning resources are available through the hospital's intranet.

In its convenient location near the medical staff offices and physicians' lounge, the library represents a universe of information available not only to physicians on staff, but patients and families as well. Providing information and resources to our physicians and the community is a very critical part of increasing knowledge of cancer and its management. To educate patients and their families about new treatments and previous study results, Sentara Potomac Hospital's patient educator also makes booklets about clinical trials available in the hospital's reception and registration areas.

All patients admitted to the Oncology Unit for initial chemotherapy treatments also receive information on cancer therapies, their specific chemotherapy regime, nutrition, community resources, and coping mechanisms. The director of Medicine/Oncology and her staff work with the patient educator to select inpatient educational materials.

**This unit also has a new portable, interactive, computer-based patient education system called "Nurse Diane."** Patients and families can learn about disease processes and treatment options in five different languages. They can also receive printed information in these languages. This tool has been an important step in bridging many cultural barriers in patient education.



**T** Sentara Potomac Hospital recognizes that being in the hospital can be an emotional and stressful time. Pastoral Care Services provides religious and spiritual care during a patient's hospital stay. The hospital chaplain is a member of the Cancer Committee.

Working with the Prince William Ministerial Association, Pastoral Care Services can include

1. Providing information about community religious groups and/or resources
2. Prayer and spiritual guidance for our patients and their families
3. Providing sacramental and spiritual counseling ministries
4. Offering devotional materials
5. Interfaith Worship Room open 24-hours-a-day
6. In house TV Channel 18, which broadcasts the Worship Room, healing music and live services as well as a pre-recorded Worship Room tour on hospital televisions.

Family members who have had a loss are invited to Memorial Services conducted semi-annually. Services can be accessed by dialing ext. 3003 from bedside telephones, (703) 583-3003 from outside the hospital, or asking a staff member to page the hospital chaplain.



**The Laboratory offers a wide variety of diagnostic services in both clinical and anatomic pathology and plays an important role in assisting the clinician in diagnosing, treating and managing the cancer patient.**

Laboratory tests provide for screening, monitoring and assessing physiologic parameters, as well as measuring tumor specific markers.

**The Anatomic Pathology Department** provides essential diagnostic services and supports each element of the cancer program at Sentara Potomac Hospital. Daily microscopic examination of tissue and fluids allow for identification of both benign and malignant processes. Prognostic information on primary malignant cases is contributed by careful TNM and other relevant staging for each anatomic site. Routine assessment of estrogen, progesterone receptors and Her-2/neu are performed on all invasive breast carcinomas. At the clinician's request, estrogen and progesterone receptors are assessed on patients with ductal carcinoma in situ.

**Intraoperative consultation** for immediate assessment of suspected malignancies provides the surgeon with information that may be essential for the operative management of the patient. Second opinions from respected consultants are obtained on challenging cases seen at Sentara Potomac Hospital. In addition, if the patient or a family member requests a second opinion or is referred to another treatment center, patient-related material is forwarded for outside review.

**Fine needle aspiration and interpretation of palpable lesions/masses** are available through the Pathology Department. Aspirations are currently performed by appointment in the outpatient laboratory. Pathologists attend aspirations of non-palpable lesions in the Radiology and Imaging Services Department for adequacy assessment.

**The Pathology Department** assists in selecting interesting and instructive cases for the monthly Tumor Board conferences. Photomicrographs are prepared and the pathologic features of each case are discussed. Other educational presentations on cancer-related topics are given at department meetings upon request.

**A close working relationship between the departments** of pathology, surgery, oncology and radiation oncology enables the best course of treatment to be selected. We are committed to providing superior diagnostic clinical laboratory and anatomic pathology services for patients with cancer.

**P**otomac Radiation Oncology Center (PROC) at Sentara Potomac Hospital continues to serve the growing population of Prince William County and surrounding areas. It is located in The Potomac Center on the hospital campus. PROC is affiliated with the Inova Health System and is staffed by board-certified personnel who have a broad range of experience in radiation oncology.

**The facility continues to be equipped with an array of sophisticated technology.** This includes a linear accelerator with dual energy photons and multiple energy electrons, multi-leaf collimation system and an automatic sequencing packet. There is also a simulator with CT capabilities. All of this equipment helps in the ongoing effort to improve accuracy of patient positioning and dose delivery.

**The 3-D conformal treatment-planning computers have continued to enhance the precision** with which tumors can be treated. In addition to the multi-leaf collimation system being used in Intensity Modulated Radiation Therapy (IMRT) technology, the center implemented another system to compliment the program. This is called compensator based IMRT.

**These technologies allow shaping of the tumor volume for maximum coverage** while at the same time decreasing the amount of normal tissue receiving radiation within the field. They also allow maximum dose to the tumor, which aims at improved tumor control while at the same time decreasing the dose to normal tissues, thereby reducing the complications of treatment.

**The PROC team continues to work closely with other physicians and services** at Sentara Potomac Hospital. In 2009 there were 404 patients seen in consultation and 6,768 patient treatments delivered at the center along with 13 Prostate Seed Implant cases done at Sentara Potomac Hospital.

**Other services that are available** at the center for all patients include dietary and care coordination support. Members of the team are also involved with the American Cancer Society to establish and facilitate other patient support programs such as "Look Good, Feel Better." The center organized the celebration of National Cancer Survivors' Day for our local community.

**PROC is accredited by the American College of Radiology for the achievement of high practice standards.** PROC's commitment to bringing new services to the community will continue as the needs of the community grow.

# Radiology And Imaging Services

**Radiology and Imaging Services available at Sentara Potomac Hospital include magnetic resonance imaging (MRI), computed tomography (CT), nuclear medicine, nuclear cardiology, whole body bone scans, PET/CT, ultrasound, digital mammography with computer aided detection (CAD), stereotactic breast biopsy, bone densitometry, diagnostic x-ray, interventional radiology, non-invasive vascular lab procedures and a picture archiving communication system (PACS) with remote access for referring physicians.**

**The digital mammography suite includes a private waiting area with spacious dressing rooms.** It is equipped to perform digital screening, diagnostic, computer aided detection (CAD), needle localizations, breast ultrasounds, and stereotactic biopsies. The department successfully passed the MQSA standards in July and is accredited by the American College of Radiology. In 2009, Sentara Potomac Hospital performed 6,736 breast care procedures.

**The MRI Department is accredited by the American College of Radiology** and performs MRI Breast and MRI Breast Biopsies.

To meet a growing demand for services and to better serve our patients and referring physicians, **Radiology and Imaging Services expanded hours of service in ultrasound, MRI, and CT.**

Also, the department now houses two ACR accredited multi-slice CT scanners, including a 64-slice CT scanner. The CT scanner acquires images rapidly, thereby enabling us to accommodate more patients and to significantly reduce the waiting period for outpatient procedures. A connection is used to transmit CT images to Potomac Radiation Oncology Center for treatment planning.

**In 2009, Radiology and Imaging Services performed 112,023 procedures** including an array of less invasive diagnostics that benefit patients who otherwise might require more invasive surgical procedures. These procedures include image-guided biopsies and nuclear medicine sentinel node studies for breast cancer and melanoma patients who might otherwise undergo more invasive, wide resections of axillary lymph nodes.



The Surgical Unit provides education packets to all inpatient mastectomy and lumpectomy patients. Included are American Cancer Society educational brochures/booklets, a survey form, information about the Cancer Registry and support groups, a Cancer Network newsletter, and After Your Mastectomy, a DVD about incision care, exercises and support groups. Patients have indicated that they found the materials helpful in their decision-making process.

In addition to educational materials, Surgical Unit staff nurses provide teaching and referrals to other hospital departments and staff to meet patients' assessed needs. Staff members work closely with the Medical Oncology nurses to provide support for patients who have been treated surgically for any cancer diagnoses.

## Analysis Of 2009 Cancer Data

There were 464 new cases in 2009 compared to 499 reported in 2008. Analytic cases total 86% of the reported cases. The registry does not abstract cases diagnosed and treated only on an outpatient basis in the physician's office. Follow-up continues to meet the CoC requirements of 90%.

The majority of cases (88 cases or 22%) continue to be breast cancer, lung cancer (44 cases or 11%), prostate cancer (70 cases or 18%), and colon cancer (21 cases or 5%). The percentage data is for the total analytic cases.

The following table compares these data to estimated new cases for all sites, 2009, from the American Cancer Society (ACS).

**Primary Site**  
*Compared to All Analytic Cases*

	SPH	ACS
Breast	22%	13%
Lung	11%	15%
Prostate	18%	13%
Colon	5%	10%

The primary site table and analysis of stage, age, gender, ethnicity, county of residence, and class of case can be seen in Figures 1-10.

# Primary Site Table for 2009

**Figure 1**

Primary Site	Total (%)	Sex		Class of Case		Status		Stage Distribution - Analytic Cases Only							
		M	F	A	NA	Alive	Exp	Stg 0	Stg I	Stg II	Stg III	Stg IV	88	Unk	
ORAL CAVITY & PHARYNX	12 (2.6%)	8	4	11	1	11	1	0	1	3	1	1	0	5	
Lip	1 (0.2%)	0	1	1	0	1	0	0	0	0	0	0	0	1	
Tongue	4 (0.9%)	2	2	4	0	3	1	0	0	1	0	0	0	3	
Salivary Glands	1 (0.2%)	1	0	1	0	1	0	0	0	0	1	0	0	0	
Gum & Other Mouth	1 (0.2%)	1	0	0	1	1	0	0	0	0	0	0	0	0	
Nasopharynx	1 (0.2%)	1	0	1	0	1	0	0	1	0	0	0	0	0	
Tonsil	2 (0.4%)	2	0	2	0	2	0	0	0	2	0	0	0	0	
Oropharynx	1 (0.2%)	0	1	1	0	1	0	0	0	0	0	0	0	1	
Hypopharynx	1 (0.2%)	1	0	1	0	1	0	0	0	0	0	1	0	0	
DIGESTIVE SYSTEM	67 (14.4%)	39	28	57	10	46	21	4	10	9	11	10	1	12	
Esophagus	5 (1.1%)	3	2	5	0	2	3	0	0	0	1	1	0	3	
Stomach	12 (2.6%)	7	5	11	1	9	3	0	5	1	0	1	0	4	
Small Intestine	1 (0.2%)	0	1	1	0	1	0	0	0	0	0	0	0	1	
Colon Excluding Rectum	25 (5.4%)	13	12	21	4	20	5	3	2	5	6	2	1	2	
Cecum	6	5	1	6	0	4	2	1	1	0	3	0	0	1	
Appendix	1	1	0	0	1	0	1	0	0	0	0	0	0	0	
Ascending Colon	5	1	4	5	0	5	0	0	1	2	1	0	0	1	
Hepatic Flexure	1	0	1	1	0	1	0	0	0	0	0	1	0	0	
Transverse Colon	2	0	2	2	0	2	0	0	0	1	1	0	0	0	
Descending Colon	1	0	1	1	0	0	1	0	0	0	0	1	0	0	
Sigmoid Colon	5	4	1	5	0	5	0	1	0	2	1	0	1	0	
Large Intestine, NOS	4	2	2	1	3	3	1	1	0	0	0	0	0	0	
Rectum & Rectosigmoid	11 (2.4%)	8	3	10	1	9	2	0	2	1	3	3	0	1	
Rectosigmoid Junction	4	2	2	4	0	4	0	0	1	0	2	1	0	0	
Rectum	7	6	1	6	1	5	2	0	1	1	1	2	0	1	
Anus, Anal Canal & Anorectum	2 (0.4%)	0	2	2	0	2	0	1	0	1	0	0	0	0	
Liver & Intrahepatic Bile Duct	3 (0.6%)	2	1	2	1	2	1	0	1	0	0	1	0	0	
Gallbladder	1 (0.2%)	1	0	0	1	0	1	0	0	0	0	0	0	0	
Other Biliary	1 (0.2%)	0	1	1	0	1	0	0	0	0	1	0	0	0	
Pancreas	6 (1.3%)	5	1	4	2	0	6	0	0	1	0	2	0	1	
RESPIRATORY SYSTEM	61 (13.1%)	33	28	50	11	37	24	0	8	3	7	27	0	5	
Larynx	7 (1.5%)	6	1	6	1	7	0	0	3	0	0	3	0	0	
Lung & Bronchus	54 (11.6%)	27	27	44	10	30	24	0	5	3	7	24	0	5	
BONES & JOINTS	1 (0.2%)	0	1	1	0	0	1	0	0	0	0	0	0	1	
SKIN EXCLUDING BASAL & SQUAMOUS	9 (1.9%)	4	5	9	0	9	0	0	5	1	1	0	0	2	
Melanoma -- Skin	8 (1.7%)	3	5	8	0	8	0	0	5	1	1	0	0	1	
Other Non-Epithelial Skin	1 (0.2%)	1	0	1	0	1	0	0	0	0	0	0	0	1	
BREAST	100 (21.6%)	2	98	89	11	91	9	21	31	24	6	5	0	2	
FEMALE GENITAL SYSTEM	15 (3.2%)	0	15	8	7	13	2	1	5	0	0	1	0	1	
Cervix Uteri	2 (0.4%)	0	2	2	0	2	0	1	1	0	0	0	0	0	
Corpus & Uterus, NOS	5 (1.1%)	0	5	5	0	4	1	0	3	0	0	1	0	1	
Ovary	7 (1.5%)	0	7	1	6	6	1	0	1	0	0	0	0	0	
Vulva	1 (0.2%)	0	1	0	1	1	0	0	0	0	0	0	0	0	
MALE GENITAL SYSTEM	74 (15.9%)	74	0	71	3	73	1	0	1	59	5	4	0	2	
Prostate	73 (15.7%)	73	0	70	3	72	1	0	0	59	5	4	0	2	
Testis	1 (0.2%)	1	0	1	0	1	0	0	1	0	0	0	0	0	
URINARY SYSTEM	39 (8.4%)	27	12	37	2	33	6	6	13	4	3	10	0	1	
Urinary Bladder	20 (4.3%)	14	6	19	1	18	2	5	5	4	1	4	0	0	
Kidney & Renal Pelvis	16 (3.4%)	11	5	15	1	12	4	0	8	0	2	5	0	0	
Ureter	1 (0.2%)	0	1	1	0	1	0	1	0	0	0	0	0	0	
Other Urinary Organs	2 (0.4%)	2	0	2	0	2	0	0	0	0	0	1	0	1	
EYE & ORBIT	1 (0.2%)	0	1	1	0	1	0	0	0	0	0	0	1	0	
BRAIN & OTHER NERVOUS SYSTEM	6 (1.3%)	2	4	4	2	5	1	0	0	0	0	0	4	0	
Brain	1 (0.2%)	1	0	0	1	0	1	0	0	0	0	0	0	0	
Cranial Nerves Other Nervous System	5 (1.1%)	1	4	4	1	5	0	0	0	0	0	0	4	0	
ENDOCRINE SYSTEM	13 (2.8%)	3	10	11	2	12	1	0	10	0	1	0	0	0	
Thyroid	13 (2.8%)	3	10	11	2	12	1	0	10	0	1	0	0	0	
LYMPHOMA	26 (5.6%)	14	12	21	5	20	6	0	8	8	2	2	0	1	
Hodgkin Lymphoma	3 (0.6%)	1	2	3	0	3	0	0	1	2	0	0	0	0	
Non-Hodgkin Lymphoma	23 (5.0%)	13	10	18	5	17	6	0	7	6	2	2	0	1	
NHL - Nodal	17	10	7	13	4	11	6	0	5	3	2	2	0	1	
NHL - Extranodal	6	3	3	5	1	6	0	0	2	3	0	0	0	0	
MYELOMA	4 (0.9%)	1	3	3	1	3	1	0	0	0	0	0	3	0	
LEUKEMIA	10 (2.2%)	4	6	6	4	7	3	0	0	0	0	0	6	0	
Lymphocytic Leukemia	2 (0.4%)	0	2	1	1	1	1	0	0	0	0	0	1	0	
Myeloid & Monocytic Leukemia	8 (1.7%)	4	4	5	3	6	2	0	0	0	0	0	5	0	
Acute Myeloid Leukemia	3	1	2	3	0	1	2	0	0	0	0	0	3	0	
Chronic Myeloid Leukemia	5	3	2	2	3	5	0	0	0	0	0	0	2	0	
MISCELLANEOUS	26 (5.6%)	8	18	20	6	16	10	0	0	0	0	0	20	0	
Total	464	219	245	399	65	377	87	32	92	111	37	60	35	32	

Summary by Body System, Sex, Class, Status and Best CS/AJCC Stage

Filter(s): Quick Filter: Year:1ST CONTACT YEAR 2009-2009

Note: This report excludes primary sites with a count of '0'. Groups in non-bold type 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-ridden 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)

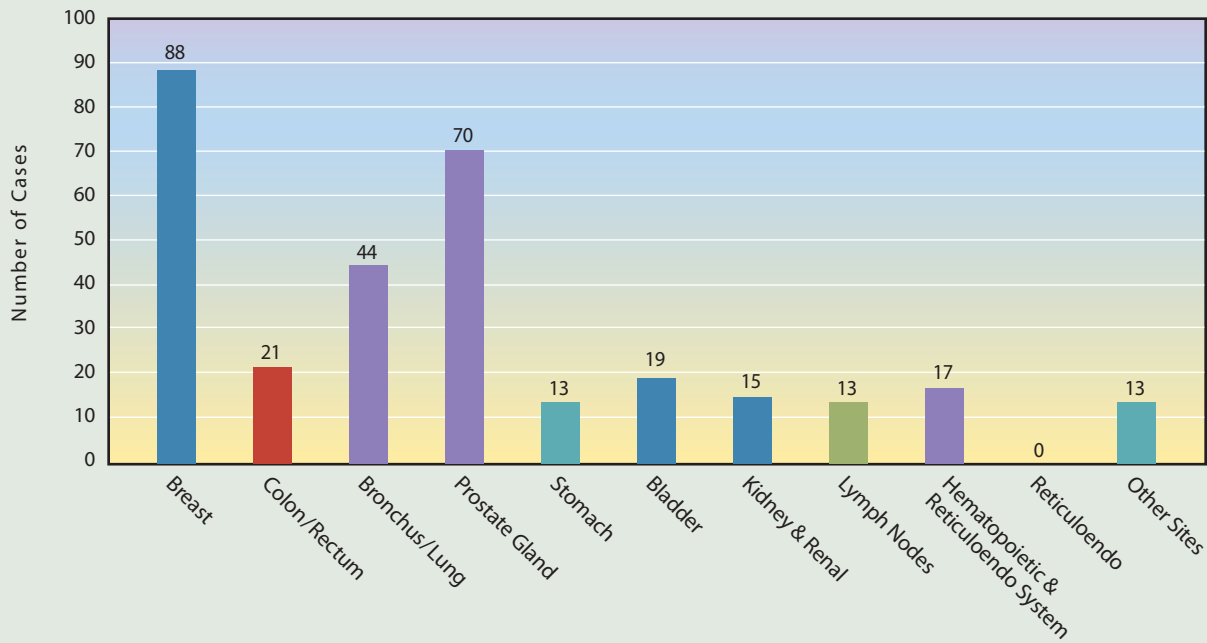
Breakdown of primary sites indicating sex and AJCC mixed stage of disease.

Abbreviations:

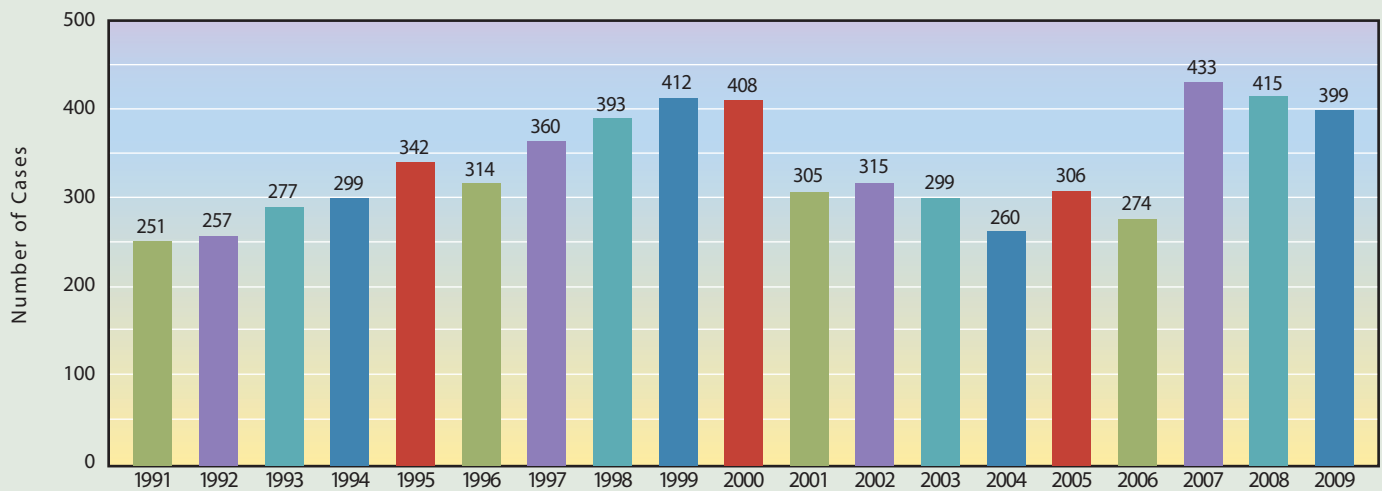
- A** Analytic
- NA** Non-Analytic
- M** Male
- F** Female
- Unk** Unknown or Unstaged

Exclusions: Not Male and Not Female

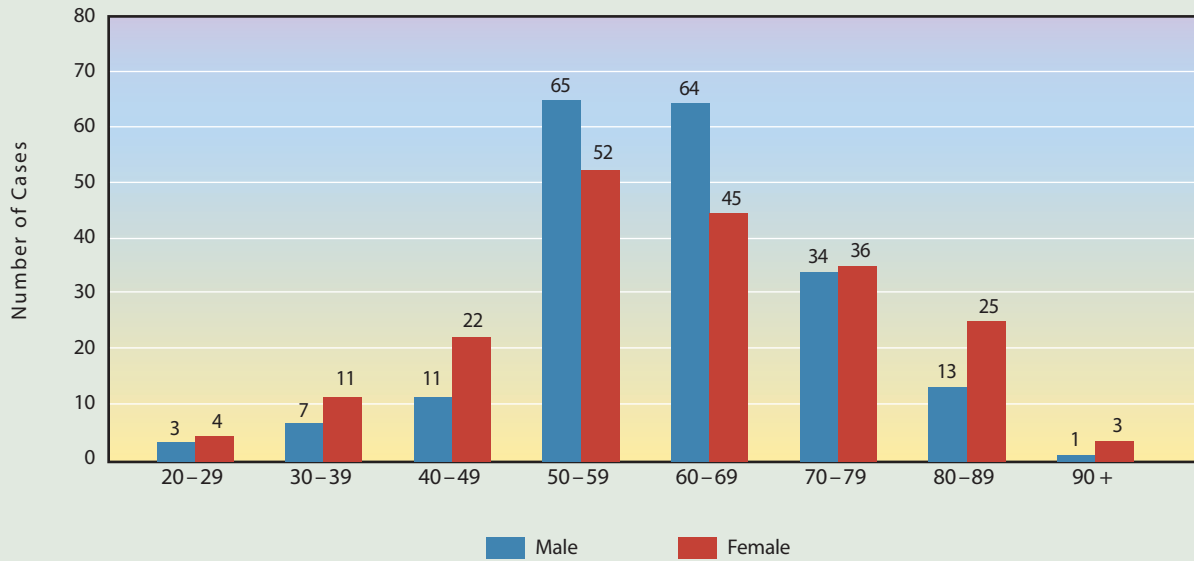
**Figure 2**  
**Comparison Of Major Primary Sites At Sentara Potomac Hospital For 2009**  
 Analytic Cases



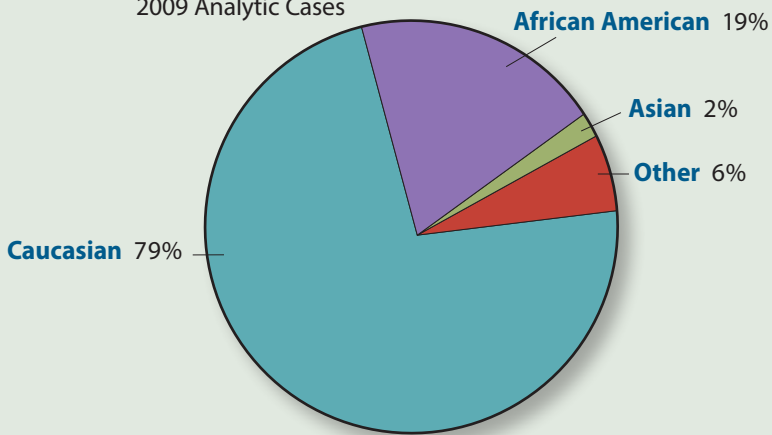
**Figure 3**  
**Newly Diagnosed Cancer Cases**  
 Accessioned 2009-Analytic Cases



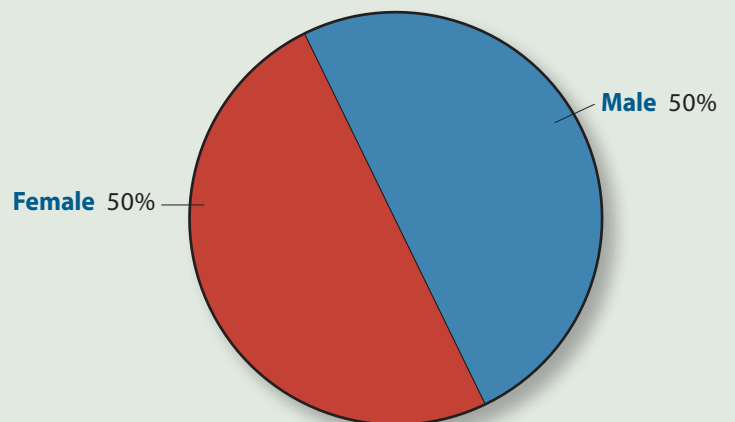
**Figure 4**  
**Age At Diagnosis By Gender For 2009**  
 Analytic Cases



**Figure 5**  
**Ethnicity**  
 2009 Analytic Cases

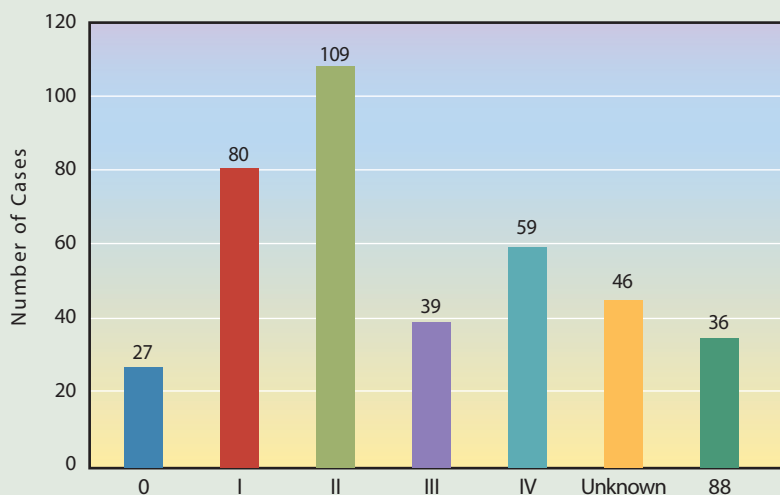


**Figure 6**  
**Gender**  
 2009 Analytic Cases

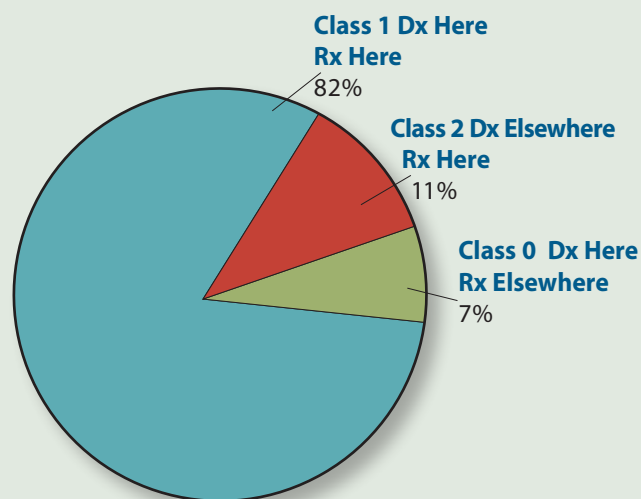


**Figure 7**  
AJCC Mixed Stage Distribution For 2009

Analytic Cases

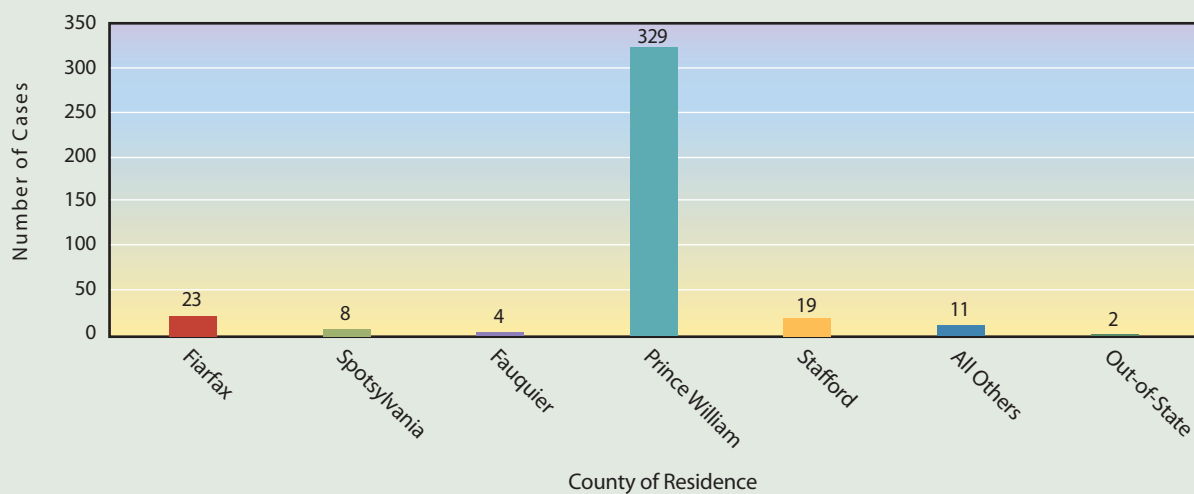


**Figure 8**  
Class of Case  
2009 Analytic Cases

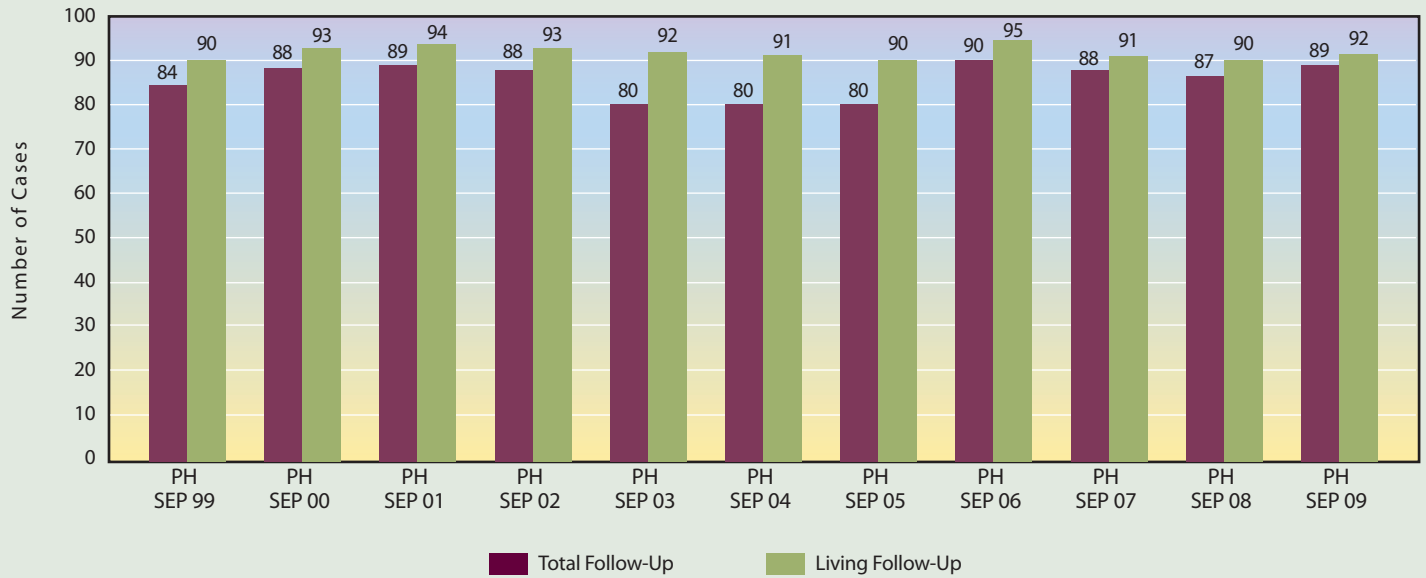


**Figure 9**  
County Of Residence At Diagnosis

2009 Analytic Cases



**Figure 10**  
**Registry Follow-Up**



**Figure 11**  
**2009 Comparison With ACS Cancer Statistics**

Primary Site	FEMALE		Primary Site	MALE	
	ACS	SPH		ACS	SPH
Breast	27%	43%	Prostate Gland	25%	35%
Lung & Bronchus	14%	10%	Lung & Bronchus	15%	13%
Colon & rectum	10%	7%	Colon & rectum	10%	9%
Uterine corpus	6%	3%	Bladder	7%	7%
Non-Hodgkin	4%	3%	Melanoma of Skin	5%	2%
Lymphoma			Non-Hodgkin	5%	6%
Thyroid	4%	4%	Lymphoma		
Melanoma of skin	4%	3%	Oral Cavity	3%	4%
Ovary	3%	1%	Leukemia	3%	1%
Kidney	3%	2%	Kidney	5%	6%
Leukemia	3%	2%	Pancreas	3%	2%
All Other Sites	22%	24%	All Other Sites	19%	18%

# SITE SPECIFIC ANALYSIS: Lung Cancer Care Management

*Commission on Cancer, American College of Surgeons (ACOS) Patient Care Evaluation Study*  
**By Masoom Kandahari, M.D.**

**A review of Sentara Potomac Hospital's Cancer Registry data for lung cancer based on data from 2005 through 2009 was completed for this report. The following is a summary and analysis of that data.**

**In 2009, published data suggests lung cancer is the most common cause of cancer mortality worldwide for men and women (1.2 million deaths per year).**

In 2010 alone, the U.S. is estimated to have 220,000 new cases of lung cancer, resulting in an estimated 160,000 deaths, whereas cases of colorectal, prostate and breast cancers combined are resulting in a mortality rate of 118,000 deaths per year.

**The lung cancer mortality amongst men has declined, which shows a decrease in smoking.**

Women, however, who account for half of lung cancer mortality and earlier showed a rise in the death rate, now have reached a steady plateau.

Lung cancer, therefore, remains an enormous public health problem and a huge expenditure to the nation.

**There were 198 patients diagnosed with lung cancer from 2005-2009 at Sentara Potomac Hospital.** Of 198 cases, 103 were men and 95 were women. Most of the diagnoses were made in an age range of 60-80 years of age.

Demographically, the incidence of lung cancer was higher among Caucasians. Of the total 198 cases, 155 dealt with Caucasians while 33 dealt with African-Americans. Caucasian male and female cases almost equaled each other, 78 to 77, while African American male cases were almost twice that of African American female cases at a ratio of 21 to 11.

Although tobacco exposure still remains a significant risk for lung cancer, asbestos and industrial exposure in the database prohibits us to draw a definitive conclusion for our study population.

**Over time, the number of new cases diagnosed at Sentara Potomac Hospital has declined.**

Over twice as many newly diagnosed lung cancer patients are diagnosed in Stage III and Stage IV as opposed to Stage I and Stage II. Stage I and Stage II were primarily treated with surgery and Stage III and IV were treated with non-surgical modality.

Overall, three- and five-year survival rates are as follows, but it is not stipulated if these are disease specific types of survival.

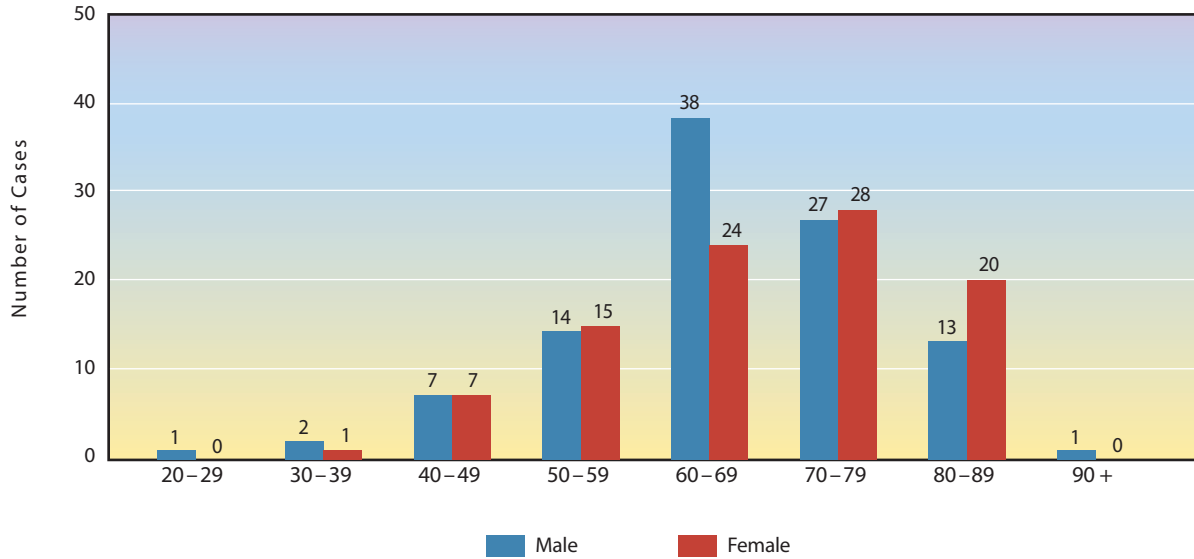
A survival comparison between Sentara Potomac Hospital and larger databases is compromised because of staging limitations, and few numbers of cases available.

Outreach to the community since the incidence of lung cancer has not appreciably declined in the recent past in the U.S.

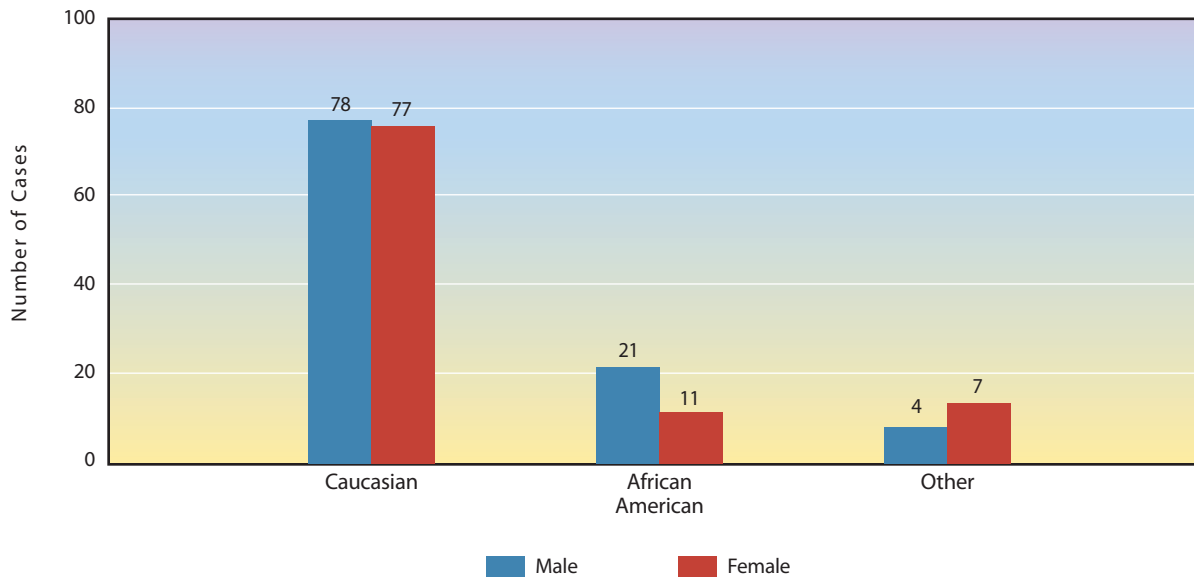
## **In Conclusion:**

- 1.** A better staging system is needed for improvement decisions/maintenance of appropriate therapy for specific stage.
- 2.** Follow-up data does not specifically address the cause of death while few numbers of cases prohibit formulating a meaningful interpretation of data in terms of survival, which may explain that dissimilar survival from SPH data compared to a larger database survival.
- 3.** There is a slow decline in the number of lung cancer cases seen at SPH. This gives us an opportunity to aggressively pursue an outreach to the community for increasing our diagnosis of lung cancer.

**Figure 12**  
**Lung Cancer – Age At Diagnosis By Gender**  
**2005 – 2009**

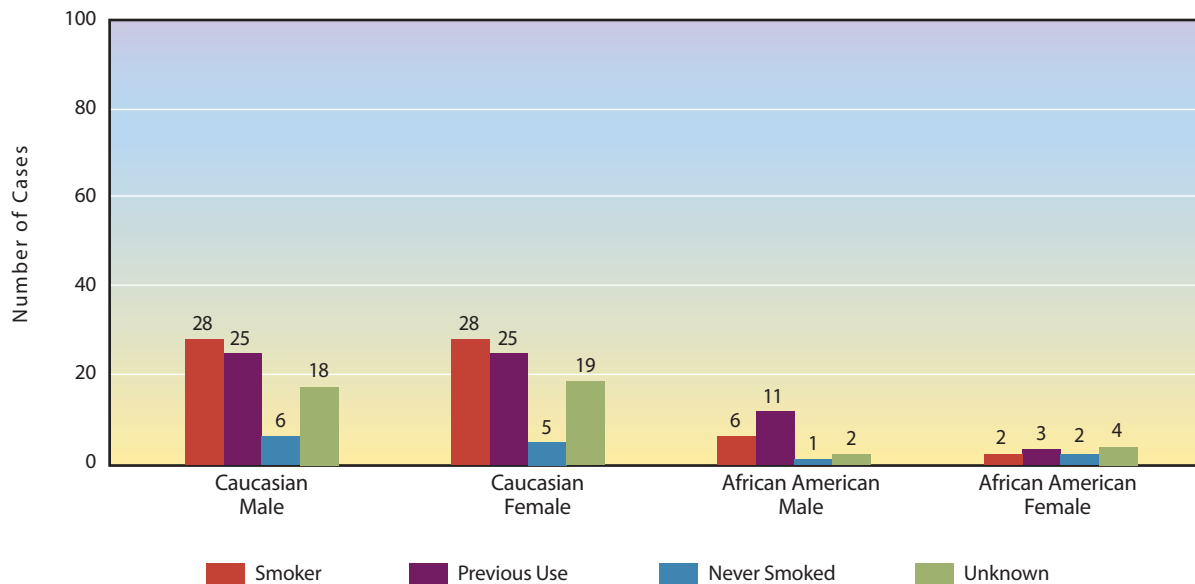


**Figure 13**  
**Lung Cancer – Race By Gender**  
**2005 – 2009**

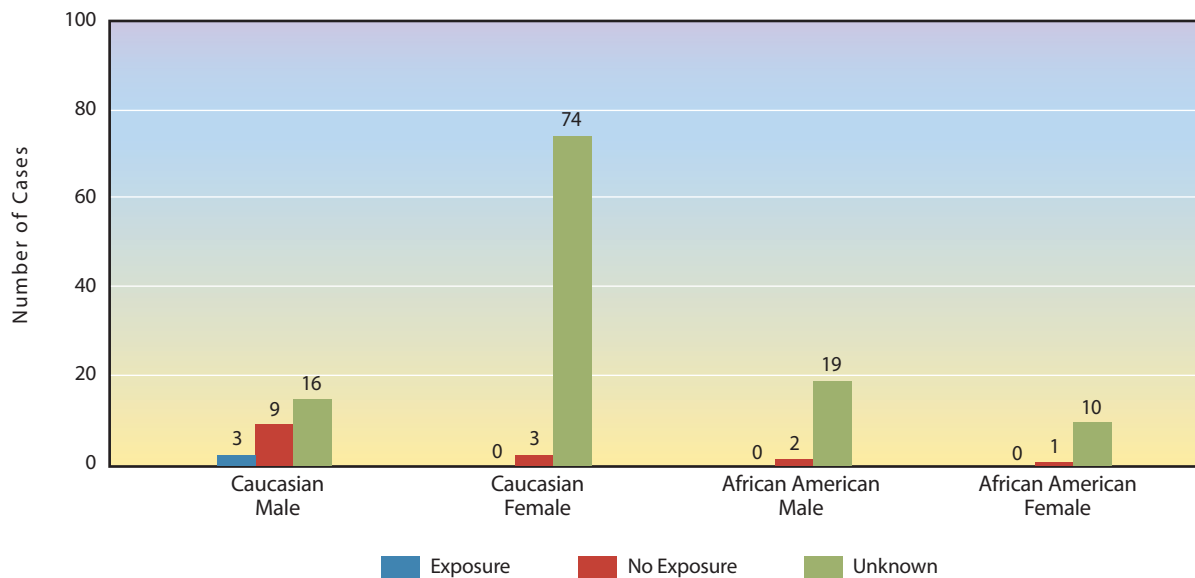


# SITE SPECIFIC ANALYSIS: Lung Cancer Care Management

**Figure 14**  
Lung Cancer  
Tobacco History  
2005-2009

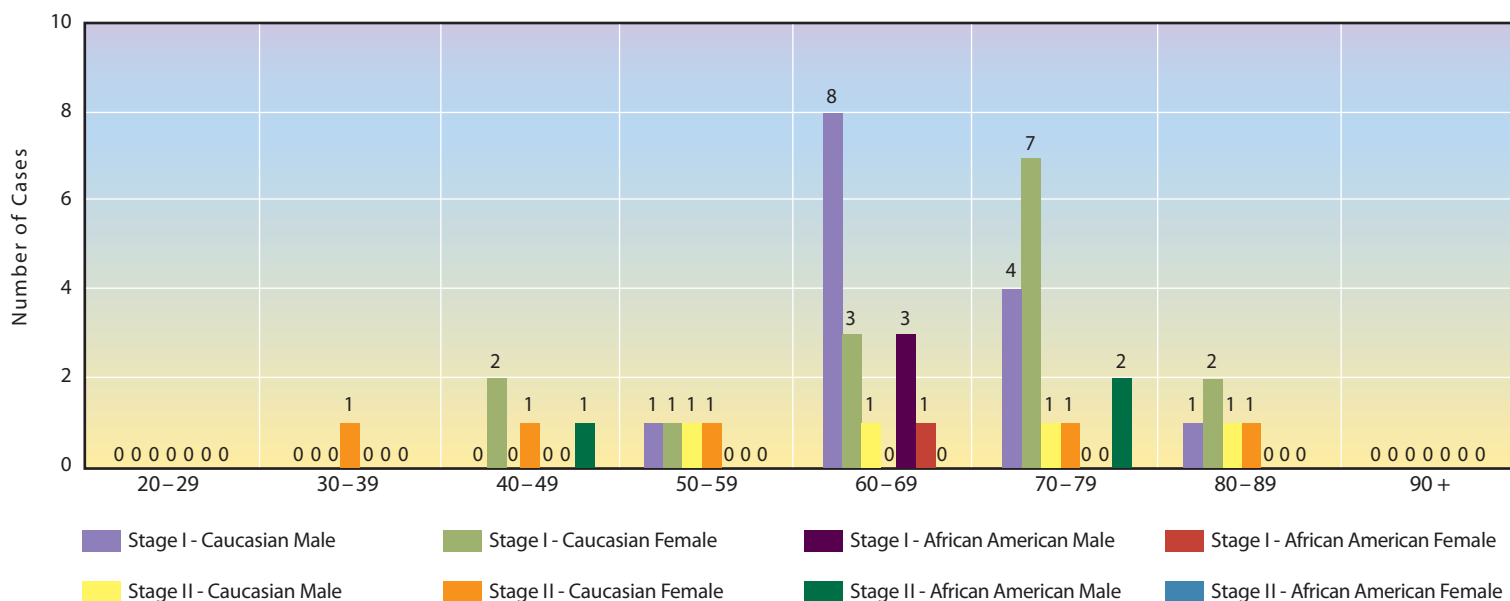


**Figure 15**  
Lung Cancer  
Environmental Exposure – Asbestos  
2005-2009

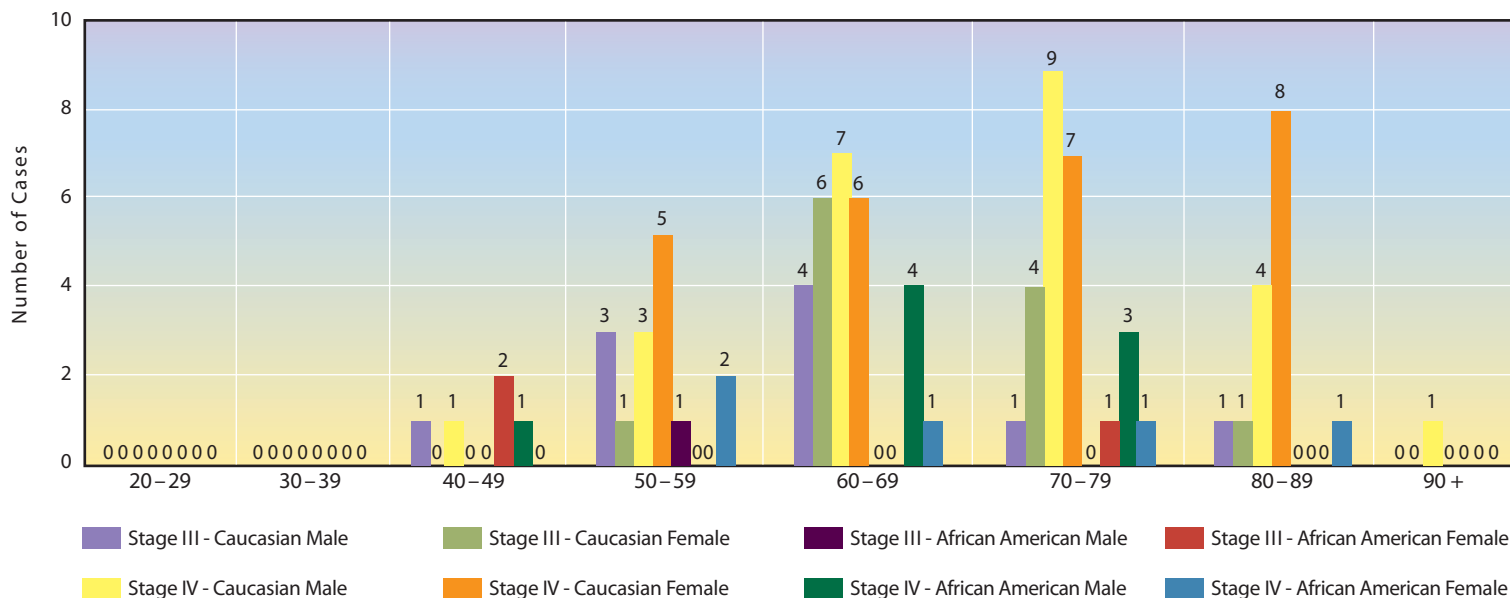


# SITE SPECIFIC ANALYSIS: Lung Cancer Care Management

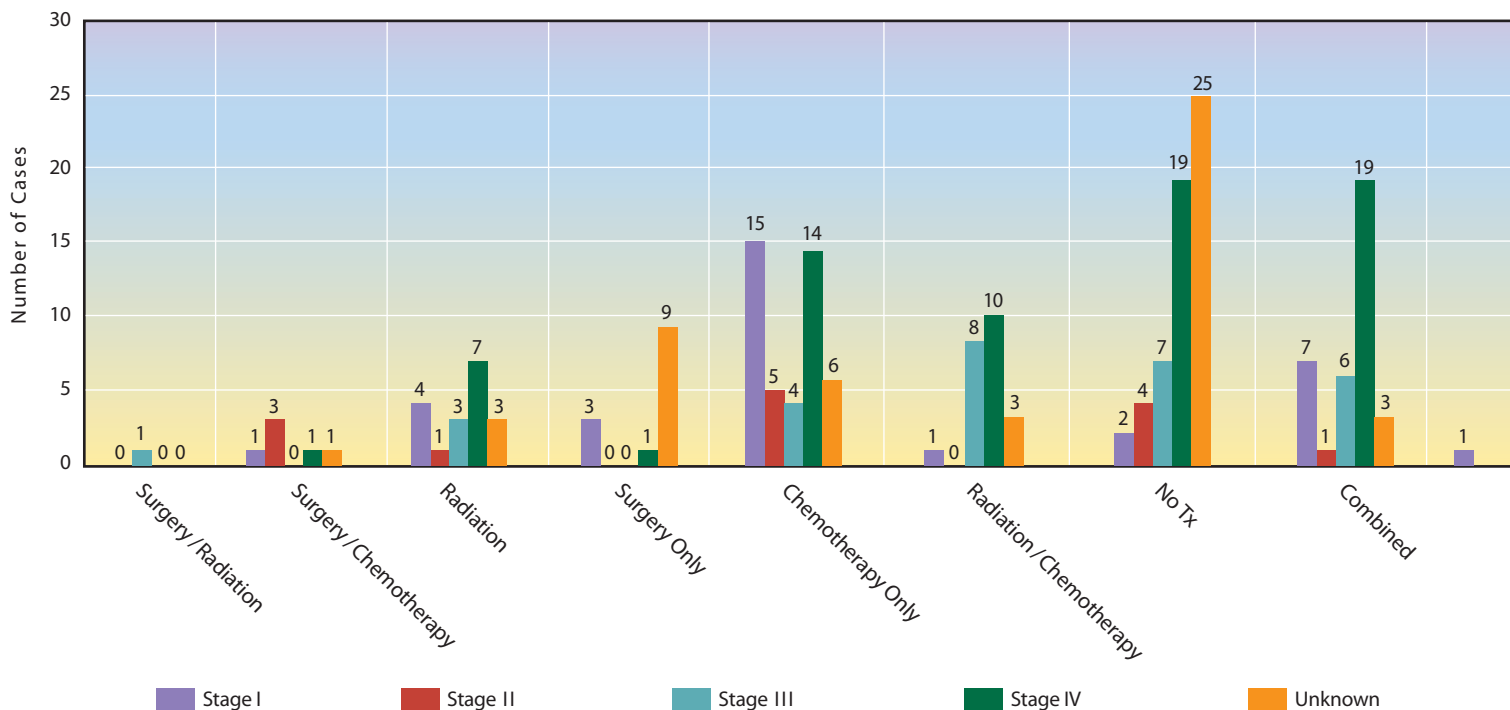
**Figure 16**  
Lung Cancer Stage I and Stage II – Age/Race/Gender



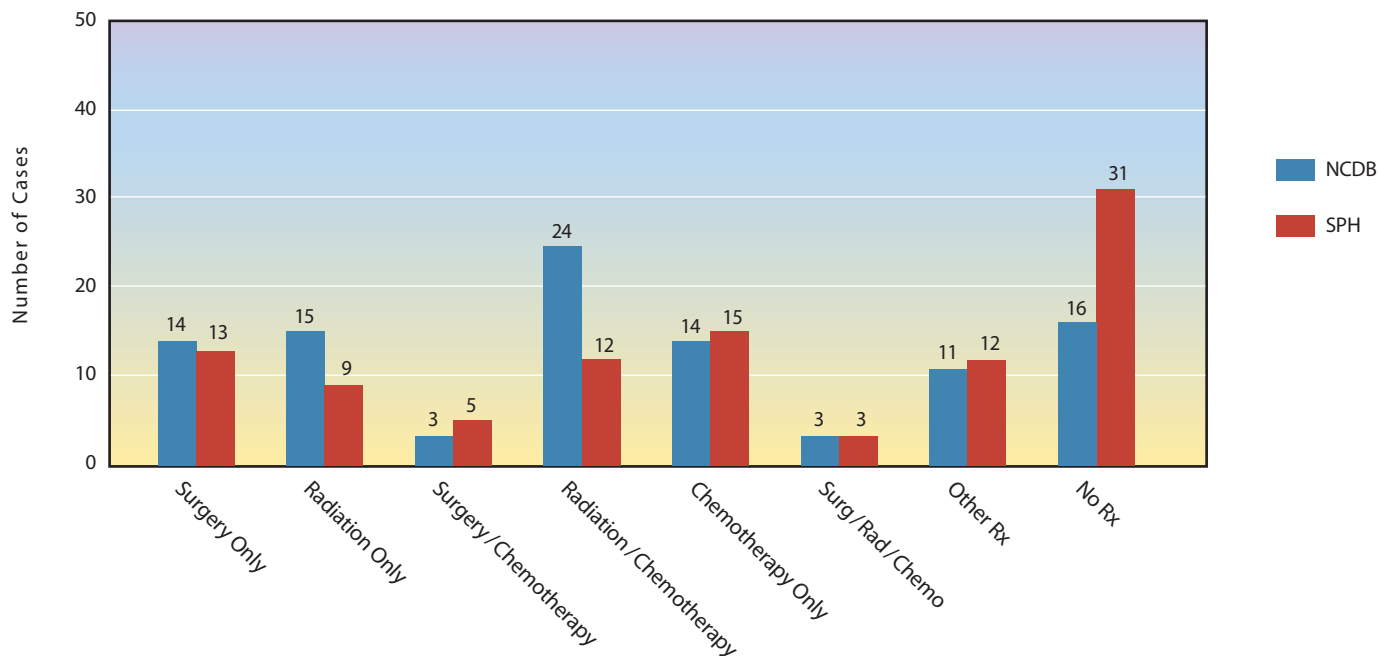
**Figure 17**  
Lung Cancer Stage III and Stage IV – Age/Race/Gender



**Figure 18**  
Lung Cancer – Course of Treatment- SPH

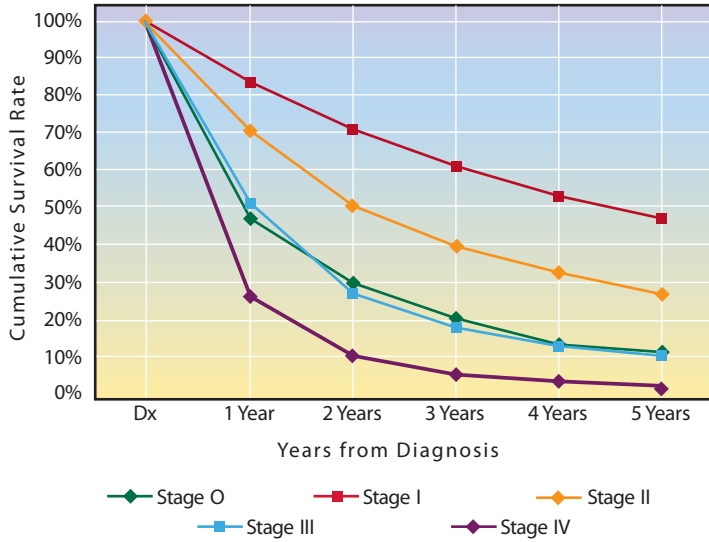


**Figure 19**  
Lung Cancer – First Course Treatment  
NCDB Vs Sentara Potomac Hospital  
2005-2009

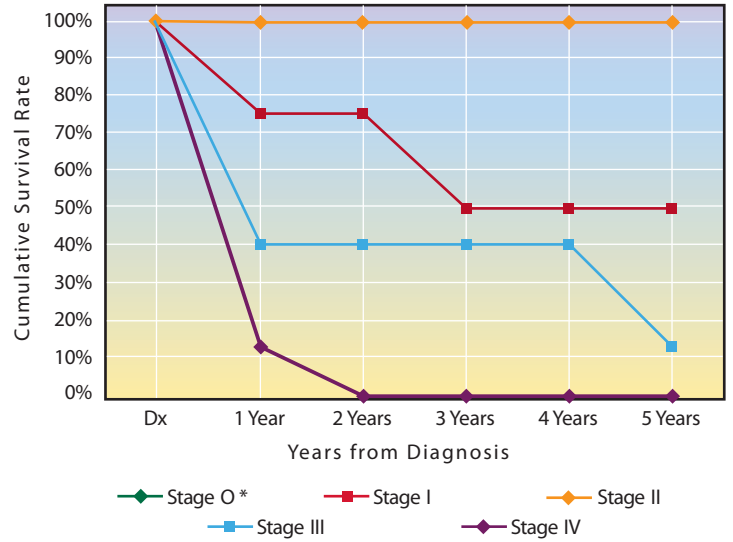


# SITE SPECIFIC ANALYSIS: Lung Cancer Care Management

**Figure 20**  
Lung Cancer – 5 yr Observed Survival  
NCDB



**Figure 21**  
Lung Cancer – 5 yr Observed Survival  
Sentara Potomac Hospital



\* Only 1 patient with Stage 0 disease.

**Figure 22**  
SPH 3yr & 5yr Observed Survival by AJCC Stage

Stage	Three Years	Five Years
I	50%	50%
II	100%	100%
III	40%	13%
IV	0%	0%

## **ANALYTIC CASES**

Cases first diagnosed and/or received all or part of their first course of therapy at Sentara Potomac Hospital (SPH) since 1991.

## **FIRST COURSE OF TREATMENT**

Tumor-directed therapy planned and administered by the physician, which may include multiple modalities of therapy and encompass intervals of a year or more.

## **NON-ANALYTIC**

Cases not seen at SPH for first course of therapy since 1991 following diagnosis; cases diagnosed and treated elsewhere; cases discovered at autopsy; and benign brain, recurrence and other cases required to be reported to the Virginia Cancer Registry.

## **TNM STAGE**

American Joint Committee on Cancer Staging System (AJCC), Sixth Edition.

**T** - Size and extent of tumor

**N** - Involvement of regional lymph nodes

**M** - Distant metastasis

## **CLASS OF CASE**

Class assigned to analytic cases to indicate where diagnosis and treatment took place.

**Class 0:** Diagnosed at SPH since 1991 and all of first course of therapy elsewhere.

**Class 1:** Diagnosed at SPH and all or part of first course of therapy at SPH and staff physicians' offices.

**Class 2:** Diagnosed elsewhere and all or part of first course of therapy at SPH and staff physicians' offices.

## References

*AJCC Cancer Staging Manual*, American Joint Committee on Cancer, sixth edition

*Cancer Facts and Figures*, 2009 American Cancer Society, Inc., Atlanta, Georgia

*Commission on Cancer Program Standards* 2004

*National Cancer Data Base - 1998, 2000, Commission on Cancer Benchmark Summary of Cancer Care and Survival United States*

*National Cancer Data Base Benchmark Reports, Breast Cancer Statistics*, [www.web.facs.org/ncdbbmr](http://www.web.facs.org/ncdbbmr)

## Acknowledgements

The Cancer Committee would like to recognize the following physicians for their participation in cancer prevention screenings and educational programs during 2009:

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**Geoffrey Moorer, M.D.**

**Gabriel Nwofuh, M.D.**

**Janelle Nelson, M.D.**

**Sylvia Parra, M.D.**

A special thanks to all the nurses and ancillary personnel who gave generously of their time to help with the cancer screening programs and to the American Cancer Society for their patient education materials.

# Cancer's Seven Warning Signals

- **Change in bowel or bladder habits**
- **A sore that does not heal**
- **Unusual bleeding or discharge**
- **Thickening or lump in breast or elsewhere**
- **Indigestion or difficulty in swallowing**
- **Obvious change in wart or mole**
- **Nagging cough or hoarseness**

**CAUTION**  
**If YOU**  
**have a signal,**  
**see your doctor!**

**Sentara Potomac Hospital**



sentara.com

*Your community, not-for-profit health partner*