

Magee-Womens Hospital  
of UPMC

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Magee-Womens Hospital of UPMC

*Cancer Program*  
REPORT

*2007*

## INTRODUCTION FROM THE CHAIRMAN

Magee-Womens Hospital of UPMC continues its commitment to provide comprehensive cancer care through a multidisciplinary approach for its patients. State-of-the-art services provide the highest level in prevention, diagnosis, and treatment. The physician and associated health care team work with the patients and their families to develop personal treatment plans to customize care.

Physician specialists include breast and gynecologic oncologists, urologists, gastroenterologists, surgical and medical oncologists, radiation oncologists, behavioral health professionals, plastic and reconstructive surgeons, pathologists, geneticists, radiologists, palliative care specialists, and melanoma specialists. Other health care professional members include nursing services, pharmacists, dietitians, social workers, sonographers, and technologists specializing in women's cancers.

Support groups, varied educational activities, a patient resource room, and internet access to the Magee-Womens Hospital of UPMC website are available. Magee-Womens Hospital of UPMC, Magee-Womens Research Institute, and the University of Pittsburgh Cancer Institute, an NCI-designated Comprehensive Cancer Center, offer the most current therapies and clinical trials. The Magee-Womens High Risk Breast Cancer and Ovarian Cancer Programs provide women with a thorough assessment of their individual risks, along with risk reduction, and surveillance strategies. A multidisciplinary team of the medical staff and allied health professionals meet weekly for a breast cancer conference and a separate gynecologic oncology Tumor Board Conference, to discuss patient evaluations, both for prospective and continuing care, and plans for future care of selected patients with malignancies.

During 2007, we expanded our Patient and Family Centered Care approach to include all cancer services which involves a multidisciplinary work group and patient advisors working together to redefine a model of care that ensures that the patient and her family are the principal focus in the diagnosis, treatment, and ongoing management of cancer.

The Cancer Committee provides leadership and guidance to the cancer program ensuring that the highest quality of health care continues to be provided for patients. It also monitors and coordinates all cancer-related activities. The committee meets bi-monthly and consists of representatives from each department involved in cancer management and care. The 2007 Cancer Annual Report describes the accomplishments and commitment to excellence that the cancer program maintains at Magee-Womens Hospital.

We have also experienced a transition in Cancer Program leadership with the retirement in 2008 of Alan Kunschner, MD, as Cancer Committee Chairman. Dr. Kunschner's leadership over the past 26 years has had a significant impact on the development of the Magee Womens Cancer Program into what it is today.



Paniti Sukumvanich, MD  
Chair, Cancer Committee



## CLINICAL INNOVATIONS

*Magee Womens Cancer Program remains at the forefront of patient care and state-of-the-art technology and treatment. Through its commitment to clinical innovations and quality initiatives, Magee's cancer program continues to expand its capabilities in diagnoses and treatment of cancer, as well as managing patient survival.*

### Breast Cancer Program

In 2007, significant strides were undertaken to ensure that clinical trials were offered consistently to women with breast cancer, with new clinical trials for the collection of blood and tissue samples, along with innovative systems to collect and store valuable clinical information for future outcome research efforts.

In 2007, the first one year Interdisciplinary Breast Fellow completed her fellowship training and a second fellow was recruited. This program, open to general surgeons and gynecologists, provides a new educational program for those physicians interested in pursuing breast surgery as a specialized field.

### Gynecologic Cancer Program

Through tremendous outreach efforts of the Division of Gynecologic Oncology faculty, and in partnership with UPMC Cancer Centers, many areas of the region now have access to a gynecologic oncologist for clinical care and clinical trials. Outreach areas include Moon Township, Uniontown, Westmoreland County, Cranberry, Wexford, and Hillman Cancer Center.

Clinical and basic research continue to be a strong component of the Gynecologic Oncology program. Through collaborations with radiology, radiation oncology, medical oncology, and surgery, partnership with the Magee-Womens Research Institute and the University Pittsburgh Cancer Institute, and full membership in the Gynecologic Oncology Group, the Division of Gynecologic Oncology continues to further research efforts in gynecologic cancer.

### The Women's Health Tissue Bank

The Women's Health Tissue Bank has experienced much growth in demand for the ongoing needs for fresh human biological samples. This increase is due in large part to the nationally renowned surgeons and scientific community at Magee-Womens Hospital who have the capacity to recruit patients into several NCI-supported protocols within the Magee Womens Cancer Program.

Currently underway is a project between the Enterprise Clinical Software Development team and the Health Sciences Tissue Bank from Magee, UPMC Presbyterian, and UPMC Shadyside to leverage a new system to assist the operational workflow. This new system named the Biospecimen Inventory and Operational System (BIOS) will attempt to build a system to unify the efforts of biospecimen collection, inventory and patient consents across the three facilities. With the help of Rajiv Dhir, MD, Anil Parwani, MD, Michelle Bisceglia, Lindsay Mock, and the Information Services Division this collaboration looks to implement a successful solution in the near future.

## Pathology Department

Introduction of HPV vaccines is occurring in a cervical cancer screening environment that has shifted dramatically in the U.S. over the last five to twelve years with introduction of liquid-based cytology (LBC), computer-assisted screening (CAS), widespread ASCUS reflex HPV testing, and introduction of Pap and HPV co-testing in women age 30 and older. The Department of Pathology employed novel decision science tools of Bayesian network model analysis to create a unique Pittsburgh Cervical Cancer Screening Model (PCCSM) that quantitatively assesses how multiple variables, including the new technology variables listed above, individually and collectively impact risk for cervical precancer (CIN2/CIN3/AIS) and cancer (CA).

The system is unique in a number of aspects:

- It is the first risk model to provide individualized quantitative risk assessments on cervical cancer risk, based on a large number of laboratory data variables.
- It utilizes decision science software developed in the Decision Systems Laboratory, School of Information Sciences, University of Pittsburgh, and applies this technology to a widely used screening program.
- It reflects the actual data of the largest academic cytology laboratory in the U.S., located at Magee-Womens Hospital.

- It reflects the use of the latest screening technologies, including liquid-based cytology, location-guided computer-assisted screening, and widespread adjunctive Human Papillomavirus DNA co-testing.
- It is the first model of its kind applied to cervical cancer screening.

The PCCSM allows quantitative risk estimates of how multiple variables contribute to detection of cervical pre-cancer and cancer. PCCSM quantitative risk assessments can be used as an aid in managing individual patients and in considering alternative system approaches to screening, follow-up, and treatment. The PCCSM facilitates analyses based on large modern data sets reflecting use of the most modern screening and prevention technologies rather than over-reliance on dated and often limited clinical trials.

## Radiation Oncology

Radiation Oncology has implemented MRI and/or CT based planning for brachytherapy treatment of gynecologic cancers including those of the cervix, endometrium, and vagina. The 3D image based planning helps in better coverage of target volume at risk and reduce dose to critical organs in comparison to conventional point based planning. The emerging data is showing better outcome with this approach by helping improve local control and reduce side effects.

The introduction of multilumen breast brachytherapy offers technical flexibility of accelerated partial breast radiation therapy to a larger subset of patients with early breast cancer.

Radiation Oncology has been in the forefront nationwide for implementation of intensity modulated radiation therapy (IMRT) for gynecologic cancer. It is a rapidly maturing technology that allows delivery of radiation dose in a more conformal manner than conventional 2D or 3D radiation therapy by varying the radiation beams spatially or temporally. Unlike conventional RT, IMRT usually involves inverse planning, whereby dose-volume constraints for targets and normal tissues are defined a priority, then optimized with the use of a computer algorithm. Published outcome data from the radiation oncology faculty for this technology has shown favorable outcome.

## The Women's Cancer Center

The nurses in the Women's Cancer Center have become experts in the administration of intraperitoneal (IP) chemotherapy and the care of their patients undergoing the "Pittsburgh Regimen," an intense, six cycle chemo regimen. Chemo nurses from outlying UPMC satellite community centers have come to the Magee cancer center to observe administration of intraperitoneal chemotherapy and review the care of patients receiving the Pittsburgh Regimen. This has allowed them to return to their centers prepared to care for these patients who have chosen to obtain their treatment close to home.

In 2007, the Women's Cancer Center added a four-bay treatment area to accommodate the growing number of patients treated with the Pittsburgh Regimen.

## Palliative Care

The Palliative Care Service at Magee-Womens Hospital is an extension of the UPMC Comprehensive Palliative Care Service and is comprised of a Medical Director, Winifred Teuteberg, MD, and a Clinical Nurse Specialist, Denise Stahl. Both Dr. Teuteberg and Denise are board certified in Palliative Care. The Palliative Care Service works closely with Social Work, Pastoral Care, Nutritional Support, Physical Therapy and Rehab Services, Health Management, and Behavioral Health to serve people at all stages in the disease trajectory. The service now cares for patients who have been recently diagnosed with cancer, those who are living with controlled disease/illness and who have complicated symptom issues, as well as those who are facing end of life issues and challenges.

The collaboration with the UPMC Palliative Care Service also affords increased accessibility to additional interdisciplinary support services within the UPMC system, including palliative home health and hospice staff and services as well as additional education opportunities.

*The Palliative Care Service at Magee is truly innovative in that it is the first gender based palliative care service in the country.*



Part of the mission of Magee-Womens Hospital is to raise awareness and offer support to cancer patients, their families, and friends through advocacy, education, and community events.

## Advocacy and Awareness

Throughout the year, health care professionals have participated in numerous professional presentations and community events both locally and nationally.

### Race for the Cure

The Magee-Womens Breast Cancer Program team continued to have a strong showing at the Susan G. Komen Foundation Race for the Cure in Pittsburgh's Schenley Park on Mother's Day in May.

### Walk for the Whisper

Magee-Womens Hospital was the presenting sponsor of the National Ovarian Cancer Coalition-Pittsburgh Division's annual Walk for the Whisper, which takes place in September each year.

### Cancer Survivors Day

Planned by a multidisciplinary committee, this program has become a tradition at Magee. The celebration of survivorship includes an uplifting program with a welcome from one of the oncology physicians, along with music and food. More than 200 survivors and their families, physicians, and other care providers from Magee attend each year.

## Support Programs

Oncology social workers provide counseling and support to patients and their families, and facilitate group support meetings and peer support programs including:

- Breast Cancer Volunteer Program
- Breast Cancer Support Group
- Gynecologic Cancer Support Group
- Ovarian Cancer Volunteer Program
- Picking Up the Pieces — a peer support program sponsored by the National Ovarian Cancer Coalition (NOCC) in collaboration with Magee.

## Education Programs

Magee experts presented a variety of community programs throughout 2007. Areas addressed included:

- Ovarian Cancer
- Breast and Gynecologic Cancers
- Living with Breast and Ovarian Cancers
- Clinical Innovations for Breast and Gynecologic Cancers
- Research Updates in Breast and Gynecologic Cancer
- Breast and Ovarian Cancer Risk Assessment
- Palliative Care

### Breast Cancer Education Series

The Breast Cancer Education Series consists of bi-monthly lectures designed for all individuals seeking up-to-date information about breast cancer — breast cancer survivors, women recently diagnosed with the illness, or women and their family members concerned about the disease.

The goal of the program is to provide information to women and their loved ones to help understand the illness, its treatments, and what to expect from the health care system that provides care.

Updated information is presented by breast cancer specialists followed by a question-and-answer session. Participants have the opportunity to learn from the breast cancer experts as well as from other participants' experiences and exchange of information.

### Ovarian Cancer Education Series

The Ovarian Cancer Education Series was initiated in 2006 in partnership with the National Ovarian Cancer Coalition (NOCC) and consists of bi-monthly lectures designed for all individuals seeking up-to-date information about ovarian cancer — cancer survivors, women recently diagnosed with the illness, or women and their family members concerned about the disease. The goals and format for the program follow the Breast Cancer Education Series.

## Tumor Board and Breast Cancer Consultation Center Conference

The Division of Gynecologic Oncology and The Magee Womens Breast Cancer Program each sponsor a weekly multidisciplinary Tumor Board or conference, which focuses on patient management issues and current trends in gynecologic oncology and breast cancer care.

These meetings are attended by individuals within the subspecialties of gynecologic oncology, medical oncology, radiation oncology, radiology, pathology, genetics, patient care services, and social work. Clinical dilemmas or controversial and unusual patient cases are selected by the attending staff, presented by the senior resident, and discussed by the participants.

Radiographic and pathologic findings are correlated with the clinical findings. Rationale for an approach to the clinical problem is discussed by the attendees.

At the end of each presentation during the Gynecologic Oncology Tumor Board, senior residents, in conjunction with the attending gynecologist, are asked to formulate and explain their management strategies to the group. The Breast Conference fosters discussion of different approaches to the problems encountered in breast cancer care. The meetings also provide opportunities for possible recruitment of patients within research protocols.

## Continuing Medical Education

Magee specialists presented at a variety of professional education venues regionally, nationally, and internationally in 2007. Our experts continue to publish research, clinical care and outcome articles, and abstracts in national and international peer review journals.

## Nursing Grand Rounds

Nursing Grand Rounds has continued through 2007. The aim is to enhance the knowledge of nurses on a variety of topics. Continuing education credits, which can be used for maintaining certifications, are offered for most lectures.

*The goal of the program is to provide information to women and their loved ones to help understand their illness.*



*The Magee-Womens Cancer Program is committed to providing comprehensive education and support for patients and their families.*



**Patient and Family Centered Care**

The multidisciplinary work group of cancer care specialty physicians, nursing, imaging, social services, facilities, and administration continued to focus their efforts on improving the patient experience in breast and gynecologic cancer care delivery. Several patient advisory groups assist the work group in efforts to redefine a delivery model of care which ensures that the patient and her family are the primary focus in the diagnosis, treatment, and ongoing management of breast and gynecologic cancer.

Several service enhancement projects have been implemented in 2007 including:

- Moved post-operative mastectomy and reconstruction patients to one surgical step-down unit for more cohesive care
- Instituted urgent genetic counseling and testing protocols for patients who need to make surgical decisions
- Developed several communication tools for staff and physicians to improve communication with patients and families when things do not go as planned
- Implemented revised MRI and ultrasound biopsy schedules to improve timeliness of post-MRI workups

- Individualized the post-operative mastectomy patient discharge process with physician extender rounding
- Improved timeliness of results reporting for patients through the collaborative care nurses
- Implemented the use of emla cream pre-operatively for SLN injection procedures to decrease pain
- Improved surgeon to radiologist communication for pre-surgical imaging procedures
- Revised stereotactic biopsy environment, education and facility to improve the patient experience and decrease anxiety
- Updated the Breast and Gynecologic Cancer Program websites for better patient navigation

Several other projects are in development which focus on enhancing the patient experience with surgical procedures, chemotherapy treatment, and teambuilding for the cancer care providers.

**Demonstration of Magee Quality Services**

Magee-Womens Hospital participates in a national cancer benchmark of selected breast cancer quality measures as endorsed by the National Quality Forum and administered through the American College of Surgeons Commission on Cancer. The result of these measures for 2003-2005 (latest data available) demonstrates Magee's excellent performance rating in three key standards of breast cancer care.

**COMMISSION ON CANCER NATIONAL CANCER DATA BASE ELECTRONIC QUALITY IMPROVEMENT PACKET e-QulP FOR BREAST CANCER**

Estimated Performance Rates for Selected Breast Cancer Measures Diagnosis Years 2003-2005					
<i>Interpreting this table: The estimated performance rate shown below is Magee-Womens Hospital of UPMC proportion of patients treated according to recognized standards of care. These proportions are computed based on data directly reported from the Magee Cancer Registry to the National Cancer Data Base (NCDB).</i>					
Magee-Womens Hospital of UPMC	Number of Cases by Diagnosis Year				
	2003	2004	2005	Total	
Patients receiving breast conserving surgery who are under age 70 should receive radiation therapy.					
Estimated Performance Rate	97.7% (939/961)	283	342	336	961
Patients with Stage I (tumor size >1 cm and NO) or Stage II/III (any tumor size and N+), with ER/PR-tumors and who are under age 70 should receive or be considered for combination chemotherapy.					
Estimated Performance Rate	99.6% (222/223)	67	86	70	223
Patients with Stage I (tumor size >1 cm and NO) or Stage II/III (any tumor size and N+), with ER+ or PR+ tumors should receive or be considered for hormone therapy (Tamoxifen or third generation Aromatase Inhibitor).					
Estimated Performance Rate	97.2% (961/989)	284	332	373	989
<p><b>Background:</b> The National Quality Forum's (NQF) endorsement of measures for breast cancer care in April 2007 has positioned the American College of Surgeons Commission on Cancer (ACoS CoC) Commission on Cancer (CoC) to assist CoC-Approved cancer program in preparing for the implementation of these quality-focused measures. The Electronic Quality Improvement Packets (e-QulP) for breast provides CoC-Approved programs with the ability to examine program-specific breast cancer care practices on cases reported to the CoC National Cancer Data Base (NCDB) from 2003-2005. The performance rates shown in these reports are evolving toward the exact specifications of the breast cancer measures endorsed by the NQF.</p> <p>The content reproduced from the applications remains in full and exclusive copyrighted property of the American College of Surgeons. The American College of Surgeons is not responsible for any ancillary or derivative works based on the original Text, Tables, or Figures.</p> <p>©Commission on Cancer, American College of Surgeons, NCDB Benchmark Reports, v1.1 Chicago, IL, 2002. e-QulP for Breast Cancer—Overview Commission on Cancer First Released: October 2006/ Last Updated: July 2008.</p>					

## RESEARCH

Magee physicians and researchers remain on the cutting edge of discovering new treatments with promising outlooks for patients. Magee-Womens Research Institute (MWRI) works in collaboration with the University of Pittsburgh Cancer Institute (UPCI) to investigate cancers that affect primarily women, including breast, ovarian, uterine, and cervical cancers. Magee-Womens Hospital and UPCI have a joint program in care and research relevant to breast cancer, and Magee-Womens Hospital and MWRI have formed the Jennie K. Scaife Ovarian Cancer Center of Excellence. Basic and clinical studies in progress include clinical investigation, mechanistic studies, and assessment of the psychosocial and behavioral impact of these diseases.

We participate in major cooperative group trials including NSABP, RTOG, industry-sponsored trials, and studies developed by program investigators at Magee-Womens Hospital, Magee-Womens Research Institute, and UPCI. Magee has full membership status in the NIH/Gynecology Oncology Group.

In 2007, 36 different clinical trials were available with 580 patients accrued for breast cancer and 25 different clinical trials were available with 283 patients accrued for gynecologic cancer. Basic and clinical research in the areas of early detection, prevention, and, treatment efficacy is funded from regional and national sources, which include:

Department of Health

National Cancer Institute

Susan G. Komen Foundation

American Cancer Society

National Institutes of Health

Major pharmaceutical companies

Department of Defense

National Ovarian Cancer Coalition

Private foundations



## CANCER REGISTRY DEPARTMENT

### 2007 Cancer Registry Department Data Summary

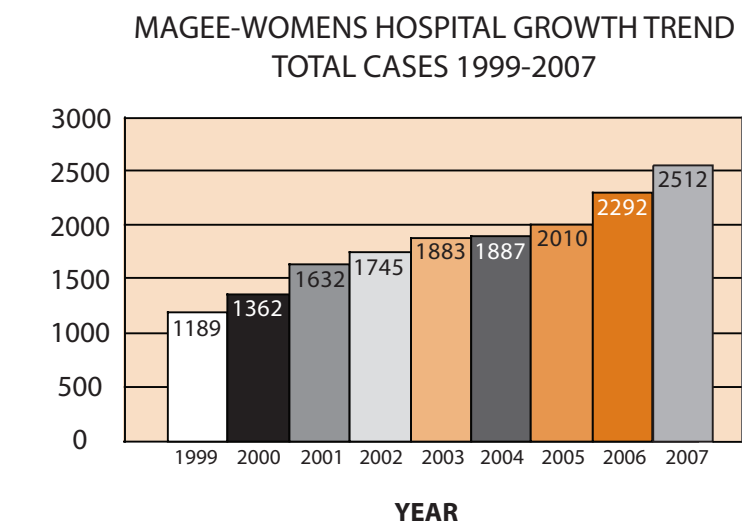
The Magee-Womens Hospital of the University of Pittsburgh Network Cancer Registry has a total of 26,158 borderline tumor and malignant cancer cases in the registry database. A complete data summary of all patients diagnosed and or treated at Magee-Womens Hospital is maintained from diagnosis through lifetime follow-up. Currently the cancer registry collects data from many different sources. While mostly electronic hospital records are used to obtain this data, a need to review the paper records in physician offices continue in order to maintain a complete and accurate database. A total of 16,252 patients are currently being followed. Annual lifetime follow-up of current and former cancer patients provides for evaluation of outcome data and serves as a reminder to the patients to continue routine medical exams.

The North American Association of Central Cancer Registries (NAACCR) and the American College of Surgeons Commission on Cancer (ACoS CoC) mandate a standardized data set to be collected by the Cancer Registry in order to assure a consistent data set nationwide. This data set includes demographics, personal and medical history, risk factors, diagnostic findings, cancer identification, cancer staging, cancer treatment, follow-up and outcome data.

A Research Registrar who is an honest broker with the Registry Information Services of the UPMC Network Cancer Registry works with physicians, administration, researchers and other members of the UPMC Cancer Centers, and University of Pittsburgh Cancer Institute to support cancer research, for quality management and improvement evaluations, to identify trends in services provided, and for hospital marketing projects. In 2007 43 Breast Cancer related data requests and 39 Gynecologic Cancer data requests were completed. Data was also provided externally to the ACoS CoC National Cancer Data Base (NCDB) to support the cancer program development and compliance with ACoS CoC standards. It was also provided to the Pennsylvania Cancer Registry (PCR), the North American Association of Central Cancer Registries (NAACCR), and the Center for Disease Control and Prevention's National Program of Cancer Registries (NPCR) for the purpose of compiling and reporting health information for incidence and survival statistics for public health officials. Also the American Cancer Society (ACS) for patient education and support.

### 1999-2007 Magee-Womens Hospital Growth Trend

The cancer program at Magee-Womens Hospital has continued to expand with a 47% growth trend from 1999 to 2007 and a 9% growth trend from 2006 to 2007.



**2007 Geographic Distribution by County and State**

As a large referral center, Magee-Womens Hospital provides service to many western Pennsylvania counties and surrounding states. In 2007 the cancer patient population in Allegheny County equaled 49%. Out-of-county patient population was 45% with Westmoreland, Washington, Butler, and Fayette Counties having the largest number of referring patients. Out-of-state patient population was 6%.

**2007 Magee-Womens Hospital Primary Site Distribution Table**

The annual primary site distribution report presented in lists each primary site by the total number of cases, gender, class of case (analytic: cases diagnosed and/or 1st course of treatment at MWH or non-analytic: cases diagnosed elsewhere and 1st course of treatment elsewhere; subsequent treatment at MWH), and best American Joint Committee on Cancer stage grouping. A total caseload of 2,512 cases for 2007 of malignant and borderline tumors was entered into the Magee Womens Hospital Cancer Registry Database. This included 2,292 analytic cases and 220 non-analytic cases.

**2007 GEOGRAPHIC BREAKDOWN OUTSIDE STATES**

State	Cases	Percentage
WEST VIRGINIA	61	2.5
OHIO	58	2.4
MARYLAND	7	0.3
NEW YORK	7	0.3
FLORIDA	5	0.2
NORTH CAROLINA	3	0.1
COLORADO	2	0.1
OREGON	2	0.1
DELAWARE	1	0.0
INDIANA	1	0.0
MICHIGAN	1	0.0
OKLAHOMA	1	0.0
VIRGINIA	1	0.0

**2007 GEOGRAPHIC BREAKDOWN PA COUNTIES AND MAGEE-WOMENS HOSPITAL BREAST CANCER CASES**

County	Cases	Percentage
ALLEGHENY	1229	48.9
WESTMORELAND	253	10.1
WASHINGTON	128	5.1
BUTLER	99	3.9
FAYETTE	92	3.7
ERIE	78	3.1
BEAVER	66	2.6
LAWRENCE	49	2.0
MERCER	49	2.0
ARMSTRONG	41	1.6
BLAIR	39	1.6
CAMBRIA	36	1.4
INDIANA	35	1.4
CRAWFORD	27	1.1
VENANGO	27	1.1
SOMERSET	18	0.7
CLARION	15	0.6
CLEARFIELD	14	0.6
JEFFERSON	10	0.4
BEDFORD	10	0.4
ELK	8	0.3
GREENE	7	0.3
FOREST	6	0.2
MC KEAN	5	0.2
CENTRE	4	0.2
WARREN	3	0.1
YORK	3	0.1
CAMERON	2	0.1
FULTON	2	0.1
POTTER	2	0.1
BRADFORD	1	0.0
CLINTON	1	0.0
HUNTINGDON	1	0.0
LYCOMING	1	0.0

**2007 MAGEE-WOMENS HOSPITAL PRIMARY SITE DISTRIBUTION TABLE**

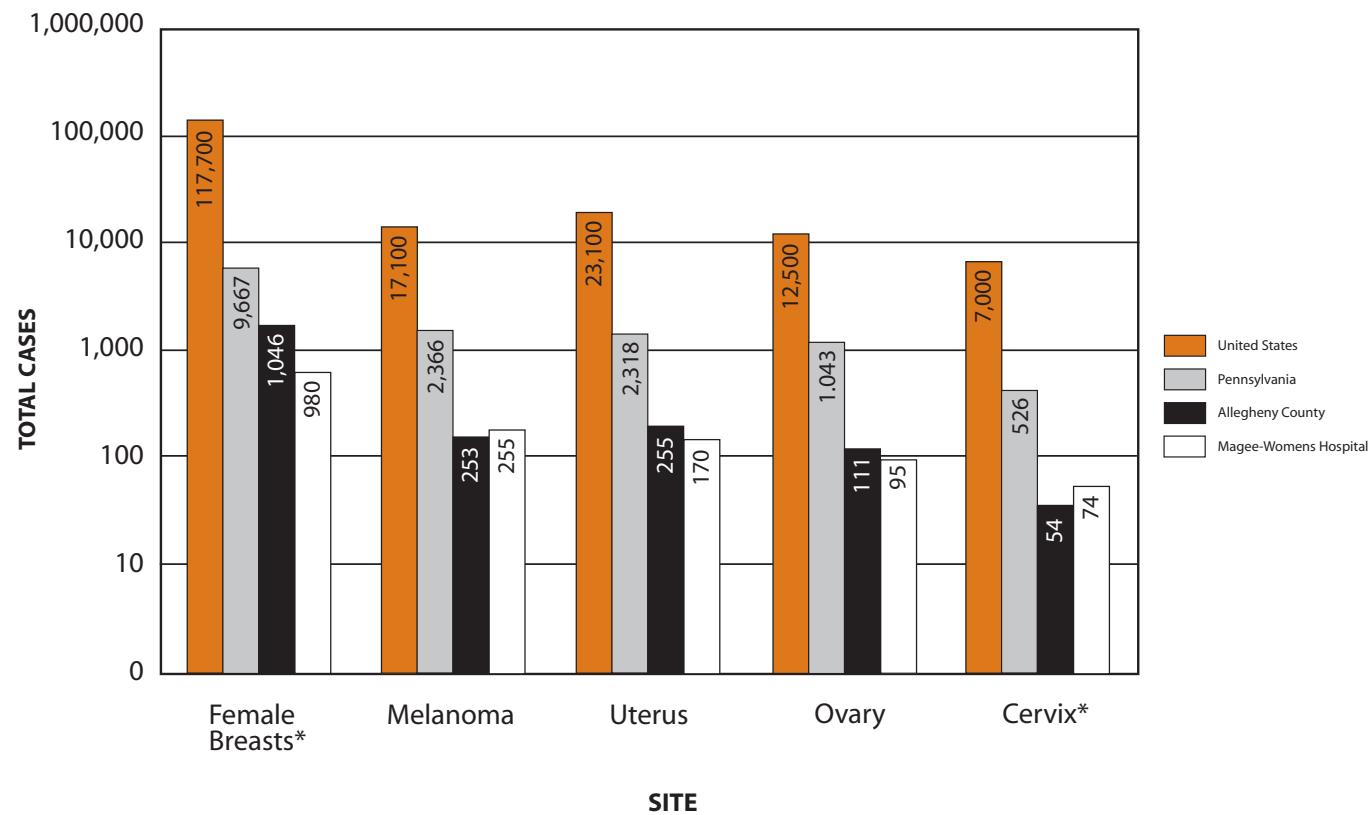
PRIMARY SITE	TOTAL	SEX		CLASS OF CASE		AJCC STAGE GROUP							BORDERLINE TUMORS
		M	F	ANALYTIC	NON-ANALYTIC	0	1	2	3	4	99	88	
BREAST	1278	7	1271	1193	85	311	436	283	77	30	51	3	2
<b>GYNECOLOGIC SYSTEM</b>													
VULVA	71	0	71	68	3	25	13	10	10	3	7	0	0
VAGINA	15	0	15	12	3	4	4	0	1	1	1	1	0
CERVIX UTERI	80	0	80	75	5	12	29	13	8	8	5	0	0
CORPUS UTERI	303	0	303	287	16	0	184	17	42	16	17	11	0
OVARY	174	0	174	151	23	0	27	6	69	20	6	1	23
FALLOPIAN TUBE	13	0	13	12	1	0	5	0	4	1	0	2	0
EXTRAOVARIAN	26	0	26	24	2	0	0	0	0	0	0	24	1
TOTAL GYN:	682	0	682	629	53	43	262	56	134	49	46	39	24
<b>SKIN</b>													
MELANOMA	321	154	167	287	34	6	148	48	40	1	39	2	4
<b>HEAD AND NECK</b>													
BASE OF TONGUE	3	2	1	1	2	0	0	0	0	1	0	0	0
OTH & UNSPEC PARTS OF TONGUE	1	0	1	1	0	1	0	0	0	0	0	0	0
GUM	1	0	1	1	0	0	0	0	0	1	0	0	0
FLOOR OF MOUTH	1	1	0	1	0	0	0	1	0	0	0	0	0
OTH PARTS OF MOUTH	4	2	2	3	1	0	1	0	0	2	0	0	0
PAROTID GLAND	2	2	0	2	0	0	1	0	0	0	1	0	0
OTH PARTS MAJ SALIVARY GLAND	1	1	0	1	0	0	1	0	0	0	0	0	0
TONSIL	1	1	0	1	0	0	0	0	0	1	0	0	0
NASOPHARYNX	1	1	0	0	1	0	0	0	0	0	0	0	0
PYRIFORM SINUS	2	1	1	2	0	0	0	0	1	0	1	0	0
<b>DIGESTIVE SYSTEM</b>													
ESOPHAGUS	11	9	2	9	2	0	1	3	3	2	0	0	0
STOMACH	3	3	0	3	0	0	0	2	0	1	0	0	0
SMALL INTESTINE	3	1	2	3	0	0	0	1	1	1	0	0	0
COLON	20	3	17	15	5	0	3	2	4	5	0	0	1
RECTUM	5	1	4	3	2	0	1	0	0	2	0	0	0
ANUS AND ANAL CANAL	4	0	4	2	2	0	0	0	1	0	0	1	0
LIVER-INTRAHEP BILE DCTS	1	0	1	0	1	0	0	0	0	0	0	0	0
PANCREAS	4	2	2	3	1	0	0	1	0	1	1	0	0
<b>RESPIRATORY SYSTEM</b>													
LARYNX	3	2	1	3	0	0	0	0	1	1	1	0	0
BRONCHUS AND LUNG	27	8	19	20	7	0	3	1	6	7	2	1	0
THYMUS	1	1	0	1	0	0	0	0	0	0	0	1	0
HEMATOPOIETIC/RETICULOENDOTHELIAL SYSTEM	6	4	2	2	4	0	0	0	0	0	0	2	0
<b>MUSCULOSKELETAL SYSTEM</b>													
CONN, SUBQ AND OTH SOFT	11	5	6	10	1	0	1	0	1	0	5	2	1
<b>MALE GENITAL SYSTEM</b>													
PENIS	2	2	0	1	1	0	0	1	0	0	0	0	0
PROSTATE GLAND	36	36	0	30	6	0	0	20	4	3	3	0	0
TESTIS	2	2	0	2	0	0	20	0	0	0	0	0	0
<b>URINARY SYSTEM</b>													
KIDNEY	19	9	10	17	2	0	9	0	0	1	6	0	0
RENAL PELVIS	3	2	1	3	0	2	0	0	0	0	1	0	0
URETER	1	0	1	1	0	0	1	0	0	0	0	0	0
BLADDER	19	6	13	12	7	8	2	0	0	2	0	0	0
<b>CENTRAL NERVOUS SYSTEM</b>													
MENINGES	3	0	3	3	0	0	0	0	0	0	0	0	3
BRAIN	1	0	1	0	1	0	0	0	0	0	0	0	1
<b>ENDOCRINE SYSTEM</b>													
THYROID GLAND	3	2	1	3	0	0	2	0	1	0	0	0	0
<b>LYMPHATIC SYSTEM</b>													
UNKNOWN PRIMARY SITE	16	0	16	15	1	0	0	0	0	0	0	15	0
PERIPHERAL NERVES AND AUTONOMIC NERVOUS SYSTEM	1	1	0	1	0	0	0	1	0	0	0	0	0
<b>TOTAL</b>	<b>2512</b>	<b>274</b>	<b>2238</b>	<b>2292</b>	<b>220</b>	<b>369</b>	<b>877</b>	<b>411</b>	<b>274</b>	<b>115</b>	<b>148</b>	<b>66</b>	<b>36</b>

Source: Magee-Womens Hospital Cancer Registry

**2004 Incidence Comparison Rates Magee-Womens Hospital 5 Major Cancer Primary Sites**

Using the most current statistical incidence rate data available for comparison for the United States, Pennsylvania and Allegheny County, the graph below is an analysis of analytic cases (cases diagnosed and/or first course of treatment at the reporting facility) comparing one of the Magee-Womens Hospital five major primary cancer sites from the 2004 Cancer Registry database with the 2004 PA Department of Health Cancer Registry database and the 2004 United States Cancer Statistics Incidence database.

2004 INCIDENCE COMPARISON OF TOTAL NUMBER OF ANALYTIC CASES  
UNITED STATES vs PENNSYLVANIA vs ALLEGHENY vs MGEE-WOMENS HOSPITAL  
\*Invasive Cancer Only



Data Source: Magee-Womens Hospital: 2004 Cancer Registry Data. Pennsylvania Department of Health. Pennsylvania Cancer Incidence and Mortality 2004, Harrisburg, PA: August 2007. U.S. Cancer Statistics Working Group. United States Cancer Statistics: 1999-2003 Incidence and Mortality Web-based Report. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; 2007. Available at: [www.cdc.gov/uscs](http://www.cdc.gov/uscs).

2007 SITE SPECIFIC ANALYSIS

**BREAST CANCER**

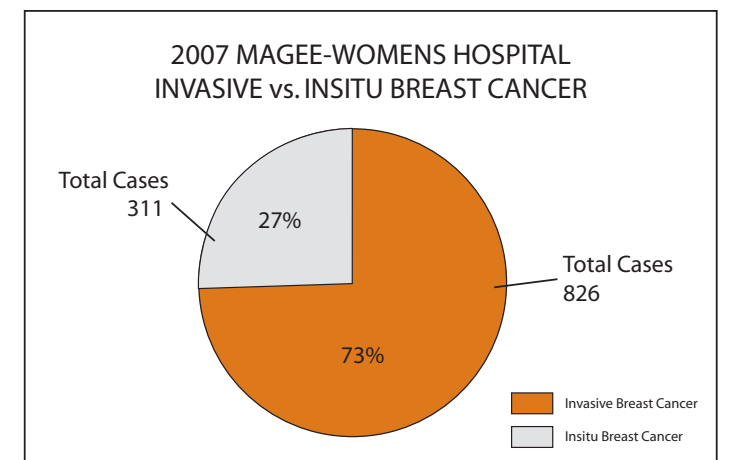
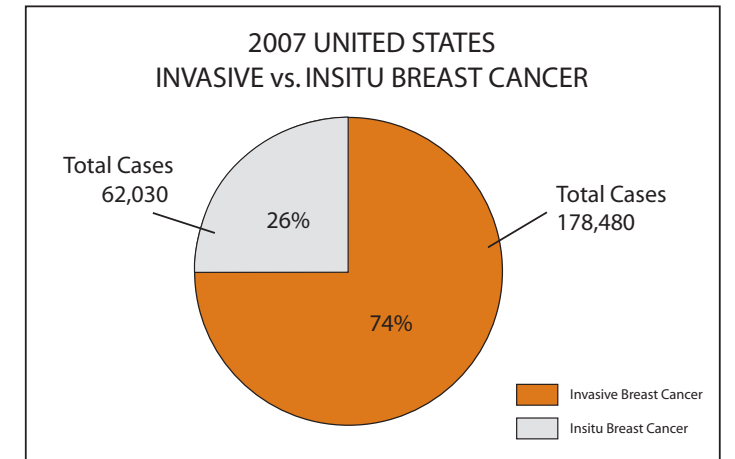
**Trends**

Breast cancer is the most common cancer among women in the United States and Pennsylvania. Men are generally at low risk for developing breast cancer. At Magee-Womens Hospital breast cancer continues to be the leading cancer site with the highest number of cases per year.

During 2007 in the United States, an estimated 178,480 new cases of invasive breast cancer are expected to occur among women and 2,030 new cases of breast cancer are expected to occur among men, making a total of 180,510 new breast cancer cases.

During 2007 in Pennsylvania it is projected that there will be about 9,145 new invasive breast cancer cases diagnosed. During 2007 at Magee-Womens Hospital, there were 820 female invasive breast cancer cases, and 6 male breast cancer cases.

In addition to invasive breast cancer, 62,030 new cases of in situ (non-invasive) breast cancers are expected to occur among women in 2007 in the United States. A comparison of the percentages of invasive vs. in situ breast cancers diagnosed in 2007 in the United States and in Magee-Womens Hospital is shown. The United States and Magee-Womens Hospital both have 74% invasive cancers and 26% in situ cancers in 2007.



Source: NCD, Commission on Cancer, ACoS. Benchmark Reports, v9.0

**2007 Breast Cancer Geographic Distribution by Referring County and State**

As a large referral center, Magee-Womens Hospital provides Breast Cancer services to many western Pennsylvania counties and surrounding states. In 2007 the cancer patient population in Allegheny County equaled 55%. Out-of-county patient population was 39% with Westmoreland County, Washington County, Butler County and Fayette County having the largest number of referring patients. Out-of-state total referring patient population was 6%.

**2007 MAGEE-WOMENS HOSPITAL BREAST CANCER REFERRAL CASES**

State	Cases	Percentage
WEST VIRGINIA	34	2.7
OHIO	25	2.0
MARYLAND	3	0.2
NORTH CAROLINA	3	0.2
FLORIDA	2	0.2
COLORADO	2	0.2
OREGON	2	0.1
DELAWARE	1	0.1
INDIANA	1	0.1
NEW YORK	1	0.1
OKLAHOMA	1	0.1
VIRGINIA	1	0.1

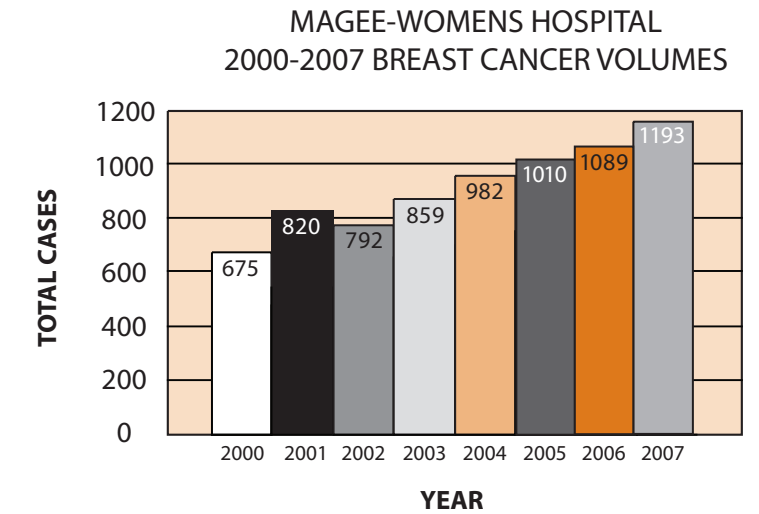
**2007 MAGEE-WOMENS HOSPITAL BREAST CANCER CASES IN PENNSYLVANIA**

County	Cases	Percentage
ALLEGHENY	707	55.2
WESTMORELAND	134	10.4
WASHINGTON	75	5.8
ARMSTRONG	23	1.8
BUTLER	51	4.0
BEAVER	33	2.6
FAYETTE	33	2.6
LAWRENCE	20	1.6
INDIANA	19	1.5
MERCER	18	1.4
CRAWFORD	16	1.2
BLAIR	11	0.9
CLARION	11	0.9
ERIE	10	0.8
BEDFORD	10	0.4
VENANGO	9	0.7
CAMBRIA	4	0.3
ELK	4	0.3
MC KEAN	4	0.3
SOMERSET	4	0.3
CENTRE	3	0.2
CLEARFIELD	3	0.2
FOREST	3	0.2
JEFFERSON	3	0.2
GREENE	2	0.2
CAMERON	1	0.1
CLINTON	1	0.1
BRADFORD	1	0.1
YORK	1	0.1

**Incidence Comparison 2000-2005 Cases Pennsylvania/ Allegheny County/Magee-Womens Hospital**

After continuously increasing for more than two decades, female breast cancer incidence rates are decreasing both in the United States and Pennsylvania. This decrease may reflect reduced use of hormone replacement therapy (HRT) following the publication of results from the Women's Health Initiative in 2002, which linked HRT use to increased risk of heart disease and breast cancer. It may also reflect a slight drop in mammography utilization; according to the National Health Interview Survey mammography rates in the past two years in women 40 and older have decreased.

As Magee-Womens Hospital is one of the leading Breast Cancer Programs in the country with its advanced technology and individualized patient care, volume numbers continue to increase with a 56.5% volume increase from 2000 to 2007 and a 9% volume increase from 2006 to 2007. An incidence comparison of Pennsylvania, Allegheny County, and Magee-Womens Hospital from 2000-2005 the latest data available for comparison of Pennsylvania and Allegheny County is shown.



**TOTAL BREAST CANCER INCIDENCE COMPARISON 2000-2005 PENNSYLVANIA vs ALLEGHENY COUNTY vs MAGEE-WOMENS HOSPITAL**

Year	N (Cases) Sum Reported by		
Year	*PA	*Allegheny County	**MWH
2000	11,917	1,393	675
2001	12,201	1,438	820
2002	11,957	1,342	792
2003	11,585	1,309	859
2004	11,907	1,356	982
2005	11,891	1,330	1,010
<b>TOTAL</b>	<b>71,458</b>	<b>8,168</b>	<b>5,138</b>

\*Commonwealth of Pennsylvania-Department of Health Bureau of Health Statistics and Research  
\*\*Magee Womens Hospital Cancer Registry

**Age, Stage, Treatment and Survival**

American Cancer Society (ACS) guidelines for the early detection of breast cancer vary depending on a woman’s age and include mammography and clinical breast examination (CBE). On the average, mammography will detect about 80% to 90% of breast cancers in women without symptoms. Newer, digital mammograms may be even more accurate, especially for women with dense breasts. In 2007 the ACS reported new recommendations for the use of MRI for women at increased risk for breast cancer. Quality images are produced by dedicated breast MRI equipment.

Magee-Womens Hospital diagnoses patients at an earlier age, stage and has a greater survival percentage as demonstrated in the following tables and graphs due to its comprehensive Breast Cancer Program with the most up to date technology including: prevention through genetic counseling and high risk services; detection through screening programs and its state-of-the-art imaging center; diagnosis with performance of minimally invasive biopsies; and individualized treatment planning including surgery, chemotherapy, hormone therapy, radiation therapy, biological therapy, along with breast reconstruction, and clinical research trials for its patients.

**Breast Cancer Age 2000-2005 Total Cases Reported United States/Pennsylvania/Magee-Womens Hospital**

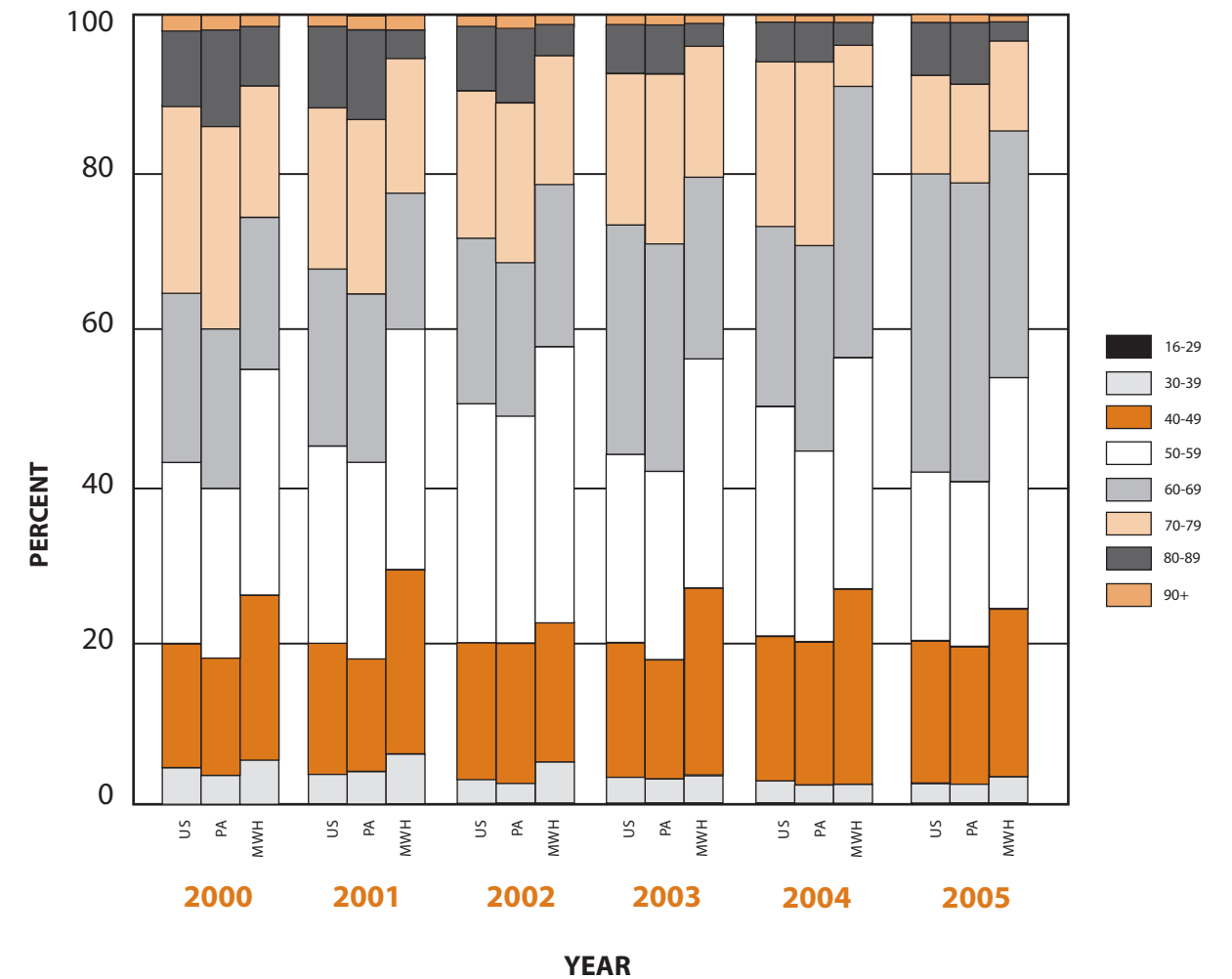
Besides being female, age is the most important risk factor for breast cancer. An individual woman’s breast cancer risk may be higher or lower depending on her personal risk factors, experiences, and other factors not yet fully understood.

Currently, a woman living in the U.S. has a 12.3% (1 in 8) lifetime risk of developing breast cancer.

Based on National Cancer Institute SEER statistics in the United States during 2000-2004, women aged 20-24 years had the lowest breast cancer incidence rate, 1.4 cases per 100,000 women, and women aged 75-79 years had the highest incidence rate, 464.8 cases per 100,000. The decrease in age-specific incidence rates that occurs in women aged 80 years and older may reflect lower rates of screening, the detection of cancers by mammography before age 80, and incomplete detection. During 2000-2004, the median age at the time of breast cancer diagnosis was 61 years. This means that 50% of women who developed breast cancer were aged 61 or younger and 50% were older than age 61 when diagnosed. Among women aged 50 and older, incidence rates continued to increase at a much slower rate during 1986-2001 and have since been declining sharply (4.8% per year). Among women younger than age 50, incidence rates have remained stable since 1986.

The benchmark comparison study below is completed using all reported cases to the American College of Surgeon Commission on Cancer’s (ACoS CoC) National Cancer Data Base (NCDB) from 2000-2005. Data from up to 1325 U.S. Hospitals and up to 71 PA Hospitals were used depending on the year of diagnosis, along with the Magee Womens Hospital Cancer Registry data-base. These cases were compared by age using data from all of the ACoS CoC approved hospitals in the United States, Pennsylvania, and Magee-Womens Hospital. At Magee-Womens Hospital the highest number of patients is reported in the 50-59 age group at 30.4%, which is higher when compared to the U.S. and PA with the United States reporting 25.3%, and Pennsylvania reporting 23.5% in this age group. The second highest reporting age group at Magee-Womens Hospital is the 40-49 age group also higher than the U.S. and PA with 25.3% of its reporting patients, the United States reporting 18.4%, and PA reporting 16.4% of its reporting patients. The third and fourth highest age group is the 60-69 and 70-79 age group at Magee-Womens Hospital reporting 19.5% and 14.5% of its patients respectively. The U.S. and PA had larger groups of patients in the 60-69 and 70-79 age groups, the United States at 22.0% and 18.8% respectively and Pennsylvania at 21.7% and 21.5% respectively.

2000-2005 AGE COMPARISON ALL REPORTED CASES UNITED STATES vs PENNSYLVANIA vs MAGEE-WOMENS HOSPITAL

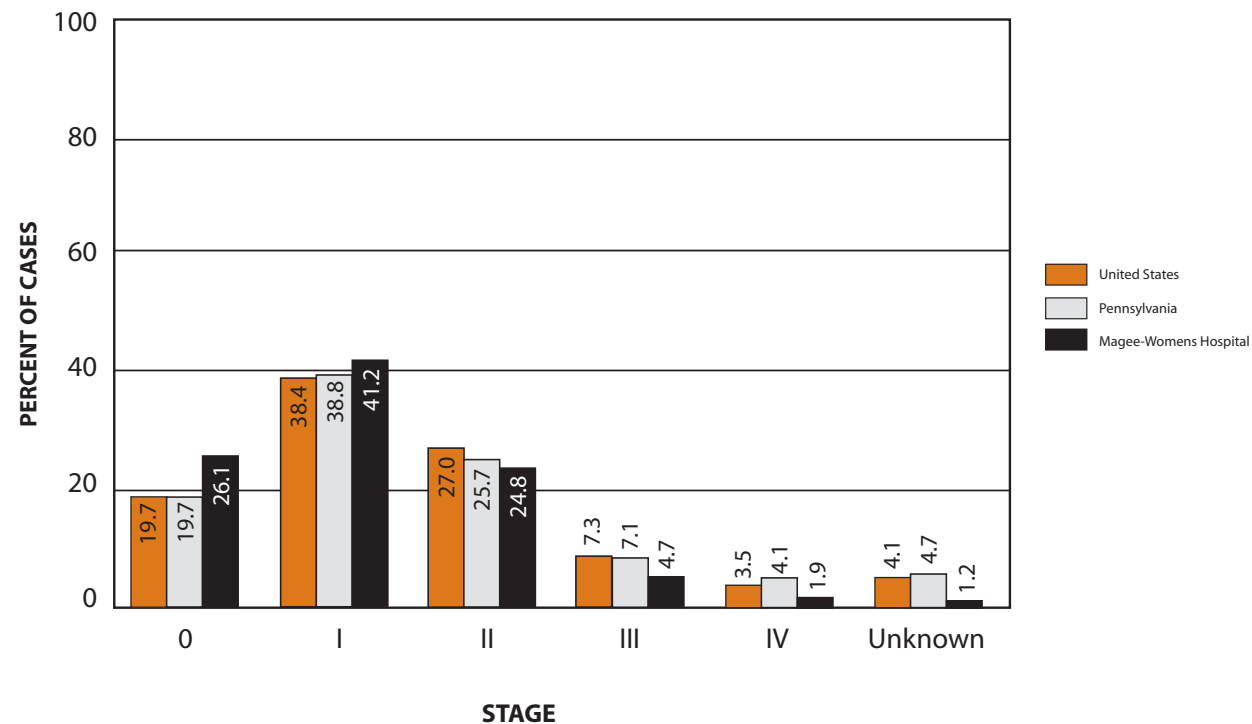


**Breast Cancer AJCC Stage  
2000-2005 Cases DX and All or Part of First  
Course of TX at the Reporting Facility  
United States/Pennsylvania/Magee-Womens Hospital**

The benchmark comparison table below is completed using all cases diagnosed and all or part of the first course of treatment at the reporting facility's data reported to the American College of Surgeon Commission on Cancer's (ACoS CoC) National Cancer Data Base (NCDB) from 2000-2005. Data from up to 1,305 U.S. Hospitals and up to 71 PA Hospitals were used depending on the year of diagnosis, along with the Magee-Womens Hospital Cancer Registry database. These cases were compared by AJCC stage using data from all of the ACoS CoC approved hospitals in the United States, Pennsylvania, and Magee-Womens Hospital.

At Magee-Womens Hospital between 2000 and 2005 the majority of breast cancer cases are diagnosed with Stage 0 (non invasive) disease at 26.1 which is 5.3% points higher than the state and national average of 19.7% or Stage I disease at 41.2% with the PA average at 38.8% and the U S average at 38.4%. Contrary to the lower stages the higher stages Stage III and Stage IV disease are diagnosed at a significantly lower rate at Magee-Women Hospital. At MWH Stage III cases are 4.7%, while PA is 7.1%, and 7.3% for the US making a difference of 2.6% less cases diagnosed than the highest number of cases in the US. For Stage IV cases MWH had 1.2%, PA 4.7% and the US 4.1%. This is a 3.5% less difference for Stage IV cases than PA with the highest percentage of cases.

2000-2005 COMPARISON BY STAGE  
UNITED STATES vs PENNSYLVANIA vs MAGEE-WOMENS HOSPITAL

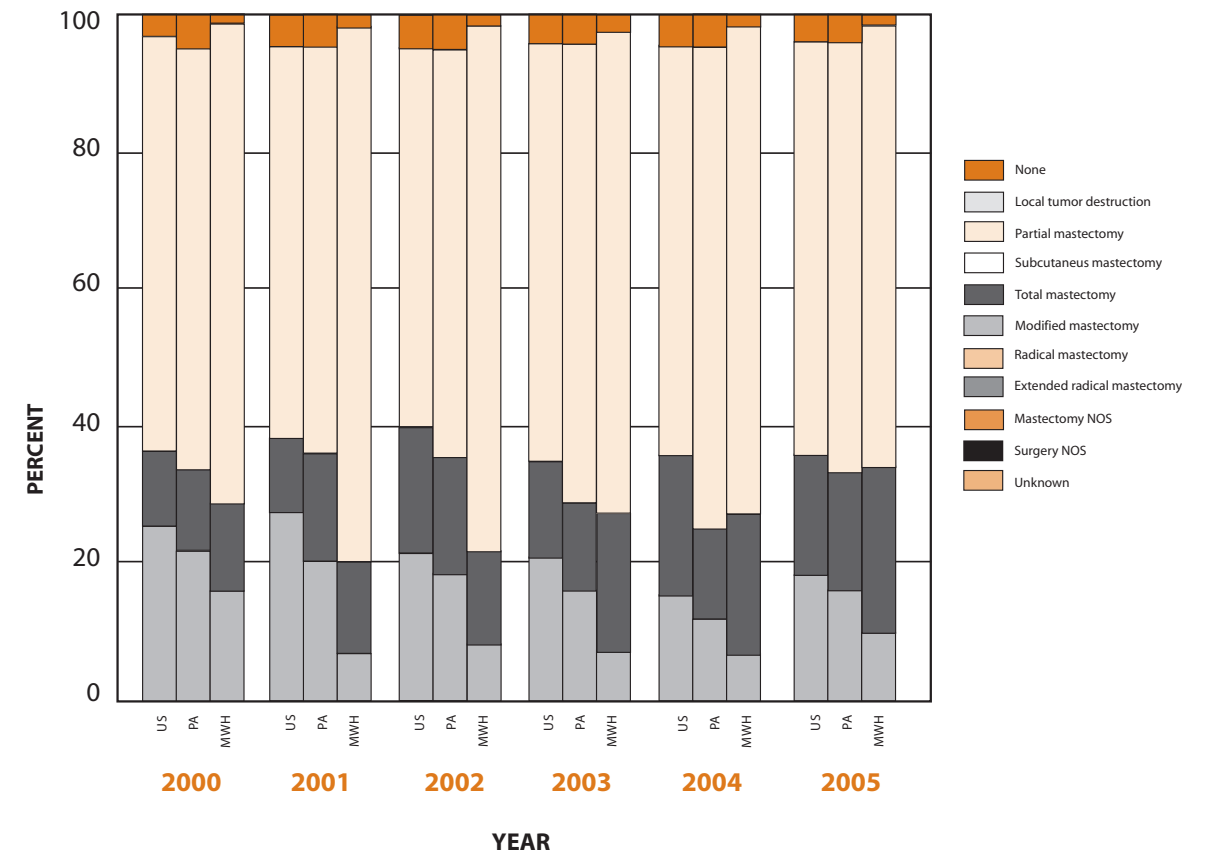


**Breast Cancer First Course Surgery  
2000-2005 Cases DX and All or Part of First Course of  
TX at the Reporting Facility United States/Pennsylvania/  
Magee-Womens Hospital**

Treatment decisions are made by the patient and her physician after consideration of the optimal treatment available for the stage and biological characteristics of the cancer, the patient's age and preferences, and the risks and benefits associated with each treatment protocol. Most women with breast cancer will have some type of surgery. Lumpectomy or Mastectomy and removal of lymph nodes by sentinel lymph node biopsy and/or axillary dissection is often combined with other treatments such as radiation therapy, chemotherapy, hormone therapy, and/or biologic therapy. The primary goal of breast cancer surgery is to remove the cancer from the breast and to assess the stage of disease. Many women with early stage cancers can choose between breast-conserving surgery and mastectomy. Breast conserving surgery is almost always followed by radiation therapy.

The benchmark comparison tables and graphs below are completed using the reported data of all cancer cases diagnosed and all or part of the first course of treatment at the reporting facility to the American College of Surgeon Commission on Cancer's (ACoS CoC) National Cancer Data Base (NCDB) from 2000-2005. Data from up to 1,305 Hospitals and up to 71 PA Hospitals with approved ACoS CoC Cancer Programs were used depending on the year of diagnosis from the NCDB database, along with the Magee-Womens Hospital Cancer Registry database. Magee-Womens Hospital had 66.7% breast conserving therapy (BCT) patients as compared to the Pennsylvania group of BCT patients at 64.2% and the United States BCT patients group at 58.8%. Total Mastectomy and Modified Radical Mastectomy total patients for Magee-Womens Hospital were 29.9%, for Pennsylvania 29.9% and 34% for the United States.

2000-2005 BREAST CANCER FIRST COURSE SURGERY  
UNITED STATES vs PENNSYLVANIA vs MAGEE-WOMENS HOSPITAL



**Breast Cancer Five Year Observed Survival Rate 1998-2000 United States/New York, New Jersey and Pennsylvania/Magee-Womens Hospital**

Breast cancer is the second leading cause of cancer deaths in women in the United States today (after lung cancer). An estimated 40,910 breast cancer deaths (40,460 women, 450 men) are expected in 2007 in the U.S. Breast cancer rates in the U.S. have decreased steadily in women since 1990, with larger decreases in women younger than 50 than those 50 years and older.

Between 1994 and 2004, the annual age-adjusted mortality rates for female breast cancer decreased in Pennsylvania and the U.S. The rates for Pennsylvania residents remained slightly higher than U.S. figures throughout this eleven year period. The number of deaths in 2007 due to this disease is estimated to be about 2,100, similar to the number (2,114) reported for 2005.

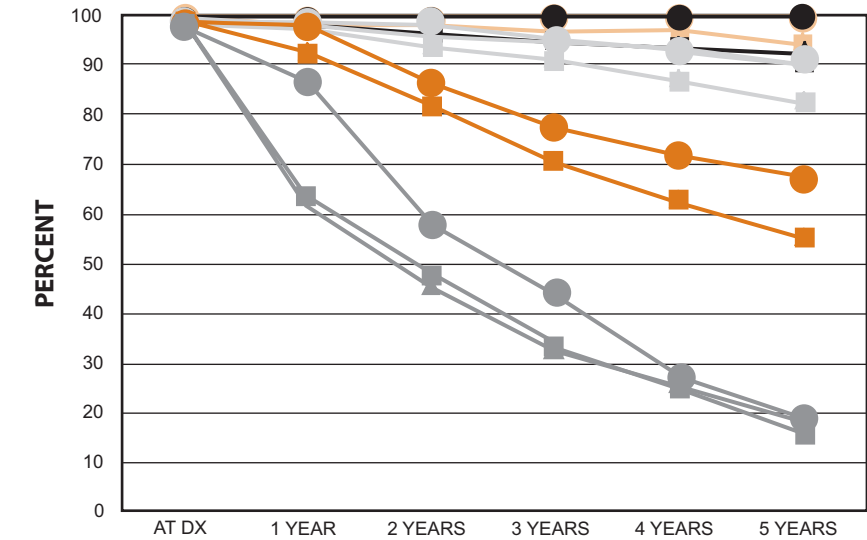
The decline in breast cancer mortality is attributed to a combination of earlier detection and improved cancer treatment.

The following table and graph were generated using the American College of Surgeons Commission on Cancer (ACoS CoC) National Cancer Data Base (NCDB) Hospital Benchmark Survival Comparison Reports and the Magee-Womens Hospital Cancer Registry. Cases were collected from ACoS CoC approved cancer programs with a diagnosis year of 1998 to 2000 using the 5th edition of the AJCC Cancer Staging Manual. Data was compared from 1,350 hospitals in the United States, 193 hospitals in New York, New Jersey and Pennsylvania and the Magee-Womens Hospital cancer registry data-base. Overall five-year observed survival in and five-year observed survival by stage shows Magee-Womens Hospital with greater survival rates than Pennsylvania and the United States.

Overall Survival 1998-2000			
STAGE	MWH	PA	US
Stage 0	100%	98%	98%
Stage I	100%	96%	96%
Stage II	96%	91%	92%
Stage III	83%	76%	77%
Stage IV	56%	46%	47%

Source: Magee-Womens Hospital Cancer Registry

**5 YEAR OBSERVED SURVIVAL RATES 1998-2000 UNITED STATES vs NJ, NY, and PA vs MAGEE-WOMENS HOSPITAL BY AJCC STAGE**



	AT DX	1 YEAR	2 YEARS	3 YEARS	4 YEARS	5 YEARS
US Stage 0	100	99	99	98	96	95
NJ, NY, PA Stage 0	100	99	99	98	96	95
MWH Stage 0	100	100	100	100	100	100
US Stage I	100	99	97	95	93	91
NJ, NY, PA Stage I	100	99	97	95	93	90
MWH Stage I	100	100	100	100	100	100
US Stage II	100	98	94	90	86	82
NJ, NY, PA Stage II	100	98	94	89	85	82
MWH Stage II	100	100	99	95	93	90
US Stage III	100	92	81	70	62	56
NJ, NY, PA Stage III	100	92	80	70	62	55
MWH Stage III	100	97	84	79	71	68
US Stage IV	100	62	44	32	24	18
NJ, NY, PA Stage IV	100	61	43	31	22	16
MWH Stage IV	100	87	59	45	26	19

**SURVIVAL**

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