

The Charles A. and Betty Bott Cancer Center at Holy Redeemer Hospital



2010 Cancer Program Annual Report

*Site Focus: Breast Cancer
With 2009 Statistics
www.holyredeemer.com*



MEMBER
 Penn Cancer Network

Accredited by The National Accreditation Program for
Breast Centers & The Commission on Cancer



A Letter from the Cancer Committee Chairman

Excellence in oncologic care is the hallmark of what patients can expect at Holy Redeemer Hospital. Our commitment to superior care is demonstrated through re-accreditation, with commendation, by the American College of Surgeons Commission on Cancer at our triennial survey this past April. Our dedication to establishing a comprehensive, regional breast cancer facility was acknowledged by the National Accreditation Program for Breast Centers (NAPBC) in November, providing our program with a prestigious 3-year accreditation. Our Comprehensive Cancer and Breast Health Programs provide a patient-centered, healing environment. Those treated in the Center benefit from the latest diagnostic techniques with comprehensive treatment options. Nationally-recognized physicians collaborate in developing patient care plans and a highly skilled team of nurses and therapists provide individualized support throughout the patient journey. Specialized care is delivered by a nursing staff trained in oncology and the delivery of chemotherapy on a dedicated 30-bed inpatient medical-surgical oncology unit and also in the outpatient infusion center.

On behalf of the Charles A. and Betty Bott Cancer Center and Cancer Committee, and as a proud member of the Penn Cancer Network, I am pleased to present the Cancer Center's 2010 Annual Report. This report describes the various programmatic achievements and successes, as well as the wide range of cancer services available to the community we serve, and presents a focused highlight on breast and lung cancer. The program's successful growth is a testimony to the efforts of the many disciplines involved in cancer care and reflects the ongoing multidisciplinary approach to diagnosis and treatment of cancer patients at Holy Redeemer Hospital. These collaborative strategies have improved the screening, treatment and survivorship of our patients.

As a faith-based organization, Holy Redeemer Hospital recognizes the importance of caring for the whole person- mind, body and spirit, with a mission to care, comfort and heal.



R. Scott Thornton, M.D.
Department of Gynecology
Chairman, Cancer Committee

Programmatic Accreditation and Achievements in 2010

Continued commitment to excellence in oncology care as demonstrated by receiving triennial re-accreditation with commendation by the **American College of Surgeon's Commission on Cancer**. Established in 1922, this national accrediting body ensures cancer programs meet the highest of standards, ensuring that quality multidisciplinary cancer care is delivered.

Commitment to excellence in breast care at Holy Redeemer has been demonstrated by earning a 3-year accreditation by the **National Accreditation Program for Breast Centers (NAPBC)**, a national consortium of professionals who, through a rigorous survey process, recognize programs that meet and comply with 27 standards of breast specific patient care.

Improving the Patient Experience

At Holy Redeemer Hospital, we are committed to continually improving the patient care experience with dedication to improving the health of those in the communities we serve. This is achieved by providing exceptional health care including disease monitoring and prevention.

Nurse Navigator Services

A cancer diagnosis can be overwhelming, and the effects of the disease and its treatment can present unique challenges. In an effort to provide seamless care and help patients and their families navigate the maze of medical, emotional and social services they may need as they cope with their cancer diagnosis, a "concierge service" is provided by a dedicated Oncology Nurse Navigator. This oncology certified nurse serves as a resource and advocate for all oncology patients along the trajectory of their cancer care journey. This program offers patients and their families a higher degree of comfort and efficiency by answering questions, clarifying unfamiliar issues and medical terms, providing educational support and resources, and acting as a liaison between both the patient and physician and between the patient and other support service agencies.

Due to the success of this navigator program and the growth of our Breast Health Program, this service will be expanded to include the addition of a Breast Health Nurse Navigator. This specific nurse navigator will serve as a central point of contact for all patients confronted with breast health issues and/or breast cancer, by acting as a resource for providing education with regard to breast cancer treatment, symptom management and long-term survival issues, as well as to support and facilitate patient access to services provided within the Holy Redeemer Health System and resources available through community or service agencies.

Survivorship

Cancer Survivorship begins at diagnosis and continues through the life of the patient. Spearheaded by such organizations as the American Society of Clinical Oncology (ASCO) and prompted by the continual rise in cancer survivorship and overall life expectancy, cancer care plans aid in the continuity of patient care. Using ASCO's Journey Forward care planning template, patients and their primary care physicians are provided with concise treatment related reports

summarizing the patient's course of oncology treatment, delayed and unanticipated side effects and recommendations for post-treatment clinical and psychological follow up.

Nutritional Consultation

Because proper nutrition is a vital component to health, both before and after cancer treatment, Holy Redeemer provides nutritional consultation and education as a free service to patients undergoing cancer care at the Center. The patient at high-risk for nutritional challenges, those with cancers of the head and neck and/or the gastrointestinal tract referred for radiation oncology, are all seen as part of the consultative process. Other patients who require nutritional services may be referred to the counselor at any point during the course of their care.

Lymphedema Management Program

Under the guidance of a Physical Therapist certified in the management of lymphedema education and treatment, patients receive individualized care for the prevention and reduction of symptoms associated with lymphedema. The goals of the program are to improve drainage of the lymph system, control swelling in the affected limb, restore function and improve quality of life. Patients have access to this program at either the Cancer Center or the Women's Center in Southampton.

Clinical Inpatient Services

Comprised of a dedicated 30-bed inpatient medical-surgical oncology unit that delivers high-quality in-patient care and experience. The unit maintains a complement of oncology and chemotherapy certified nurses. The nurses and staff on the unit practice in a highly nurturing environment where patient safety, competent and compassionate care, and patient-family satisfaction are all of utmost importance and part of the healing process.

Clinical Outpatient Services

Radiation Oncology

Patients who choose Radiation Oncology Services at Holy Redeemer Hospital's Cancer Center will appreciate the skill and compassion of the staff, as well as the inviting and comfortable environment. Penn Radiation Oncology provides physician, physics and dosimetry services for the hospital-based center, which offers many of the latest strategies for aggressively treating tumors while reducing side effects that can accompany radiation treatments. Intensity modulated radiation therapy (IMRT) uses computer-generated images to match a radiation dose to the size and shape of a patient's tumor allowing the delivery of higher radiation doses to the tumor, while significantly reducing the exposure to surrounding healthy tissue. Physicians can target the most aggressive regions of a tumor with a higher intensity of radiation and deliver less-powerful doses to areas near the surrounding healthy tissue. IMRT is particularly beneficial when the treatment area is near critical structures in the body, such as the heart, spinal cord, brain, rectum or bladder.

Complimented by the technology of Image Guided Radiation Therapy (IGRT), this allows for the ability to perform highly complicated IMRT treatments with on-boarding imaging equipment that verifies the patient's body is always in the correct position for treatment. This system also allows for shorter treatment times and higher degree of accuracy and precision.

Medical Oncology Unit

In addition to two specialized and highly esteemed Hematology-Oncology practices, the Cancer Center boasts a warm and spacious medical-oncology unit staffed by specialty trained oncology nurses who provide exceptional patient care to those in need of a vast array of transfusion services.

Clinical Research

Clinical research trials are crucial in the advancement of medical treatment and technology as evidenced in the field of oncology. These trials give patients the opportunity to receive the latest, most advanced cancer treatments available, setting new standards of care and improving outcomes. The Cancer Center at Holy Redeemer provides patients access to these leading-edge clinical trials. A dedicated clinical research nurse works hand-in-hand with the medical staff to ensure treatment protocols are selected with our unique patient population in mind. Our membership with the Penn Cancer Network, provides us the opportunity to have access to other National Cancer Institute (NCI) funded studies, as well as industry supported clinical trials and investigator initiated studies that offer us a pipeline of new treatment modalities for our cancer patients.

Tumor Board (Case Conference)

Tumor Board Conferences are held every other week, alternating Tuesdays and Thursdays. A multidisciplinary team of cancer care physicians including surgical, medical and radiation oncologists, as well as general surgeons, pathologists and radiologists, come together to review complex cancer cases identified through pathology reports. Discussion includes the medical management of the patient, the latest in diagnostic testing and surgical procedures, stage of the disease at diagnosis, treatment and clinical trial options, as well as survival outcomes. Cancer patients benefit greatly through the collective expertise of this group of specialists as they discuss various aspects of each case and determine the best course of action in the management of the patient's care.

Breast Health Program

In keeping with the mission and vision of the Holy Redeemer Health System, a 2010 goal for the Cancer Program was the implementation of a Comprehensive Breast Health Program. The year was filled with tremendous progress and accomplishments raising the level and scope of services and care provided to our patients and community.

Multidisciplinary Breast Case Conference (MDBCC)

In addition to our Tumor Board conferences, Multidisciplinary Breast Case Conference (MDBCC) is held weekly. All breast patients with abnormal biopsies are referred to MDBCC for presentation. This breast-specific case conference is attended by all members of the breast care team including; the surgeon, medical oncologist, radiation oncologist, reconstructive surgeon, pathologist, radiologist, nurse navigator, clinical research nurse, as well as by other key supportive members of the clinical team. This collaborative process assures that care is expeditiously and optimally coordinated from the start, and that appropriate care following standards set by the NAPBC are delivered throughout the entire process including follow-up.

Real-Time Mammography Reads and Fast Track Program

Digital mammography services are available at two convenient locations (Huntingdon Valley and Southampton) with the option of Real Time Reads and access into the Fast-Track Program. Real time or same day reads are scheduled into designated appointment slots. Patients receive their screening or diagnostic mammography results on the same day. Patients can go home with the satisfaction of knowing their mammogram is normal. In the case where the mammogram study warrants additional testing, services may be available same day, insurance permitting. This includes additional mammogram views and ultrasound studies. At the Southampton site, patients can even have, when indicated, their ultrasound guided or stereotactic biopsy, on the same day.

The Fast Track Program for breast patients was designed to expeditiously navigate patients with breast imaging studies requiring biopsy, directly to the surgeon for consultation. This program has helped to decrease the turnaround time from abnormal mammography to biopsy, while providing the patient with the needed psychosocial and educational support needed, during what is often an extremely emotional time. The Nurse Navigator provides this support while coordinating a plan of care and assisting in arranging all necessary appointments.

Breast Imaging and Breast Health Services

Holy Redeemer Women's HealthCare at Southampton opened its doors in November 2010. This unique center, both in concept, décor and experience, provides a range of women's health diagnostic and holistic services, particularly focused on breast health. Specifically, the site offers ultrasound, mammography, stereotactic biopsy, and bone density studies. In addition, it houses an outpatient lymphedema program, a wellness center and a Profile Shop. Holy Redeemer Women's HealthCare at Southampton is also home to Comprehensive Breast Care Surgeons, a dedicated breast surgical group. As noted above, the Fast Track Program and Real Time Mammography Reads are available at this location.

The comfortable setting, ease of parking, and the convenience of screening, diagnostic and treatment services all available in the same location, coupled with the ability to participate in various wellness and exercise programs, such as yoga and zumba, serve to further enhance the experience for breast health patients.

Profile Shop

With the most extensive selection of breast forms in the area, The Profile Shop, staffed by breast cancer survivors and experts in fittings, provides individualized bra and mastectomy garment fitting, as well as an array of clothing to meet the needs of the breast surgical patient.

Community Outreach

Holy Redeemer is committed to providing care from prevention through treatment and recovery. As part of community outreach services and in support of the hospital's mission of improving the health of the people in the community, in 2010 the Cancer Center at Holy Redeemer collaborated

with local organizations, businesses, schools, churches, and other hospital departments to provide education and screenings to encourage early detection and prevention of cancers.

2010 Screenings

Holy Redeemer Hospital is committed to offering free health screenings to high-risk, under and uninsured individuals within the community.

In 2010:

Two breast cancer screening were held, whereby 38 women received clinical breast exams, education with regard to proper technique for self-breast exams, mammography with additional views as necessary and including ultrasound and biopsy where indicated. Out of the 38 women screened, three women were identified with abnormalities, leading to a cancer diagnoses. These women went on to receive subsequent care. Additionally, seven men were screened for prostate cancer in June, and 15 people were screened for skin cancer in May.

Support Groups and Sponsored Community Educational Events

Various support groups and services are available to patients and their families to assist them in coping with the psychosocial and emotional impact of living with cancer. There is a great need and demand for these services throughout the continuum of diagnosis, treatment, disease management, recovery and end-of-life care.

Support groups and services include two Breast Cancer Support Groups, a Bereavement Support Group and Pastoral Care Services.

Community Event Sponsorships in 2010 included hosting our annual Survivor Day Gathering, three Look Good Feel Better sessions (provided in conjunction with the American Cancer Society), and two employee cancer awareness and education events, participation in Daffodil Days, 15 community health fairs and three cancer awareness walks; Race for the Cure, Amy's Fund and the Ladies Ancient Order of Hibernians Breast Cancer Walk.

Quality Improvement

As the health care landscape in oncology continues to evolve, efforts to measure, compare, monitor and improve the quality of patient care are becoming increasingly important. The 2010 Cancer Committee Strategic Goals for quality included various measures such as achievement in obtaining accreditation by the CoC and NSABP, monitoring compliance of Oncotype DX assay performance on all eligible breast cancer patients, and participation in the Commission on Cancer's retrospective study using the CP³R quality tool for breast and colon.

Looking Forward

Our future is bright with exciting new challenges and programmatic development in the forefront. As a cohesive team of dedicated professionals, we look forward to the opportunity of working together in providing state-of-the-art, comprehensive and compassionate cancer care.

The Cancer Program Philosophy

The Cancer Program at Holy Redeemer is committed to providing our patients and their families with advanced comprehensive cancer care, integrated with the traditions and missions of our founders, The Sisters of the Holy Redeemer- to Care, Comfort and Heal. It is this philosophy that grounds our efforts in providing compassionate and holistic care to everyone we serve. As our Cancer Program continues to add new and advanced technologies, we pledge to maintain the quality and trust that our community has come to know.

Holy Redeemer Health System Mission Statement

As a Catholic Health System, rooted in the traditions of The Sisters of the Holy Redeemer, we Care, Comfort and Heal, following the example of Jesus, proclaiming the hope God offers, in the midst of human struggle.



Joanne Creech-Chaykosky, MD Memorial Garden at
The Charles A. and Betty Bott Cancer Center at Holy Redeemer

Cancer Registry Report

The Charles A. and Betty Bott Cancer Center at Holy Redeemer Hospital maintains a cancer registry data-base, which contains comprehensive data on patient demographics, history, diagnosis, treatment and lifetime follow-up. This information, which complies with privacy and security regulations, is collected by the cancer registrar, and is continuously updated. The registry enables Holy Redeemer Hospital (HRH) to evaluate the incidence, treatment, outcomes, and follow up patterns of the cancer patient population it serves. More specifically, the registry provides data about the primary site, histology, the recommended treatment, number of patients treated or diagnosed, physician treatment patterns, patient compliance with follow-up care, and survival outcomes. With this valuable information, HRH is able to better plan and direct resources to enhance services that will meet the unique needs of its community.

In the calendar year 2009, the cancer registry accessioned 712 cases. This included 574 analytic cases, which are patients who were initially diagnosed and/or received their first course of treatment at HRH. The registry also included 138 non-analytic cases, which are those patients who were initially diagnosed and treated elsewhere, but were seen at HRH for a recurrence of their cancer, or for subsequent treatment. The analytic patients are followed throughout their lifetime. This follow-up information provides survival outcome data that HRH can compare to national benchmarks, such as the National Cancer Data Base.

Cancer Registrars, working throughout the United States, collaborate through collecting and sharing of cancer registry data, and submitting this data to the National Cancer Data Base and the respective state registry, which contributes to the national goal of finding better treatments and therefore better outcomes for all patients.

Marci Kraft-Orloff RHIT, CTR

Marci Kraft-Orloff, RHIT, CTR
Cancer Registry

Frequency of Primary Cancer Sites: Holy Redeemer Hospital 2009

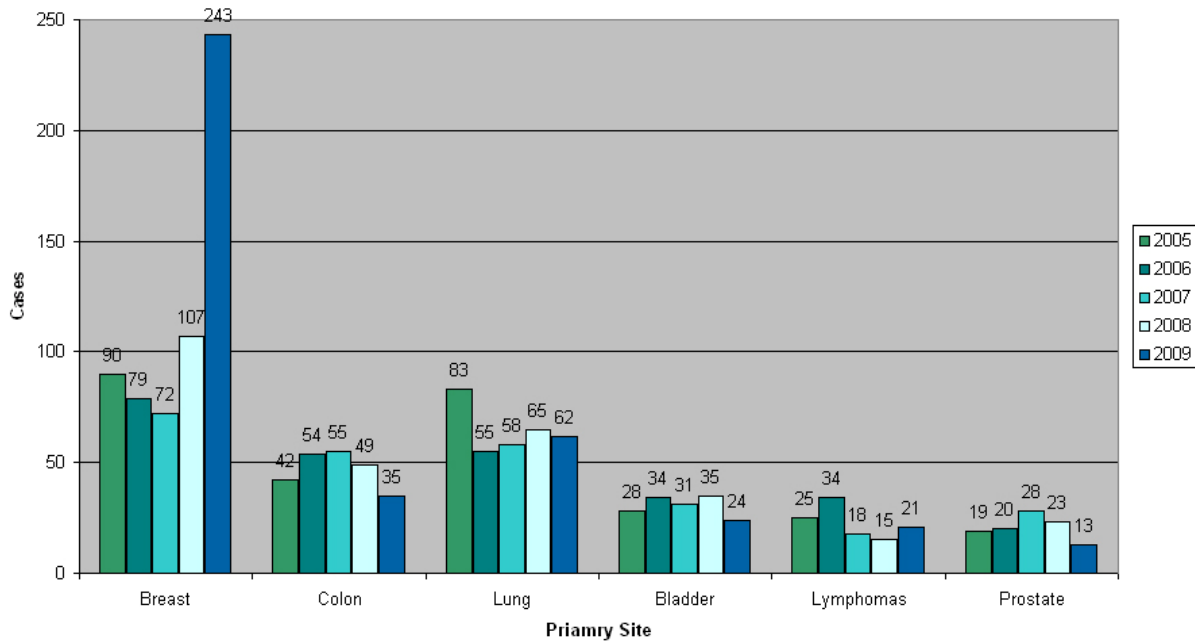
Primary Sites	*Analytic	**Non-Analytic
Tongue	2	0
Gum & Other Mouth	1	0
Tonsil	3	0
Esophagus	5	5
Stomach	4	1
Colon	35	11
Rectosigmoid junction	9	1
Rectum	7	4
Anus, Anal Canal, & Anorectum	4	1
Liver & Intrahepatic Bile Duct	5	2
Gallbladder	4	0
Other biliary	4	1
Pancreas	11	5
Peritoneum, Omentum, Mesentary	1	0
Other Digestive Organs	2	0
Larynx	2	0
Lung & Bronchus	62	8
Soft Tissue	4	1
Melanoma	13	14
Breast	243	17
Cervix	2	0
Urterus & Uterus Nos	24	3
Ovary	3	0
Vulva	6	3
Prostate	13	13
Testis	3	1
Urinary Bladder	24	2
Kidney & Renal Pelvis	11	4
Ureter	1	0
Other Urinary Organs	1	0
Brain	1	2
Other Nervous System	6	1
Thyroid	11	0
Other Endocrine incl Thymus	1	1
Hodgkin Lymphoma	2	0
Non-Hodgkins Lymphoma (Nodal & ExtraNodal)	19	7
Multiple Myeloma	1	1
Leukemias	7	10
Mesothelioma	0	1
Other Hematopoietic Diseases	6	18
Unknown Primary	11	0
Totals	574	138

*Analytic Cases include all cancer patients diagnosed at Holy Redeemer Hospital who received part or all of their first course of treatment here or diagnosed elsewhere and received part or all of their first course of treatment at Holy Redeemer Hospital.

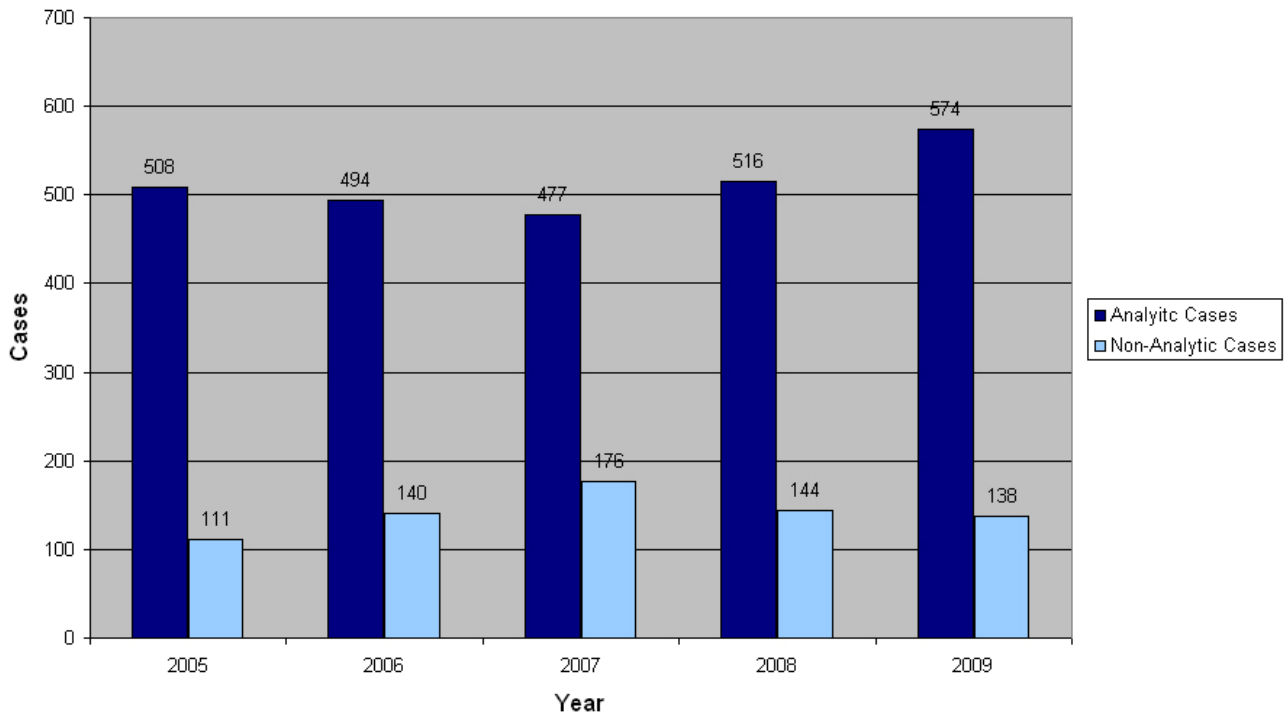
**Non-Analytic cases include cancer patients who were diagnosed elsewhere and received all of their first course of treatment elsewhere and present at Holy Redeemer Hospital for subsequent treatment, also includes patients who were diagnosed and/or treated at Holy Redeemer prior to the cancer registry reference date of 1998.

Cancer Registry Statistics: Holy Redeemer Hospital continued...

Top Five Cancer Sites seen at Holy Redeemer Hospital from 2005-2009



Analytic & Non-Analytic Case Comparison for Years 2005-2009 Holy Redeemer Hospital



The Cancer Center at Holy Redeemer Hospital: Site Focus, Breast Cancer

Overview: Breast Cancer

Breast cancer is the most common cancer in women, with the exception of skin cancer. According to the American Cancer Society (ACS), in the year 2009 there were approximately 40,700 deaths from breast cancer and 192,569 newly diagnosed individuals (1% of these were in men). The ACS estimates that 1 in 8 women will be diagnosed with breast cancer in her lifetime. This makes breast cancer the second leading cancer death among women second only to lung cancer.

The incidence of breast cancer is highest in industrialized societies with North America being the highest and Asia boasting the lowest incidence. This is partly due to screening efforts, but 1/3 of all breast cancers are likely to be exacerbated by poor lifestyle choices.

Understanding your risk is key to early detection and prevention. Women by virtue of being born female are at increased risk of developing breast cancer. Only 25% of those cancers occur in women who have a family history of breast cancer. Of those women, only 6% of those cancers are related to the BRCA I and BRCA II genes. Therefore, 75% of all breast cancers occur in women without any family history. For this reason, it is extremely important for all women to understand what their risk is.

Let us not forget that for every 100 women diagnosed with breast cancer, a man will be diagnosed with breast cancer and therefore, men should not ignore a breast mass either.

Mammography is the radiologic screening tool we use to identify changes in the breast. **Mammograms do not prevent breast cancer; they prevent death from breast cancer by finding cancers in very early stages** when the opportunity for cure is optimum.

Screening mammograms should be performed annually beginning at age 40 with a baseline between the ages of 35-40. Mammograms will find about 80% of all breast cancers. Breast self-exam is also an important tool and should be performed monthly increasing a woman's awareness of what feels normal in their breasts.

The best defense against breast cancer is a good offense. There are risk factors that you cannot change (age at your first period, family history and race), but you ultimately have the ability to impact your lifetime risk by taking steps toward prevention.

Although only 6% of all breast cancers are caused by the BRCA I-II mutations (breast and ovarian cancer genes), identifying that you are a carrier before the diagnosis of breast cancer is ultimately the goal. If you have relatives on either your mother's or father's side of the family that have had breast cancer before age 50, bilateral cancers, cancers that were ER-, PR-, Her 2 neu-, male breast cancer, a relative that carries a BRCA gene, being of Ashkenazi Jewish decent or a family history of

The American Cancer Society and The American College of Surgeons Mammography guidelines:

Baseline mammography age 35-40
Annual mammography from age 40 on
Clinical breast exam annually
Breast self-exam monthly
*MRI in high-risk patients

*The Holy redeemer Cancer Program urges you to discuss your risk with your personal physician.

ovarian cancer, you will want to discuss the option of genetic testing with your doctor. Surveillance for breast and ovarian cancer is heightened in carriers of the gene.

So, how can you reduce your risk and that of your daughters?

First and foremost, do not smoke. Smoking increases the risk of nearly all cancers. Moderate your alcohol consumption. Alcohol consumption is directly related to risk of developing breast cancer. Post-menopausal women who drink 2-3 cocktails per day have 38% increased risk of developing breast cancer. The risk is directly proportional to the volume of alcohol consumed. Alcohol competes for the same enzymes in the liver as estrogen does; therefore excess alcohol increases your circulating estrogen, increasing the stimulation to cells in your breast.

Breast health needs to begin before puberty. Educating our children to live a healthier life will impact their future risk. One factor that is unfortunately minimized is overall body composition and percent of the body that is composed of fat.

Young girls with lower body fat have a delay in their menarche (first period). You cannot change when your first period began, but encouraging your children to exercise and stay fit can empower them.

Having your first child before thirty and breast-feeding will impact your overall risk, as well. This likely has to do with the clearing of the cells that line the ducts by using the breasts for their intended purpose. Vitamin D deficiencies have been strongly linked to an increased risk of developing breast cancer. If you are unable to be in the sun for 15 minutes each day without sunscreen, you may be deficient. The current recommendation for supplementation is 1000 IU per day of Vit D3. This was a recent increase from the FDA recommendations. Your doctor can check your level by ordering a simple blood test for 25-OH Vit D level.

Women who participate in cardiovascular exercise for at least three hours per week decrease their risk of developing breast cancer by 20%. Strength / resistance training will increase lean muscle mass and decrease body fat content. This is about being **fit** not skinny.

For more information visit www.comprehensivebreastcare.com, www.breastcancer.org, www.cancer.org, etc.

Clinical Management of Breast Cancer

In accordance with the National Association of Comprehensive Breast Centers, collaboratively, the medical team determines the clinical management for those diagnosed with breast cancer. There are many factors that come into play in the determination of treatment planning and these plans are individualized for each patient with active input from every specialty.

General treatment options include a combination of

1. Surgery
2. Radiation therapy
3. Chemotherapy
4. Anti-estrogen hormone therapy

The treatment recommendation is based upon the patient's clinical presentation, age, family history and other circumstances that may impact the individual.

Genetic testing is considered in all patients and is performed in a timely manner in patients that fit the criteria and are fully informed of the implications of the test results. This information is essential to educate the patient fully about their *future* risk of breast cancer. Knowing the true risk of a second cancer is often used in surgical decision making therefore, timely testing is essential. Family risk assessment is performed through our affiliation with The University of Pennsylvania Cancer Risk Evaluation Program (CREP). This program is designed to thoroughly examine a families risk of many genetically based cancer syndromes and offers our patients the opportunity to discover what their genetic predisposition may be to a particular cancer. This information allows for the specific testing of other family members and possibly preventive interventions for those individuals that carry a gene mutation.

Survivorship is an essential component to our care of women and men being treated with breast cancer. We have very active breast cancer support groups that are an integral component to healing. In addition to cutting edge surgery, radiation therapy and chemotherapy, we incorporate complementary healing. With the generous and ongoing support of the *Healing Consciousness Foundation*, our patients have access to holistic therapies including guided imagery, massage, healing touch, acupuncture, fitness, nutritional counseling and many more. Our ultimate goal is to treat the physical disease while promoting healing and overall wellness within each individual that we treat at Holy Redeemer.

For more information, visit www.comprehensivebreastcare.com, www.breastcancer.org, www.cancer.org and discuss with your personal physicians.

Systemic Therapy (Chemotherapy & Anti-estrogen Therapy)

Although breast cancer is a disease of the breast, it has the potential, via the blood stream or the lymphatic channels, to metastasize (spread) to other regions of the body, most notably the bones, lungs, liver and brain. The prevention and/or treatment of this process of metastasis is generally the primary indication for systemic therapy. In contrast, local therapy refers to surgery and radiation which for the most part, targets the breast and the regional lymph nodes. Systemic therapy for breast cancer is divided in to two main subtypes, chemotherapy and anti-estrogen therapy. Chemotherapy works by killing cells that divide rapidly, one of the main properties of cancer cells, and is generally given intravenously, though more oral options are emerging. Antiestrogen therapy is generally oral and refers to medications that either block the actions of estrogen or impair its production. The decision to administer therapy is a complex one, made by the medical oncologist and is based on any one patient's individual risk from their cancer, weighed against the risks/benefits of the treatment itself.

The last 10 yrs has seen a veritable sea-change in the evolution of chemotherapy. The advent of targeted and biologic agents has allowed us to better exploit the differences between the cancer cell and the normal cell. These novel compounds, given either alone or in conjunction with standard chemotherapy, have led to significant reductions in risk of recurrence with attendant improvements in survival. We have also made significant headway in the field of antiestrogen therapy, for which about 75% of breast cancer patients are potential candidates. There are 3 situations in which these treatments are given in the context of breast cancer: Neoadjuvant, Adjuvant, and Palliative.

Neoadjuvant therapy is given prior to surgery, so as to shrink the tumor either to turn an inoperable cancer into an operable one, improve the likelihood of success of the surgery, or to allow for a more appealing cosmetic outcome in patients who may already have operable tumors (i.e. mastectomy to lumpectomy). Adjuvant therapy refers to systemic treatment given after surgery whose purpose is to eradicate any microscopic cells that may be present either in the breast or in the blood/lymph vessels, so as to decrease the risk of recurrence. Any one patient's risk of recurrence is dependent on a multitude of variables, so while some patients may require months of chemotherapy, others may need none. Finally, palliative systemic therapy is any chemo/anti-estrogen therapy given to a patient who has an incurable cancer. The goals generally are to control and stabilize the cancer, so as to improve both quality and quantity of life, with neither being sacrificed for the other.

About $\frac{3}{4}$ of all breast cancers express the hormone receptors estrogen and/or progesterone. The continued production of estrogen either in the ovaries (in pre-menopausal women) or in the adrenal glands, fat tissue, and liver (in post menopausal women) can lead to recurrence of their cancer. In these patients, anti-estrogen therapy either blocks the actions of, or impairs the production of estrogen and is indicated to reduce the risk. These are oral medications and are given for 5-10 years, though more data is mounting for prolonged usage. There is evidence that these medications may even be useful in women who have never had breast cancer, but due to heredity, benign breast disease, age, etc, are at higher risk.

Systemic Therapy (Chemotherapy & Anti-estrogen Therapy) continued...

There have also been many advances in the field of supportive medications given prior to, or during the chemotherapy cycle, which has led to the amelioration of many of the adverse effects of systemic therapy. However, side effects still do occur and can lead to a temporary disruption in quality of life for many patients. Tolerance of therapy varies from patient to patient though hair loss, fatigue, and suppression of blood counts are among the more commonly seen adverse effects. There are many different chemotherapy and anti-estrogen therapies available and each one carries its own particular set of complications

Oncotype DX Assay

Breast cancer can recur both locally (in the breast) or distantly (in other parts of the body). Distant recurrence is often incurable, so it's vital to determine early on, at diagnosis, which patients are at higher risk, so as to not miss the opportunity to aggressively treat them and ultimately improve their outcomes. In 2005, the Oncotype Dx assay was approved and is currently the only readily available molecular assay in this country, to aid in this determination of risk and subsequent benefit from chemotherapy. This assay is now a standard of care in the population of women with early stage breast cancer (no lymph node involvement) whose cancers express the estrogen (hormone) receptor. Not only does it allow the medical oncologist to more accurately pinpoint those who need chemotherapy, but it helps in sparing those women who truly would not benefit from potentially dangerous treatment.

After an exhaustive analysis and review of hundreds of candidate genes involved in breast cancer, 21 genes were deemed to correlate highly with breast cancer growth, proliferation, metastasis, etc. The process involves retrieval of the surgical or biopsy specimen, which is then sent to a specialized lab where this 21 gene molecular analysis is run on the tissue, to determine which of these genes is upregulated (turned on) and which is downregulated (turned off). A complex formula derived by weighing the importance of each of these genes is then applied and finally, an Oncotype Score is delivered. This number translates into a percentage risk of distant recurrence of breast cancer in the next 10 years. Patients are classified into different risk groups based on the score, with the high risk patients deriving significant benefits from chemotherapy. Large scale clinical trials are underway to further refine this test and it's role in all breast cancer patients.

Exercise & Breast Cancer

Few words in the English language inspire more profound emotions than "*You have cancer.*" The fear associated with the diagnosis can be overwhelming both physically and emotionally, often paralyzing. There is a fear of pain, suffering, death, immobility, loss of independence, becoming a burden, leaving loved ones, and ultimately, loss of control, both physically and emotionally. While little can be done to change the course of the treatments themselves in terms of the surgery, radiation and chemotherapy, there are many actions patients can take to regain some of that control: having a positive outlook, asking questions, familiarizing themselves with the disease and the treatments, relying on family and friends for support, eating right, and exercising. Evidence for the benefits of exercise in cancer patients has been mounting for the past 15 to 20 years. In 1996, the American Cancer Society added regular physical activity to the list of measures included in their cancer prevention guidelines, finally bringing to a close the "get more rest" mentality that

Systemic Therapy (Chemotherapy & Anti-estrogen Therapy) continued...

pervaded the oncology community for years past. The role of exercise is rapidly emerging as one of the foremost areas of cancer research. There are proven benefits in terms of quality-of-life improvement, cancer-related fatigue, pain control and even in risk of recurrence and possibly survival. We know, for example, that estrogen is the driving force behind many breast cancers and that fat tissue harbors estrogen. It stands to reason that obesity, then, can increase one's risk of a breast cancer recurrence and in fact, this was demonstrated in a recent study.

The question of what physical activity to perform is dependent on many variables including one's own individual level of fitness prior to treatment, the cancer itself and the treatments being administered. A 30 yr old prior triathlete with a localized breast cancer will obviously handle a greater degree of activity than a sedentary 60 yr old with metastatic colon cancer. The important point, however, is that both can benefit greatly.

Seek information on exercise from reputable organizations:

- American Cancer Society
- American Council on Exercise
- American College of Sports Medicine
- Team Survivor
- Breast Cancer.org

Getting a diagnosis of cancer can be overwhelming, but with proper guidance, some motivation, insight into your body, your disease and your treatment along with a healthy dose of common sense, exercise and other forms of physical activity can be one of many pieces that allow you to get your life back.

Radiation Therapy

Radiation therapy is an indispensable weapon in the war against breast cancer, along with surgery and chemotherapy. Of the nearly 200,000 women who are diagnosed with breast cancer each year, many will undergo radiation therapy at some point as part of their treatment. For most patients, the goal of the treatment is cure, usually by preventing recurrent disease following surgery. This may be in the setting of breast preservation (for example, following lumpectomy) for earlier-stage disease, or following a mastectomy, for more advanced disease. Radiation is also a mainstay of palliative treatment for those patients where cure is no longer possible. Properly administered radiation therapy can relieve pain or prolong life by halting or reversing tumor growth in critical anatomic locations with minimal toxicity.

At Holy Redeemer Hospital (HRH), we have treated over 985 patients with breast cancer between 2001-2009. Our treatment techniques have always been state of the art, evolving with current technology, science, and practice. Our dual-energy linear accelerator with electron-beam capability and multi-leaf collimation allows the flexibility to deliver precisely controlled, individualized therapy for almost any clinical situation. We follow and have participated in developing treatment guidelines in use throughout Penn Medicine.

Holy Redeemer Hospital was one of the first Penn Cancer Network sites to adopt then-new IMRT technology for use in breast cancer, as well as PET imaging and forward-planning dosimetric techniques that have now become standard throughout Penn Medicine. These techniques have furthered our ability to deliver treatment to the breast (or other appropriate targets) with precision based on 3-Dimensional imaging, minimizing doses to nearby healthy organs (lungs, heart, etc), while also achieving homogenous dose distributions, which in turn significantly lowers temporary side effects, such as skin reactions. Those side effects that do occur, are managed by a skilled multidisciplinary clinical team, who are accessible to the patient every day during treatment, as well as during ongoing, regular follow up.

Our future involves the addition of High Dose Rate Brachytherapy (HDR), for the delivery of Partial Breast Irradiation (PBI). This new treatment technique, was recently established as a standard treatment option for some early-stage breast cancer patients. PBI delivers radiation to a smaller volume of breast tissue, and can be delivered over a shorter time period, typically one week. This technique has only recently become available at Penn Medicine, where patients can be referred in the meantime. HDR will also have other applications for the treatment of other types of malignancies.

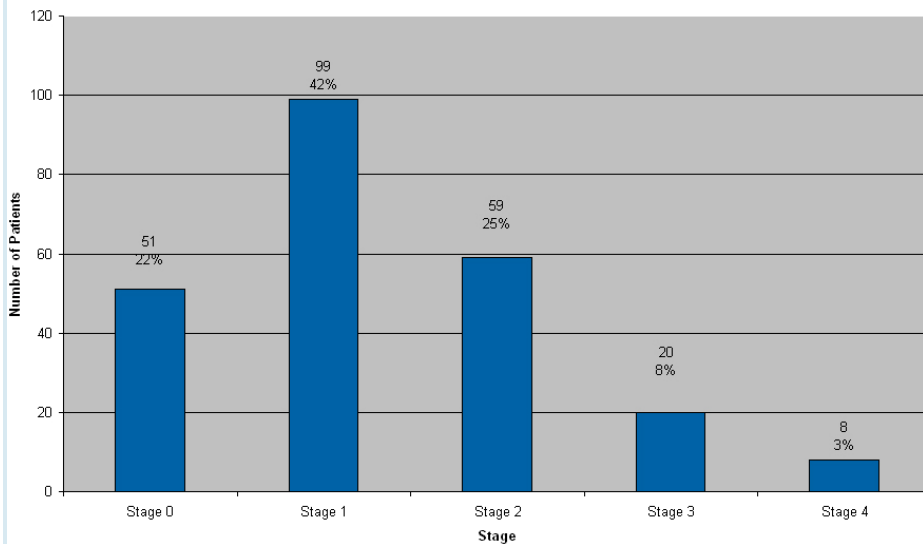
Analysis of Breast Cancer Data: Holy Redeemer Hospital and NCDB

Holy Redeemer Hospital (HRH) has compared its Breast cancer data for the calendar year 2009 with the National cancer Data Base (NCDB). Overall, the HRH statistics align generally with those seen nationally. Any variations in the HRH data are reviewed. The HRH age data suggests that we see a larger volume of patients diagnosed at a younger age then the NCBD.

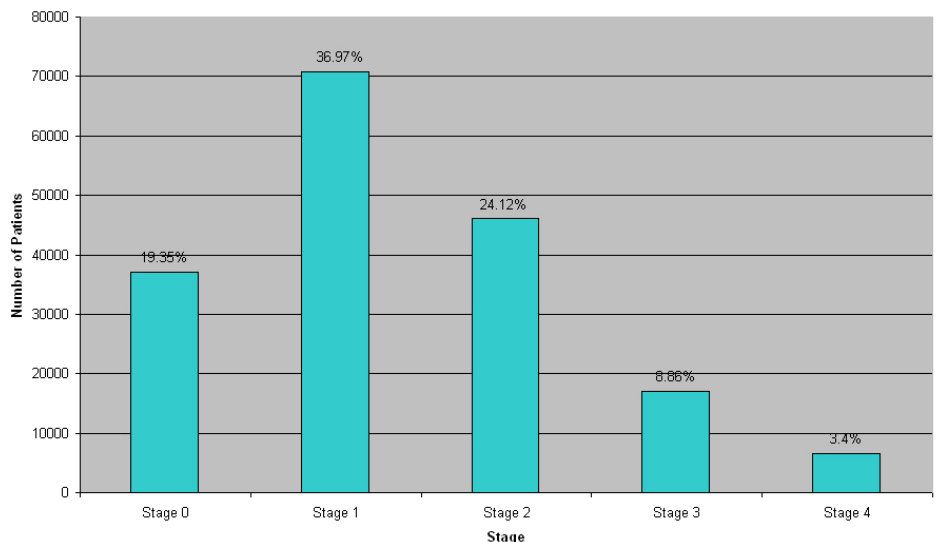
Stage at Diagnosis

HRH data closely approximates the NCDB data with the exception in the 40-49 age group, where there is an increase in Stage II carcinoma, which may be reflective of the fact that we have 26% of our cancer diagnosis in this age group compared to the NCDB, which has 19%. Stage for stage our data is very similar to the national database and the small differences are likely reflective of smaller numbers of patients.

Breast Cancer by Stage First Seen at Holy Redeemer Hospital in 2009



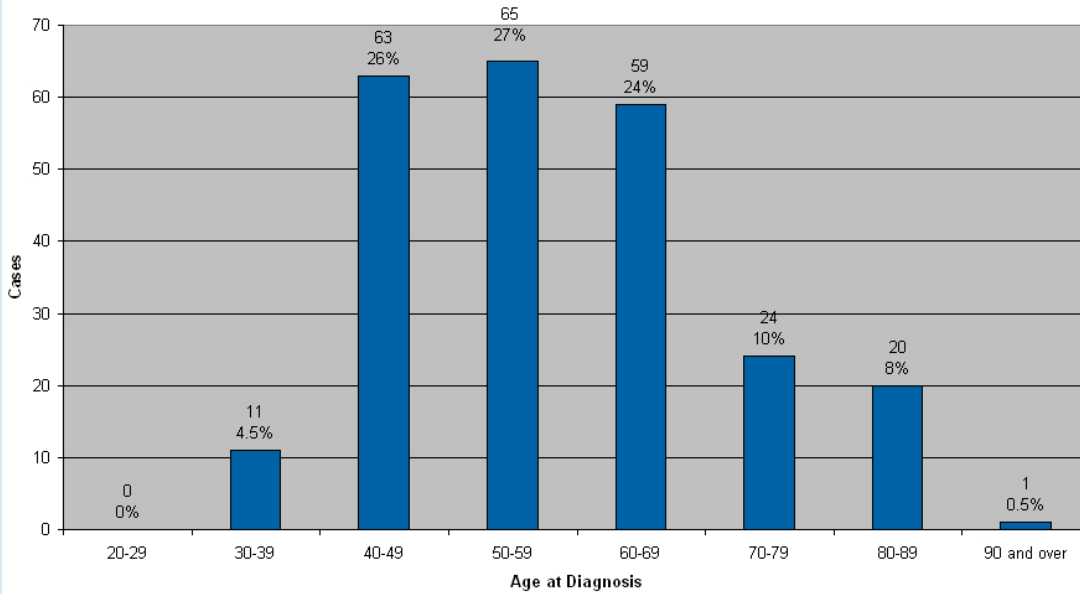
Breast Cancer by Stage Diagnosed in 2007 NCDB Data



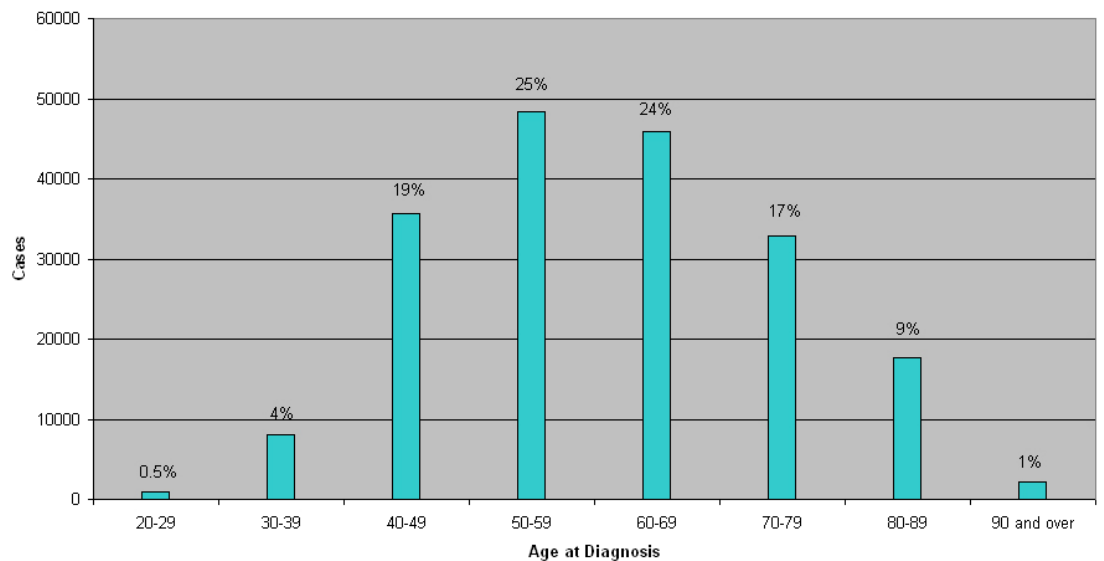
Age at Diagnosis

Comparison of the HRH and NCDB database reveals a very similar pattern of age at diagnosis with the exception of a slight peak in HRH in the 40-49 age group. This may be reflective of the mammography screening programs, affluent professional population and digital mammographic technologies.

**Breast Cancer by Age First Contact 2009
Holy Redeemer Hospital**

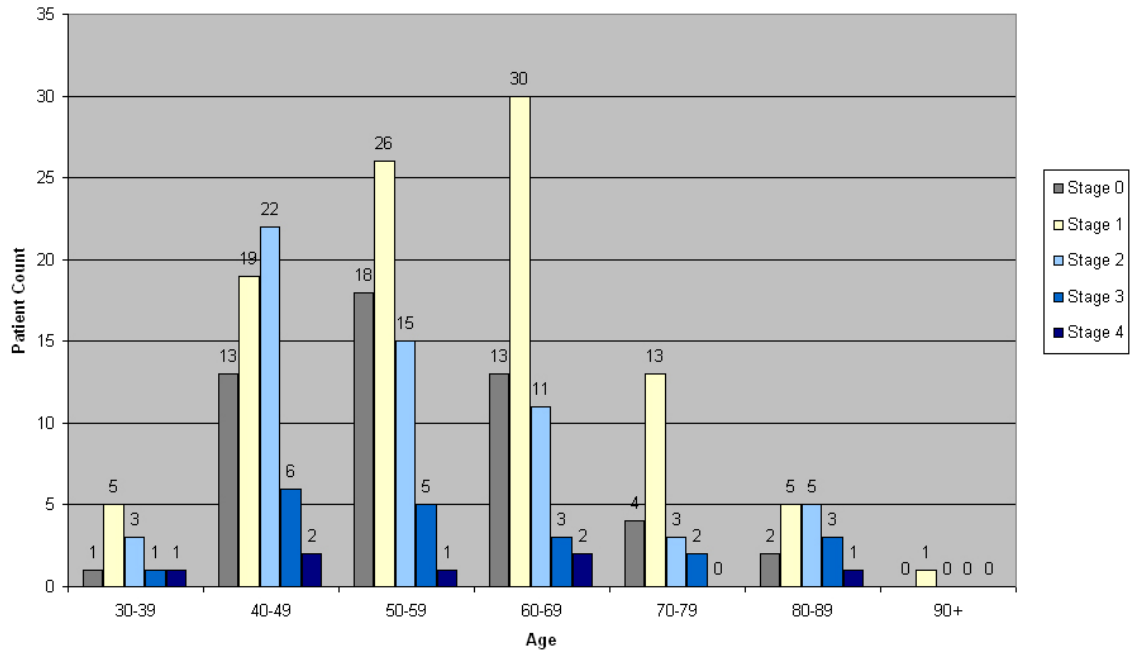


**Breast Cancer by Age Diagnosed in 2007
NCDB Data**

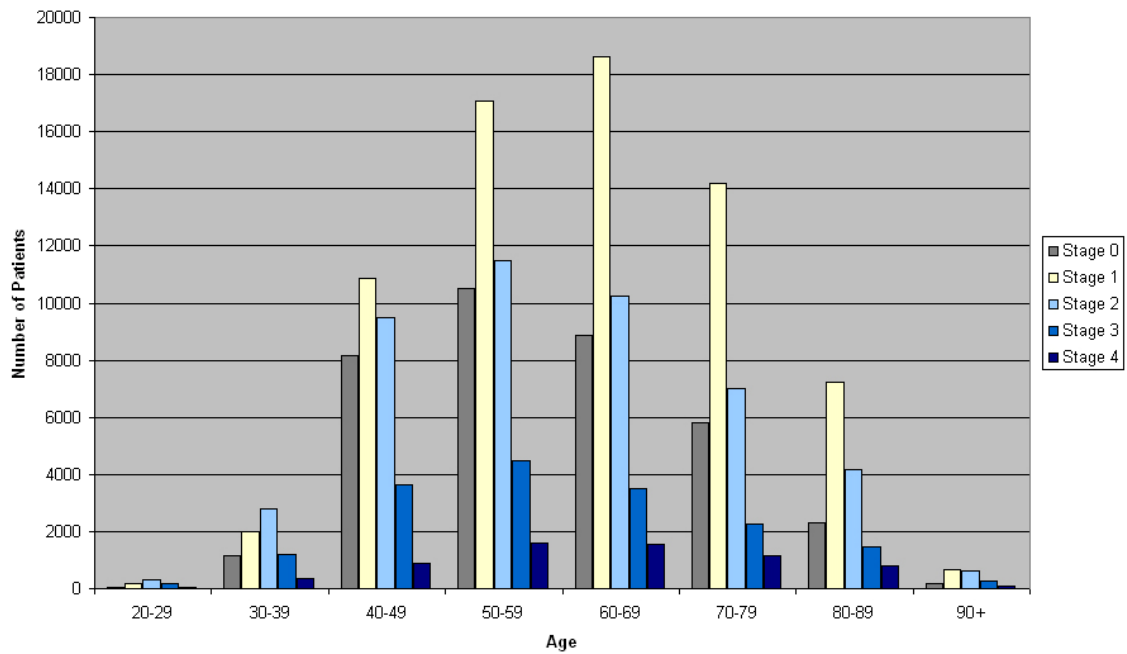


Age at Diagnosis by Stage

Age Group by Stage of Breast Cancer seen in 2009
Holy Redeemer Hospital



Age Group by Stage of Breast Cancer Diagnosed in 2007
NCDB Data

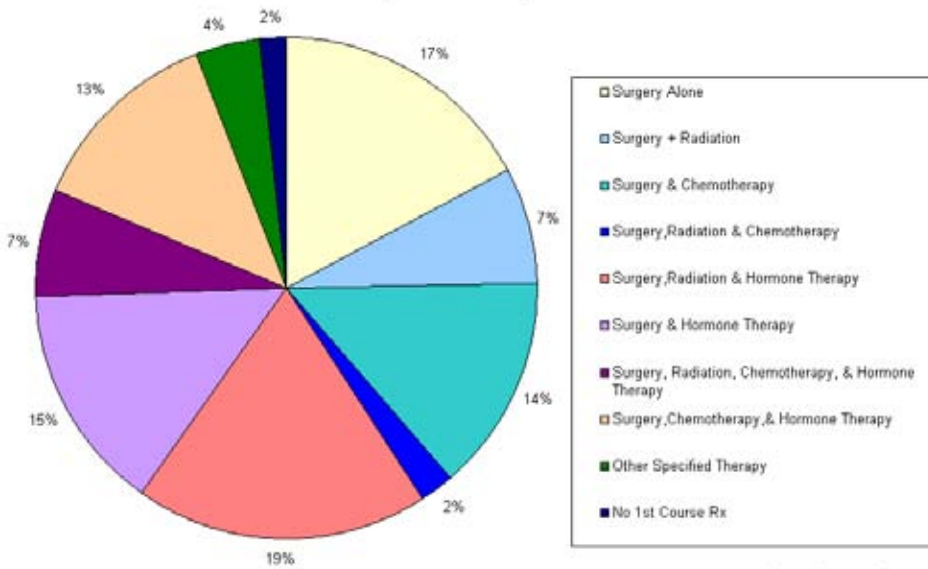


Initial Treatment

Ninety-four percent of patients are treated with potentially curative therapies compared to nationally _eighty-three percent. The slight differences in the form of initial treatment likely are reflective not only the age at diagnosis, but the manor in which we approach the treatment of breast cancer. We feel strongly that it is our responsibility to educate each patient about their options that very often include several different treatment paths. In younger women with earlier disease, there has been a shift toward more mastectomies with reconstruction. This is likely reflective of the internet social networking and the improvements in breast reconstruction.

The multidisciplinary team of physicians uses evidence based national treatment guidelines from The National Comprehensive Cancer Network (NCCN), in the treatment planning for our cancer patients. In accordance with our commitment for care excellence, the NCCN guidelines are reviewed with each patient case review at our weekly multidisciplinary conferences. www.nccn.org

First Course Treatment of Breast Cancer First Contact in 2009
Holy Redeemer Hospital



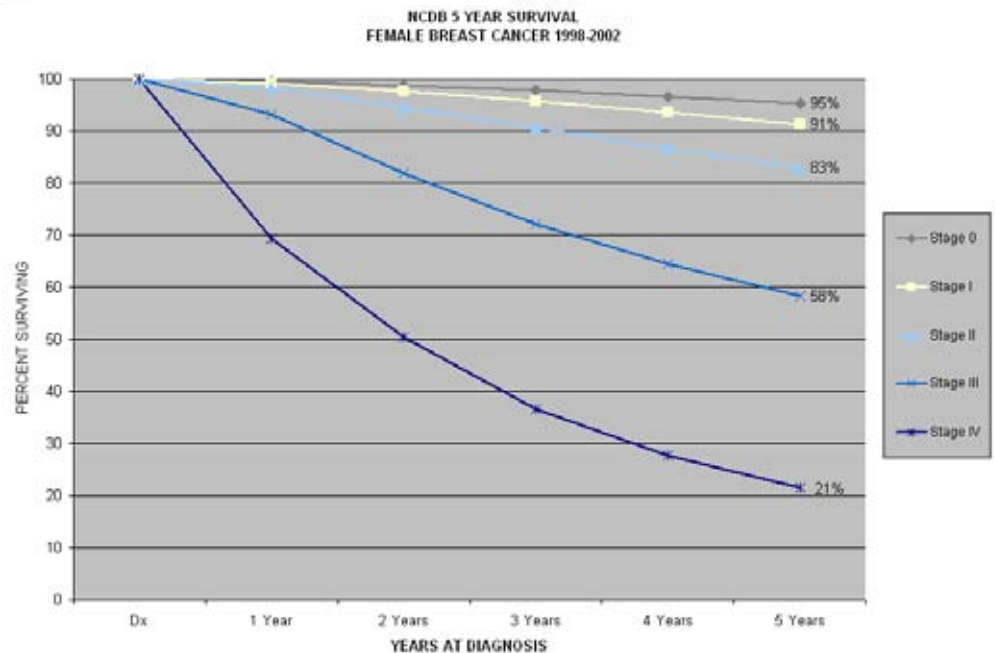
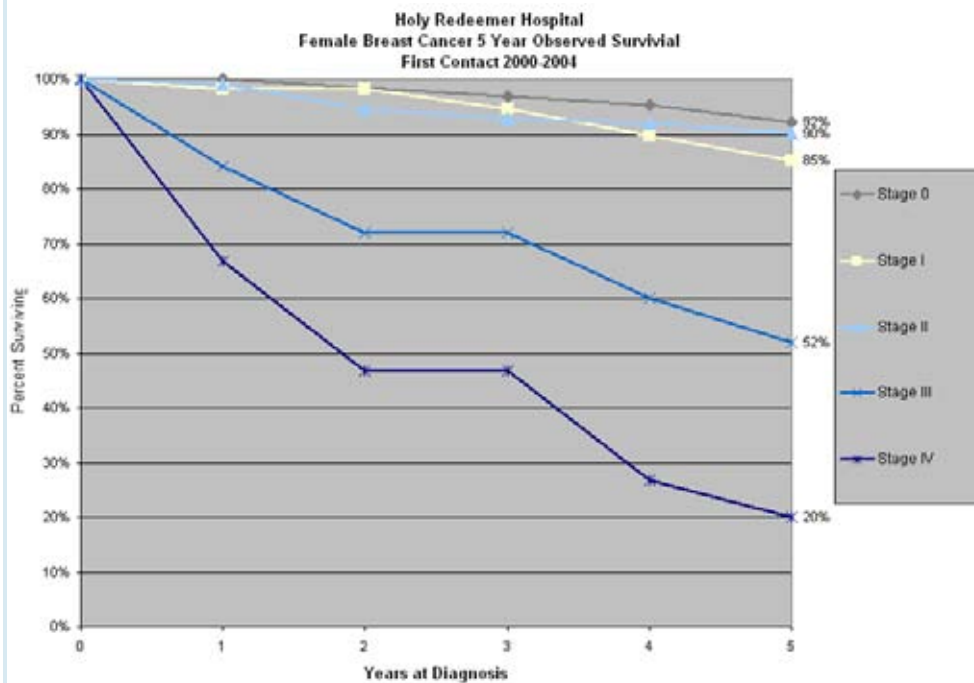
First Course Treatment of Breast Cancer Diagnosed in 2007
NCDB Data



Breast Cancer Five-Year Survival

The 5-year survival rate refers to the percentage of patients who are alive 5 years after their diagnosis.

The overall five year survival curves are nearly identical, with the slight convergence at 3.5 years of the Stage I and Stage II populations. This is likely representative of the relatively small numbers of patients and the average age at diagnosis of the Stage I breast cancer patients was on average 10 years older than the age of the Stage II breast cancer patients. This age discrepancy will lead to more deaths of other age related deaths. Compared to the NCDB data our Stage I patients are an older population.



The Future of the Breast Health Program at Holy Redeemer Hospital

Accreditation by the by NAPBC and re-accreditation by the ACoS/CoC, were both program goals for the year 2009- 2010. Thanks to a system wide commitment to excellent care for the women and men in our community and beyond, we have achieved these goals. In addition to these prestigious recognitions, our membership in the Association of Community Cancer Centers and the National Consortium of Breast Centers, has created a culture for delivery of high quality cancer care in the comfort of the patient's own community. This brings together academic care in a community hospital setting.

The Holy Redeemer Women's HealthCare center opened in November 2010 in Southampton PA to provide comprehensive BreastCare®, which brings state of the art digital mammography, breast imaging and biopsy capabilities into the same facility as the breast surgeons, thereby creating a seamless flow for patient care.



Holy Redeemer Women's HealthCare at Southampton

Lung Cancer

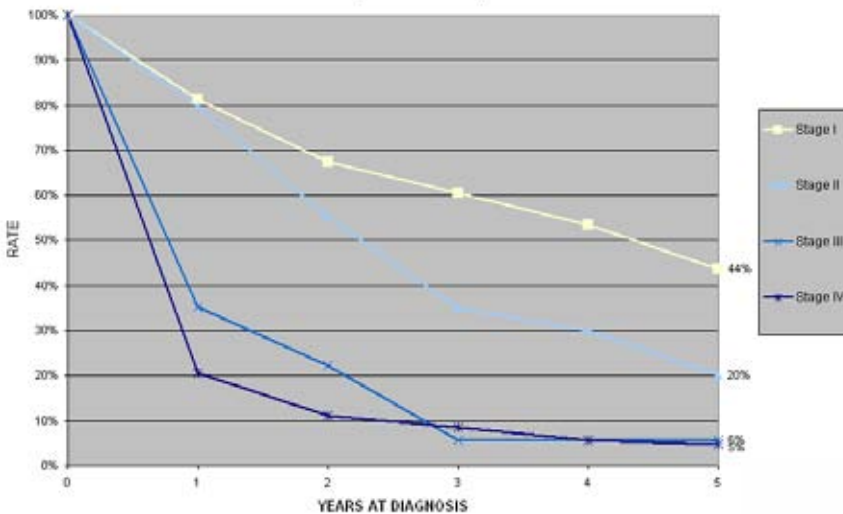
Lung Cancer 5 Year Survival

Holy Redeemer's Bott Cancer Center, treated 224 cases of Stages I-IV lung cancer from 2000-2004. We have a multidisciplinary approach, with cooperation between Medical Oncologists, Pulmonologists, Thoracic Surgeons, and Penn Radiation Oncologists. These physicians are complimented by the Cancer Center's Multidisciplinary team, including Cancer Navigators, Nutritionists, Chaplains, Physical & Occupational therapists, Oncology nursing staff and a host of Community support events.

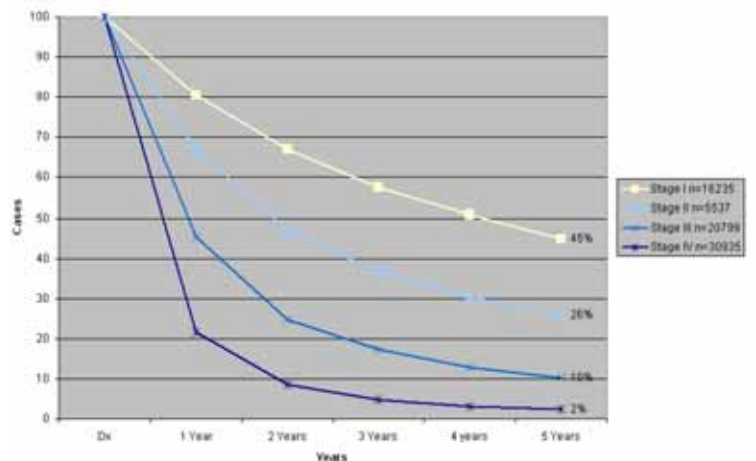
The distribution of Stage at presentation is similar to the NCDB of over 73,500 cases over a 5 year period. Our distribution was: Stage I: 19%, Stage II: 9%, Stage III: 24%, and stage IV: 48 % (compared to the NCDB 22%, 8%, 28%, and 42% respectively). Our 5 year survival curves are very similar to the NCDB as well. We have slightly better Stage II survival at 1 and 2 years, while survival in Stage III at 1 and 3 years is slightly worse than the NCDB.

The Betty Bott Cancer Center at Holy Redeemer Hospital meets the needs of the community locally with state of the art multidisciplinary treatment, compassionate, convenient care and outcomes in keeping with those of the NCDB database.

Non Small Cell Lung Cancer First Contact 2000-2004
Five Year Observed Survival by Best AJCC
Holy Redeemer Hospital



NCDB 5 year Observed Survival for Non-Small Cell Lung Cancer
Diagnosed 1998-2003





In 1997, Holy Redeemer Hospital became a member of the Penn Cancer Network. As a member of the Penn Cancer Network, Holy Redeemer physicians, staff and patients have access to the latest research and treatments available at Penn's Abramson Cancer Center, one of only a select group of Cancer Centers in the United States designated by the National Cancer Institute (NCI) as a Comprehensive Cancer Center.

Penn believes that the most effective and appropriate way to provide outstanding, comprehensive cancer care to the community is by establishing and maintaining formal relationships with select community hospitals, such as Holy Redeemer, and their physicians. This is rooted in Penn's belief that 90-95% of cancer treatment can, and should be provided in the community setting, close to a patient's residence or workplace.

Penn's Abramson Cancer Center recognizes and respects the role and contributions of community-based physicians and specialists at Holy Redeemer Hospital. Penn believes that Holy Redeemer provides outstanding care and that Penn complements these programs by offering highly specialized services and research activities, such as bone marrow transplants, that could not be offered cost-effectively in the community setting. By building upon the complementary strengths of Holy Redeemer's programs and services and Penn's tertiary and quaternary services, together we provide comprehensive cancer services without duplication and conduct research of importance to our region.

A Penn Cancer Network administrator is an active member of the Holy Redeemer Hospital Cancer Committee. In addition, Cancer Network staff and other members of the Abramson Cancer Center work collaboratively with Holy Redeemer Hospital Cancer Program leadership in developing programs and strategies that support the goal of providing advanced comprehensive cancer care to the community.

2010 Cancer Committee Members

Scott Thorton, M.D.

*Department of Gynecology
Chairman, Cancer Committee*

Shelly Urofsky	Executive Vice President, Holy Redeemer Health System
Anthony Coletta, M.D.	Executive Vice President/Chief Medical Officer
Marian Thallner	Vice President, Women's and Children's Services
Heidi Volpe, R.N., MSN, CCRP	Cancer Center Director
Beth DuPree, M.D., FACS	Medical Director, The Breast Health Program at Holy Redeemer
Pantaleon L. Fagel, M.D.	Department Chair, Pathology
Steven A. Fassler, M.D.	Department of Colorectal Surgery
Christopher J. Gallagher, M.D.	Department of Radiation Oncology
Larry Iannarone, M.D.	Department of Surgery
Linda Kloss, D.O.	Department Chair, Radiology
Pallav Mehta, M.D.	Department of Medical Oncology
Joseph Potz, M.D.	Department of Medical Oncology
Jeffery D. Reich, M.D.	Department of Urology, Cancer Program Physician Liaison
Alan J. Reinach, M.D.	Department of Pulmonary Medicine
Sondra C. Saull, M.D.	Department of Otolaryngology
Amanda Jenkinson, R.N., MSN, OCN	Oncology Nurse Navigator
Ann Marie Dugan, RN	Hospice Care
Lori Fadden, R.N., BSN, OCN	Clinical Unit Coordinator, 2A, Inpatient Oncology
Meg Garrett, R.N., BSN	Clinical Research Associate
Terri Kilker, R.N., BSN	Nurse Manager, 3N, Medical – Surgical Oncology Unit
Maura Haslam	American Cancer Society Liaison
Tapan Kikani, P.T., Ph.D.	Director Rehabilitation Services
Marci Kraft-Orloff, RHIT, CTR	Cancer Registry
Ann McHale	Breast Health Program Coordinator
Sharon Naylor, RT (T)	Chief Therapist, Radiation Oncology
Randie Oberlender, RPh, MBA	System Director of Pharmacy
Karen Reilly, BCC	Director of Pastoral Care
Jeanne M. Rogers, R.N., M.Ed.	Administrative Director, University of Pennsylvania Cancer Network
Jeanie Ryan, R.D.	Director Food and Nutrition
Deborah Shank, RHIA	Department of Quality Improvement and Medical Administration
Cindy Stern, R.N., MSN, CCRP	Cancer Network Administrator, University of Pennsylvania Cancer Network



Holy Redeemer Hospital, 1648 Huntingdon Pike, Meadowbrook, PA 19047

For more information about the Charles A. & Betty Bott Cancer Center at Holy Redeemer, visit our website at www.holyredeemer.com or call 215-938-3555.

**As an organization that cares for the total person,
Holy Redeemer provides a continuum of care
that celebrates living through
HealthCare, HomeCare and LifeCare.**