Innovations in Cancer Care

BRYN MAWR HOSPITAL CANCER CENTER

Annual Report Based on 2003 STATISTICS

> The mission of Main Line Health is to provide a comprehensive range of health services, complemented by related educational and research activities, that meets community needs and improves the quality of life in the communities we serve.

> > Main Line Health Cancer Center Bryn Mawr Hospital

Message from the Chairman of the Cancer Committee

The Bryn Mawr Hospital cancer program significantly enhanced its efforts in cancer prevention, treatment and research in 2003.

Bryn Mawr Hospital provided diagnosis and/or treatment for 1086 patients in 2003. This is a slight decrease compared to 2002. Approximately one-third of our patients had breast cancer, a proportion over twice the national average, making our breast cancer program among the largest in the metropolitan area.

The Cancer Center now includes a state-of-the-art Comprehensive Breast Center with comprehensive breast diagnostic services and a team of breast health professionals. The center includes digital mammography, dedicated breast ultrasound and MRI with capabilities for MRI directed biopsy, dedicated breast radiologists, a full-time Comprehensive Breast Center surgeon leader, two multi-disciplinary breast cancer conferences per week such that each case is reviewed, genetic counseling and patient education, all in a beautiful new facility.

The Cancer Center is also comprised of an inpatient unit, operating suites for specialized cancer surgery (including laparoscopic, thoracoscopic and cryosurgery) and completely new state-of-the-art facilities for radiation therapy, including High Dose Rate (HDR) brachytherapy, 3D conformal radiotherapy and partial breast radiation. Also provided are areas for outpatient chemotherapy administration, family cancer risk assessment, complete diagnostic and therapeutic radiology services (including chemoembolization facilities), fertility counseling for chemotherapy recipients and endoscopic laser surgery. A team of more than 40 specialists, oncology nurses, technicians, research, nutrition and psychosocial specialists provide care for patients. The primary focus in 2003 continued to be clinical cancer research. Bryn Mawr Hospital, along with Lankenau and Paoli Hospitals, is in the second year of our third National Cancer Institute Community Clinical Oncology Program (CCOP) research grant. Bryn Mawr Hospital's Cancer Program continued its participation with the National Cancer Institute's major cooperative research groups, including the Eastern Cooperative Oncology Group (ECOG), National Surgical Breast and Bowel Project (NSABP), Radiation Therapy Oncology Group (RTOG), Gynecology Oncology Group (GOG), and with the University of Texas, M.D. Anderson Cancer Center. In 2003 we experienced a very successful clinical research year with 41 patients initiating therapy through one of the CCOP research protocols.

Other activities included the sixth full year of a joint Bryn Mawr/Lankenau Breast Cancer Risk Assessment protocol. This program has now expanded to include familial risk assessment for colorectal cancer. One hundred sixty women participated in the free wig program at Bryn Mawr Hospital. Main Line Health entered into its fifth year of a comprehensive breast cancer initiative to enhance the care and education of breast cancer patients and undertook several community education programs.

The Bryn Mawr Hospital Cancer Program, through its facilities and available resources, is able to provide virtually every cancer support service to cancer patients and their families along Philadelphia's Main Line.

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Steven C. Cohen, MD Chief, Hematology-Oncology Chair, Cancer Committee

Main Line Health CCOP

The clinical trials program of Main Line Health was awarded the designation of Community Clinical Oncology Program (CCOP) by the National Cancer Institute in 1994, and has been continually maintained since that time. The CCOP designation is a prestigious one, as there are only 50 CCOPs across the country. The goal of a CCOP is to bring clinical trials to the community, rather than having patients leave their community to receive state-of-the-art cancer care. Medical, surgical and radiation oncologists and our research staff accrue patients to both prevention and treatment studies provided by four research bases: M.D. Anderson Cancer Center; Eastern Cooperative Oncology Group; National Surgical Adjuvant Breast and Bowel Project; and Radiation Therapy Oncology Group. Additional trials from pharmaceutical companies and other professional groups (American College of Surgeons Oncology Group, Gynecology Oncology Group among them) are also accruing patients with the assistance of the medical and research staff. This year, Fox Chase Cancer Center joined the project by becoming a research base for prevention studies.

We are presently involved in two cancer prevention studies and have participants in another four prevention study follow-up courses. On the treatment side, over 55 studies are currently accruing patients in a variety of cancer types. All of these studies are national or international studies, available locally because the physicians and healthcare providers in Main Line Health believe that cancer care must be a priority and the CCOP project is the best way to provide that quality care.

We have recently been rated fifth in the country among CCOP's for accruals to RTOG studies and previously rated fourth in the country for accruals to the NSABP B-32 sentinel node study.

Rosemarie A. Tucci, RN, MSN, AOCN Manager, MLH Oncology Data Services Prostate cancer is the second most common malignancy diagnosed in men in the United States, accounting for 30% of all non-dermal cancers. The annual incidence of prostate cancer is steadily increasing, and over 230,000 new cases are expected to be diagnosed this year alone. This increase is primarily related to more thorough screening and the growing population of older men. The regular use of prostate specific antigen (PSA) testing has resulted in a shift of new diagnoses to an earlier stage. In 2003, 90% of the 144 diagnosed cases of prostate cancer at Bryn Mawr Hospital were confined to the gland (AJCC stages I & II). Such screening is of paramount importance in those men with an increased risk of developing prostate cancer, such as those with a family history of prostate cancer, or in African-American men.

This trend of diagnosing prostate cancer at an earlier stage has translated into a reduced death rate over the last 10 years despite its increasing incidence. Nationally, approximately 29,000 men will die of the disease this year, which is second only to lung cancer. Most of these men were diagnosed with more advanced disease. Analysis of Bryn Mawr Hospital's disease-specific survival data for prostate cancer patients diagnosed between 1992-1999 exemplifies the importance of early diagnosis. Of 904 patients diagnosed in this time period, 82% had stage I or II disease. Their 5 year diseasespecific survival was 100%. A stage III diagnosis led to a survival rate of 80%, and stage IV had a 5 year survival of 50%. These statistics compare favorably to the National Cancer Data Base in comparable years.*

Identifying prostate cancer is generally a result of an abnormal PSA or digital-rectal exam. Diagnosis is usually made by transrectal ultrasound guided needle biopsy of the gland. Once the diagnosis is made, a typical diagnostic work up will include a CT scan of the abdomen and pelvis, complete blood work, and possibly an MRI of the pelvis and a bone scan. Primary prognostic factors include clinical stage, presenting PSA, and the Gleason score (Pathologists' measure the aggressiveness of the tumor cells).

The management of prostate cancer is dependent upon many variables, so specific treatment approaches are individualized to each patient. Observation alone and the use of hormonal manipulation (injections, pills or castration) are not used with curative intent. However, these avenues may be appropriate in cases where the cancer is thought to be indolent and/or the patient is elderly or medically frail. Aggressive therapy in this group of patients is not necessary, and conservative treatment alone may be prudent. Conversely, generally healthy men with more aggressive prostate malignancies, who are medically expected to live for more than a few years, would be strongly counseled to pursue curative treatment. Such therapies include prostatectomy, external beam radiotherapy and radioactive seed implantation (Brachytherapy). These modalities provide essentially the same disease-free survival rates in cancers confined to the gland.

Radical prostatectomy involves the surgical removal of the gland after several regional lymph nodes are sampled and found to be free of malignancy. Surgical techniques have improved dramatically over the last ten years, and Bryn Mawr Hospital has remained at the forefront of this progress. Preservation of urinary continence has greatly improved because of techniques pioneered at this hospital. Nerve sparing surgery is now routinely performed in eligible patients, which is lowering the incidence of postoperative impotence.

A very new and exciting approach to prostate surgery was brought to the Bryn Mawr community by David McGinnis, MD, who has extensive experience in laproscopic prostatectomy. This is similar in nature to other laproscopic abdominal procedures, such as is routinely used to resect the gall bladder. Several tunneling metal tubes, or trochars, are placed into the abdomen. A fiberoptic camera, with its image displayed on a TV screen, is used to guide specially designed surgical instruments so that the gland can be removed with minimal injury to the surrounding tissues. Advantages of this approach include reduced blood loss, more rapid discharge from the hospital and removal of the catheter, and an overall quicker recovery period.

Primary radiotherapy is an equally effective method of curing prostate cancer. 49% of the 144 patients diagnosed and treated at Bryn Mawr Hospital in 2003 received either external beam radiotherapy or Brachytherapy as all or part of the curative treatment program.

External beam radiotherapy has evolved dramatically over the past 10 years. Three dimensional conformal treatment planning and delivery techniques have vastly improved our ability to focus the radiation on the target (i.e. tumor) with images from a specially suited CT scanner. This technique has been further improved with the development of Intensity-Modulated Radiotherapy (IMRT). This treatment allows for even finer targeting, and equally important, further reduces the radiation dose given to the surrounding normal structures such as the bladder and rectum. IMRT allows us to increase the total dose of radiation delivered to the gland, which has clearly been shown to improve outcomes. We are now regularly delivering mean prostatic doses of 80 Gy, something that was unheard of only several years ago. At Bryn Mawr Hospital, we have treated over 150 prostate patients with IMRT since developing the program over 2 years ago. Tolerance to an eight week program of IMRT has been excellent, and early results measured by PSA reveal outcomes that meet or exceed national experience. In some situations, the use of hormone therapy is used with radiotherapy in order to enhance the radiation's effect on the cancer cells and facilitate its delivery by reducing the gland's size. IMRT is also sometimes used after prostatectomy if it is thought that tumor cells remain in the pelvis. Such therapy is given with curative intent.

Brachytherapy remains a key treatment option for early stage prostate cancer. Small radioactive sources, or seeds, are permanently placed into the prostate in the operating room using needles. Our ability to precisely arrange the sources in the gland using sophisticated, real time dosimetric analysis has led to low urinary side effect profiles and unsurpassed local cancer control rates. Nearly 200 cases have been performed to date, making us one of the most experienced centers in the Delaware Valley. Newly available to the hospital is High Dose Rate (HDR) brachytherapy. This system deposits the radiation with a temporary radioactive source through catheters.

Other exciting developments in the fight against prostate cancer include the development of vaccine therapy and improvements in chemotherapy. Bryn Mawr Hospital is actively engaged in many investigational studies to advance our understanding of the disease, and to help create new and novel treatment strategies. The hospital is also home to Man-To-Man, a nationally recognized support group for prostate cancer patients.

At Bryn Mawr Hospital, the management and treatment options available for patients diagnosed with prostate cancer are comprehensive and state of the art. We are among a handful of cancer centers in the nation that provide such a wide range of therapies. Together with patient education and understanding, these tools provide this community with progressive and unsurpassed care.

Erik D. Assarsson, MD Radiation Oncology

* NCDB, Commission on Cancer, ACoS/ACS, 10/04

Oncology Data Services

During 2003, the Cancer Registry at Bryn Mawr Hospital accessioned 1,086 cancer cases. Among these cases, 895 were analytic M/F 399/496 (diagnosed and/or treated at BMH) and 191 cases were non-analytic (diagnosed and/or treated elsewhere). The Registry maintains a database of 9,999 cases with a reference date of January 1, 1992. The following are the five most frequent sites for 2003:

Breast	270
Prostate	144
Colorectal	86
Lung	83
Bladder	50

The registry continues to follow all of our analytic patients. Lifetime follow-up directly benefits patients by reminding attending physicians and patients that routine medical examinations are encouraged. Follow-up also provides valid measurement of outcomes. More than 6,049 patients are currently under active follow-up, with an average follow-up rate of 90%.

The Cancer Registry is not only responsible for continuity and quality of the database, but also coordinates the Tumor Board, Cancer Committee meetings and Patient Care Studies, which are crucial to maintaining the Commission on Cancer approval status. The registry submits patient care data to the National Cancer Data Base (NCDB), making a contribution to national standards of care. Data is also provided to the Pennsylvania Cancer Registry (PCR), IMPAC Medical System, BMH physicians and administration.

Karen Dysleski, RHIA, CTR Cynthia Linsinbigler, RHIT, CTR

Initial Therapy







Site Distribution Report – AJCC Staging Bryn Mawr Hospital

Study Group: 2003 Analytic Cases (newly diagnosed)							AJCC Stage						
Primary Site	Cases	0	1	2	3	4	Unk	N/A	Male	Female	% BMH Database	ACS Est. Figures*	
Bladder	50	31	5	4	3	6	1	0	30	20	6%	4%	
Brain	9	0	0	0	0	0	0	9	6	3			
Breast	270	54	117	59	26	8	7	0	6	264	30%	16%	
Colon/Rectum	86	6	12	32	22	10	2	1	48	38	10%	11%	
Esophagus	9	1	1	2	1	3	1	0	8	1			
Kidney	23	0	8	6	4	2	0	0	16	7			
Larynx	5	1	1	0	1	1	1	0	4	1			
Leukemia/Hematopoietic	5	0	0	0	0	0	0	5	1	4			
Liver	6	0	2	3	1	0	0	0	4	2			
Lung	83	0	28	6	20	25	3	1	40	43	9%	13%	
Lymphoma	31	0	16	7	3	5	0	0	19	12			
Melanoma	43	16	17	5	1	3	1	0	21	22			
Mesothelioma	5	0	0	2	0	2	1	0	3	2			
Oral Cavity	10	0	2	2	4	2	0	0	6	4			
Other	29	5	8	4	1	4	3	4	18	11			
Ovary	6	0	0	5	1	0	0	0	0	6			
Pancreas	21	0	1	4	3	12	0	1	10	11			
Prostate	144	0	0	130	3	7	3	1	144	0	16%	17%	
Stomach	8	0	1	2	0	5	0	0	2	6			
Thyroid	5	0	2	1	0	2	0	0	2	3			
Unknown Primary	23	0	0	0	0	0	0	23	11	12			
Uterus	24	2	18	1	2	1	0	0	0	24			
Total	895	116	239	275	96	98	23	45	399	496	71%	61%	

The most frequent cancer sites for 2003 are highlighted in the above table and represent the percentage of cancer incidence seen at Bryn Mawr Hospital as comparable to the American Cancer Society's national estimates. They are in descending order, Breast, Prostate, Colon/Rectum, Lung, and Bladder.

In addition, 191 cases were diagnosed in physicians offices or elsewhere and received ongoing treatment at Bryn Mawr Hospital for a total of 1,086 newly diagnosed cases.

* Cancer Facts and Figures 2003, American Cancer Society

Bryn Mawr Hospital Cancer Committee – 2003/2004

PHYSICIAN MEMBERS

Steven C. Cohen, MD Thomas Frazier, MD Richard Carella, MD Eric D. Assarsson, MD Marchello Barbarisi, MD James Paulson, MD Leigh Bergmann, MD Bradley Hayward, MD Catherine Hayward, MD Arthur Martella, MD Sandra Schnall, MD Tracy d'Entremont, MD Joan Zeidman, MD Abigail Silvers, MD

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Oncology Data Services

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Cynthia Linsinbigler, RHIT, CTR

Oncology Data Services Community Services Community Services Nursing Nursing Radiation Oncology MLH CCOP/Cancer Registry MLH CCOP Comprehensive Breast Center American Cancer Society **Quality Improvement** Social Work Nutrition Physical Medicine **Physical Medicine** Pharmacy Public Relations/Marketing Chaplain Womens' Board

Bryn Mawr Hospital Cancer Service Directory



Reach To Recovery 610-526-3087

Information, education and support for women recovering from breast cancer.

Breast Prosthesis Program 610-526-8720

Weekly multi-disciplinary discussion ensuring comprehensive individualized care.

Cancer Risk Assessment and Genetic Testing Program 610-645-8150

Offers genetic assessment, counseling and testing for high-risk individuals.

Clinical Trials and Cancer Prevention Research 610-526-3686

Provides patients' access to NCI sponsored clinical research studies and prevention trials.

Community Education and Screening 610-526-8720

Provides educational programs and cancer screenings to the community.

"Look Good, Feel Better" 1-866-225-5654

American Cancer Society sponsored program, providing cosmetic instruction for women during and after cancer treatment.

Lymphedema Management Program

610-526-3360

Provides early and continuing treatment for patients with Lymphedema.

Nutritional Services 610-526-3205

Registered Dietician counsels individuals and support groups during cancer care.

Oncology Data Services/ Cancer Registry 610-526-3727

Comprehensive data management system for collection of malignant or neoplastic disease. Registrars provide monitoring, analysis and lifetime follow-up of patients diagnosed with cancer.

Physical Medicine and Rehabilitation 610-526-3360

Advice and instruction concerning exercises and/or ambulation for patients undergoing cancer treatment.

Radiation Oncology 610-526-3370

Advanced, comprehensive, state-of-the-art treatment to manage cancer in a community setting.

Social Services 610-526-3594

Social workers provide psychosocial support and counseling for patients and their families.

Support Groups

610-526-3594

Information, education and support for patients recovering from cancer.

Wig Program 610-526-8720

Free wig program for women who are anticipating or experiencing a change in their physical appearance.

Women's Health Source 1-888-876-8764

A free membership club offering information on a wide variety of health care issues important to women.

Main Line Health Cancer Center Bryn Mawr Hospital