

2010 SANTA BARBARA COTTAGE HOSPITAL



CANCER PROGRAM ANNUAL REPORT

This Annual Report contains data pertaining to 2009.



SANTA BARBARA COTTAGE HOSPITAL CANCER PROGRAM

2010 ANNUAL REPORT

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This Annual Report is produced by Cottage Health System. All data are collected by the Cancer Data Center staff in compliance with the requirements of the American College of Surgeons, Commission on Cancer.

The 2010 Santa Barbara Cottage Hospital Cancer Program Annual Report was prepared by Rosa Cosio, CTR, and produced by the Cottage Health System Public Affairs Department.



CANCER COMMITTEE CHAIRMAN

Our mission is to provide a leadership role in ensuring a comprehensive continuum of cancer services to patients and their families through focusing on prevention, education, early detection and management of cancer. The Commission on Cancer of the American College of Surgeons has accredited Santa Barbara Cottage Hospital as a community hospital comprehensive cancer program. The Cancer Committee is committed to the Commission's standards of performance, quality improvement, cost-effective measures and a comprehensive, integrated approach with other healthcare practices.

Santa Barbara Cottage Hospital has brought together state-of-the-art diagnostic and treatment technologies, expertise, and a caring personal approach to patient care in an easily accessible setting. Providing our patients with the best care in an environment that responds to their emotional as well as physical needs, we are generating success rates that meet or exceed national standards.

The Cancer Committee is charged with several responsibilities, including promoting and coordinating educational conferences, providing a system for quality of care evaluation, and encouraging the medical staff to utilize the data collected in the Cancer Data Center.

This Annual Report includes an in-depth statistical analysis of all cancer patients newly diagnosed or treated at SBCH in 2009. Also included in the Annual Report is an in-depth review of breast carcinoma. This review discusses diagnosis, treatment and surveillance.

We would like to thank the physician staff, residents, nurses, and allied health professionals who offer a patient-centered model of care, enabling Cottage to integrate these disciplines into a comprehensive approach that recognizes the impact cancer has on the lives of individuals and their families.

JOHN BLAUSTEIN, MD

Special Thanks

Special thanks to Ronald G. Latimer, MD, W. Warren Suh, MD, and Julie Taguchi, MD, for their discussion of breast cancer in this Annual Report.

We would also like to thank the departments of Pathology, Health Information Management, Radiology, and Administration as well as our Cancer Committee members for their continued support.

Additionally, many thanks to staff at the Cancer Center of Santa Barbara and Sansum Clinic —

Thomas Weisenburger, MD, Chair of the Tumor Board; Frederic Kass, MD, Chair of the Cancer Forum; Rosa Choi, MD, FACS, Cancer Liaison Physician, and Mark Abate, MD — for support of the Cancer Conferences.

We would especially like to thank John Blaustein, MD, for his continued support as Cancer Committee Chairman.

CANCER COMMITTEE

The Cancer Committee, a multi-disciplinary board, is a standing committee established by the bylaws of Santa Barbara Cottage Hospital. It consists of representatives from medical and radiation oncology as well as other specialties such as Pathology, Diagnostic Radiology, Surgery, Urology, Gynecology, Pain Management. Also on the Committee are non-physician representatives from Hospital Administration, Cancer Data Center, Oncology Nursing, Quality Improvement, and Social Services.

OBJECTIVES OF THE CANCER COMMITTEE

- Offer leadership to ensure success in planning, initiating, and assessing all cancer-related activities at Santa Barbara Cottage Hospital.
- Develop and evaluate the annual goals and objectives of the clinical, educational and programmatic activities related to cancer.
- Ensure that an active supportive care system is in place for patients, families and staff.
- Monitor quality management and improvement through completion of quality management studies that focus on quality, access to care, and outcomes.
- Promote clinical research.
- Perform quality control of registry data.
- Organize, publicize, conduct, and evaluate regular educational and consultative cancer conferences that are multi-disciplinary and patient-oriented.

PREVENTION AND EARLY DETECTION PROGRAMS

On October 24, 2009, the Santa Barbara Cottage Hospital teamed up with the Cancer Center of Santa Barbara, the Santa Barbara Neighborhood Clinics, County of Santa Barbara Public Health Department, Breast Cancer Resource Center, the American Cancer Society, Sansum Clinic and the St. Francis Foundation to hold the 2009 Community Cancer Prevention Fair at Santa Barbara Cottage Hospital. Two hundred twenty-one people attended with a total of 464 screenings performed.

Total Screenings

PSA - 77 Breast - 73
Skin - 108 Oral - 85 Colon - 121

Free cancer screenings included:

- Skin cancer screening; visual oral screening; clinical breast exam; colon cancer at-home screening (FOTB) kits; low-cost PSA blood tests

Cancer prevention information included:

- Mammograms, HPV, pap smears; hereditary cancer risk; lung cancer and stop smoking courses; community health assistance and education programs; cancer fighting foods; nutrition; stress reduction and exercise; Cancer Center Resource Library

CANCER COMMITTEE MEMBERS

Physician Members

Mark Abate, MD Medical Oncology
John Blaustein, MD (Chair) Pathology
Michael Bordofsky, MD IM/Pain Management
Stuart Braverman, MD Diagnostic Radiology
James Cavins, MD Urology
Rosa Choi, MD (Cancer Liaison) Surgery
Kimberly Grafton, MD, Surgery
Daniel Greenfield, MD Pediatric Oncology
Daniel Greenwald, MD Medical Oncology
William M. Hogan, MD Gynecology Oncology
Frederic Kass, MD Medical Oncology
Ronald G Latimer, MD Surgery
Thomas Weisenburger, MD Radiation Oncology

Thomas Woliver, MD Medical Oncology

Steven Young, MD Internal Medicine

Professional Staff Members

Anna Bissell, RN Clinical Manager Oncology Unit
Debra Collingwood Director Health Information Management
Rosa Cosio, CTR Cancer Data Center
Barbara Conviser Director of Research & Quality, CCSB
Susan Forkush Breast Care Services Coordinator, CCSB
Dana Goba Community Health Coordinator
Karen Jones Vice President Finance
Josh Richo, LCSW Clinical Social Services, Oncology Unit
Colleen Wheeler, RN, Quality Support Services
Kate Hanna American Cancer Society

CANCER DATA CENTER

The SBCH Cancer Data Center is one of the major components of the multi-disciplinary cancer program at Cottage Hospital. The purpose of the Center is to collect, manage, and analyze the hospital's cancer experience, in addition to supplying data for special audits, studies and administration planning.

During 2009, the Cancer Data Center abstracted 1,225 cases. Of these, 1,140 were analytic cases with the initial diagnosis and /or first course of treatment at Cottage Hospital. Another 85 cases were non-analytic cases of recurrent or persistent disease that were diagnosed and initially treated elsewhere. A total of 25,093 cases have been entered into the database since the reference date of January 1, 1988. Overall data accuracy remained high (99 percent and above) as reported by the California Cancer Registry.

The cancer database includes in each case: patient demographics, primary site, histology, predisposing factors, and collaborative staging. It also includes American Joint Commission on Cancer (AJCC) staging, first course of therapy, disease recurrence, subsequent therapy, and a lifetime of follow-up.

The Cancer Data Center is mandated by law to submit cancer data to the California Cancer Registry. The data is also submitted to the American College of Surgeons (ACOS) Commission on Cancer as part of a nationwide effort to collect information for the National Cancer Data Base (NCDB). Through these means, cancer data provides national statistics for incidence reporting and research. The cancer program coordinator can assist with developing criteria and ascertaining the appropriate data and reports requested by members of Santa Barbara Cottage Hospital's medical staff who undertake studies within their areas of special interest.

The information collected also provides Cottage Hospital with the ability to assess the community's needs as well as giving the community the ability to see how well our physicians and hospital compare to the national average.

FOLLOW-UP ACTIVITIES

Each patient in the database is followed annually in order to acquire necessary information on recurrences, subsequent treatment and survival data that is vital for continued patient care. Through the process of annual follow-up, the importance of continued medical supervision is conveyed to the patient.

Active follow-up is conducted on approximately 8,600 cases annually and the successful follow-up rate is maintained at 90 percent or higher.

COTTAGE TOP LEVEL OF CARE

Since 1976, the Commission on Cancer of the American College of Surgeons has recognized SBCH's commitment, accrediting our program for the quality of services as a Community Hospital Comprehensive Cancer Program. The CoC accredits about 25 percent of the cancer programs in the United States.

Being an accredited cancer program gives us access and privilege to national cancer information and the ability to collect and compare the treatment results of our patients with those of patients at other cancer centers.

2009 CANCER DATA CENTER ACTIVITIES

- Provided data and research information to various hospital departments and physicians.
- Coordinated the weekly tumor boards and quarterly Cancer Committee meetings.
- Submitted status reports at every Cancer Committee meeting.
- Reported required cases to the CCR within six months of diagnosis on a monthly basis.
- Maintained ongoing quality reviews of data by annual physician review of 10 percent of analytic cases inclusive of collaborative stage review and use of College of American Pathology (CAP) protocols on eligible pathology reports.
- Completed the required SAR annual update.

ATTENDANCE FOR CONTINUED EDUCATION AND MAINTENANCE OF CTR BY CANCER DATA CENTER STAFF:

May 31: National Cancer Registrar's Association (NCRA) 35th Annual National Educational Conference

December 9: California Cancer Registry Association (CCRA) 41st Annual Meeting

AMERICAN COLLEGE OF SURGEONS (ACOS) COMMISSION ON CANCER WEBINARS:

November 09: Optimizing Cancer Program Activities to Meet Multiple Standards

December 09: Preparing for Survey While Making Your Survey Go Green!

PATIENT CARE EVALUATION STUDIES

Data are submitted yearly to the National Cancer Data Base. The data submitted are used to provide feedback to assess the quality of patient care. This feedback enables cancer programs to compare treatment and outcomes with regional, state, and national patterns.

In 2009, the Cancer Data Center submitted Call for Data for the years 2008, 2003, 1998, 1993 and 1988.

MULTIDISCIPLINARY CANCER CONFERENCES

Weekly multidisciplinary tumor board/cancer conferences are conducted under the leadership of Thomas Weisenburger, MD. This meeting provides a consultative service to the physician treating the patient with input regarding further diagnostic work-up, staging, treatment, and follow-up options.

The latest diagnostic technology and research protocols are also discussed. Required attendance includes representatives from surgery, pathology, radiology, and medical and radiation oncology. Physicians earn one CME unit for each conference attended. Ancillary personnel are also invited to attend.

Several times per year cancer conferences shift to other general oncology presentations featuring nationally or locally recognized speakers. These cancer forums are open educational opportunities for all health professionals.

In 2009, a total of 44 Tumor Boards and 48 Breast Cancer Conferences were held, totaling 265 case presentations, 226 (85 percent) being perspective. This percentage far exceeds the 75 percent requirement set by the Commission on Cancer.

Physicians are encouraged to submit cases for presentation by contacting the Cancer Data Center the week prior to the conference at 805-569-8280.

CONFERENCE SCHEDULES

Tumor Board:
Every Tuesday, 12:15 pm

Breast Conference:
Every Wednesday, 12:00 pm

Surgical Grand Rounds/Tumor Board:
First Wednesday each month, 7:45 am

CANCER FORUMS HELD IN 2009

Multiple Myeloma Update
Michael Lilli , MD

Advances in Adjuvant Therapy
in Early Breast Cancer
Christy Russell, MD

Radiation Therapy 2020
Todd Wasserman, MD

TUMOR BOARD CASES PRESENTED IN 2009

Appendix	2
Bladder	1
Bone Marrow	1
Brain	1
Breast	197
Colorectal	10
ENT	2
Esophagus	3
Gastric	4
Kidney	1
Lung	14
Liver	1
Lymphoma	3
Melanoma	4
Ovary	2
Pancreas	4
Prostate	5
Testis	2
Thyroid	3
Unknown Primary	5
Total Presentations	265

THE SANTA BARBARA COTTAGE HOSPITAL CANCER TEAM

Santa Barbara Cottage Hospital's team of doctors, nurses, social workers, pharmacists, physical therapists and clergy recognizes the diversity and uniqueness of every person, especially those who are facing cancer. The people who seek our services expect the very best medical treatment. We are committed to offering support and comfort to the body, the mind, and the spirit.

ADULT ONCOLOGY UNIT

The Santa Barbara Cottage Hospital Adult Oncology Unit was originally opened in April, 1986. This year we celebrate twenty-three years as a dedicated unit caring for the cancer patient who may live in the many communities along the Central Coast of California. Located on the sixth floor, the beds offer spectacular views of the ocean on one side and the mountains on the other side. With a professional staff of 44, the department consists of 37 RNs, one LVN, seven Patient Care Technicians, four Unit Coordinators, a Case Manager, a Social Worker, Spiritual Care and Palliative Care Team.

We are proud of our accomplishments in the past 23 years. The registered nurses are all trained and certified to administer chemotherapy/biotherapy and half of the staff are Oncology Certified Nurses (OCN). In addition, some are also Certified Medical Surgical Registered Nurses, and certified Pain Management and Hospice and Palliative Care Nurses. We are especially proud of the excellent physician-nurse collaboration that exists on the nursing unit with the nine local Oncologists.

The Oncology Unit maintains a liberal visiting policy and is supportive of family involvement in care. A large family room is available with a TV/VCR/DVD with a video library. A portable TV/VCR/DVD is available as well. Other services include a pet therapy program, Healing Touch and hand and foot massages that are offered by a very dedicated volunteer.

To serve outpatients more effectively, an Outpatient Infusion Center was opened five years ago. It has grown rapidly in the past two years, and was recently expanded to allow the care of additional patients. Also located on the sixth floor, it can serve up to 13 patients per day.

SPIRITUAL CARE

Cancer patients and their families are often in special need of spiritual support. The Department of Spiritual Care, with both professional and volunteer members, provides spiritual and emotional support to all patients and their families in coping with a range of issues. These include healing, prayer, grief, anger, pain, loneliness and ethical values. This interfaith program is under the direction of The Reverend Pamela Washburn. You can reach the department and its staff at 569-8386.

PALLIATIVE CARE CONSULTATION SERVICE

Cottage Health System inaugurated its Palliative Care Consultation Service (PCCS) in August 2005 and today works in partnership with Hospice of Santa Barbara, Visiting Nurse and Hospice Care, and the St. Francis Hospital Foundation. This important new program was developed as a direct result of recommendations made by physicians on the Medical Advisory Panel in November 2003.

Palliative care is specialized care that helps patients who are living with serious illness. The Palliative Care Consultation Service treats pain, manages difficult symptoms, and provides spiritual and emotional support to patients and their families. The PCCS can also help patients identify what is most important to them and their families and help communicate these wishes to the healthcare team.

Palliative care differs from hospice care in that it can be started early in the course of illness and is provided at the same time as other treatments a patient is receiving.

Anyone involved with a patient's care can ask the primary physician for a palliative care referral. This includes the patient, family members, nurses, social workers, spiritual care providers, respiratory therapists, physical therapists, case managers, and others. The service is also available to support nurses with information, coaching, and help assessing the need for palliative care.

Once the primary physician has given the order for palliative care, members of the team will begin meeting with the patient and the patient's family, as well as with the patient's physicians and nurses to determine how we can help.

The team will make recommendations to the primary physician regarding pain and symptom management.

Team members will spend time with the patient and family, providing emotional and spiritual support. Finally, the team will work with the patient's case manager regarding discharge planning needs.

In 2009 there were 647 referrals made to PCCS; of these 54 percent had a cancer diagnosis.

Palliative Care Consultation Team

- Dennis Baker, MD, medical director
- Michael Bordofsky, MD, medical director
- Michael Kearney, MD, medical director
- Eric Trautwein, MD, medical director
- Julie Hirsch, RN, palliative care nurse
- Lori Mendez, RN, palliative care nurse
- Susan E White, RN-BC, MSN, palliative care manager
- Sherie Davis, LCSW, palliative care social worker
- Katherine Zeiss, MSW, palliative care social worker
- Valerie Moore, LCSW, bereavement coordinator

PEDIATRIC ONCOLOGY UNIT

In 1996, the first pediatric hematologist/oncologist in this area, Dr. Felicity Hodder, joined SBCH to head up a new program for children. With her arrival and the development of a multi-disciplinary oncology team at Cottage, children with cancer and blood disorders no longer need to leave the area for specialized care. In 2002, Dr. Daniel Greenfield was recruited to strengthen and expand the program.

In addition to offering consultation and treatment for infants, children, and adolescents, the program places special emphasis on educating and supporting these young patients and their families with their unique needs.

Dr. Greenfield came from the University of Missouri, where he was an assistant professor of pediatrics and deputy director of the Pediatric Bone Marrow Transplant Unit. He received his medical degree from the University of Medicine and Dentistry of New Jersey followed by a residency in Pediatrics at Tufts University in Boston.

He then did a fellowship in Pediatric Hematology Oncology at The Children's Hospital in Denver and a post-doctoral fellowship in Bone Marrow Transplantation at the Fred Hutchinson Research Center in Seattle, Washington.

SBCH is a member of the Children's Oncology Group (COG), which was formed by the merger of the four national pediatric cancer research organizations: the Chil-

dren's Cancer Group, the Intergroup Rhabdomyosarcoma Study Group, the National Wilms' Tumor Study Group, and the Pediatric Oncology Group.

The primary objective of the organization is to conduct clinical trials of new therapies for childhood cancer. In 2009, 18 patients were enrolled in clinical trials through the Children's Oncology Group. The childhood cancer research and treatment centers of the COG are located at the most prestigious medical institutions in the world.

The 5,000 pediatric specialists of COG conduct collaborative research, working efficiently and cost-effectively as they share their goals and results. Because of these cooperative methods, children with cancer are assured of state-of-the-art care, no matter where they live, as long as they are cared for by members of the COG network.

At each member institution, patients with specific cancer diagnoses are treated exactly the same way, according to detailed protocols. The data about their treatment and their results are sent to a centralized statistics and data center for analysis and review. By pooling scientific ideas, research skills, and patient data, COG can obtain answers to important medical and scientific questions more rapidly than researchers working alone.

There are more than 240 Children's Oncology Group member-institutions in almost every state and province in North America and elsewhere in the world.

PUBLIC EDUCATION

Santa Barbara Cottage Hospital offers individual and group cancer prevention education. The educational topics include, but are not limited to, cancers of the skin, breast, colon, and prostate, as well as smoking cessation programs. Members of the community also have access to the most recent cancer literature and clinical trials through a variety of computer resources available in Reeves Medical Library.

The library provides multi-media computers so individuals can search for information on-line or access the entire library collection. Many books, magazines, and videos are also available in Reeves Library.

REHABILITATION /PHYSICAL THERAPY

Physical and occupational therapists and those trained in speech and communication therapy provide patients with rehabilitative support throughout their illness and recovery period. These therapists give special attention to patient balance and safety, teaching patients to conserve energy, helping patients improve their mobility and endurance, improving patient muscle weaknesses and loss of motion, and assisting patients who have swallowing dysfunction.

PHARMACY SERVICES



The Department of Pharmacy Services offers vital support to cancer patients. All chemotherapy agents for inpatients at Cottage are prepared in the pharmacy. This service facilitates the efficient administration of drugs and enhances the interaction between the other members of the healthcare team. Pharmacists also support chemotherapy protocols. The pharmacy department at Santa Barbara Cottage Hospital acquired a room-size, stationary robotic system that automatically fills drug prescriptions after verification by the pharmacist. Installed in November 2005, Robot-RX takes up approximately 144 square feet in the SBCH pharmacy department with 700 pegs holding up to 25,000 single doses. The hospital fills approximately one million prescriptions per year. Robot-RX is part of the hospital's strategy for ensuring medication accuracy and safety.

With the acquisition, SBCH is one of approximately six hospitals in California—and one of only about 300 nationwide—to operate such an in-house system. The robot frees up pharmacists to spend more time advising physicians, staff, and employees about drug and drug interactions, reduces pharmacy costs through increased speed and efficiency, and reduces the risk of medication errors.

NUTRITION SERVICES

Nearly 80 percent of patients with cancer experience side effects of the disease and/or treatment that have an impact on their nutritional health. Poor nutrition impacts tolerance to therapy, healing, affects the immune system and decreases quality of life.

Registered Dietitians are trained to evaluate and work with patients suffering from side effects of treatment that interfere with eating such as loss of appetite, changes in smell and taste, difficulty chewing or swallowing and problems with digestion and bowel regulation. Dietitians are also involved in the provision of enteral and parenteral nutrition therapies when warranted. Registered dietitians evaluate diet history, weight changes, laboratory and physical parameters and past and present medical history to develop a comprehensive plan of care to improve or maintain nutritional status before, during and after therapy. They also work closely with the entire care team to coordinate resources needed during and after treatment.

DEPARTMENT OF RADIOLOGY

The Department of Radiology is accredited by the Food and Drug Administration (FDA) and is staffed by 14 radiologists, 70 technologists, and 20 staff support personnel. The department is divided into General Diagnostic, Ultrasound, CT scan, Angiography, and MRI. SBCH is an ACR-accredited mammography site. The Department of Radiology performs approximately 100,000 exams per year, including 2,200 mammograms. In addition to its daily activities, the Department of Radiology provides training for radiology residents. The department also provides vital services in ongoing medical education for physicians and provides weekly services for the Cancer Conference and the Surgical Grand Rounds.

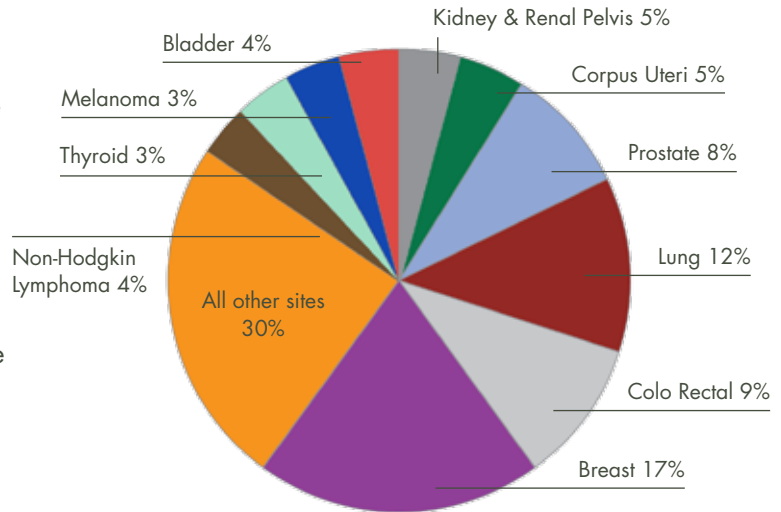
MEDICAL SOCIAL SERVICES

Cancer has a tremendous impact on the entire family, and Cottage's clinical social workers provide patients and family members with emotional support, guidance, and understanding. Upon referral by the physician, nurse, patient, patient's family, or any other member of the healthcare team, the social workers evaluate needs, support systems, understanding of diagnosis and treatments, and awareness of prognosis. They also counsel patients and family members on financial and insurance matters and develop plans for patients and loved ones to make the transition from the hospital as smooth as possible. Another important role of the clinical social worker is providing linkages with community agencies and support groups. The clinical social worker on the Oncology Unit plays an integral role in the care of cancer patients and their families at SBCH.

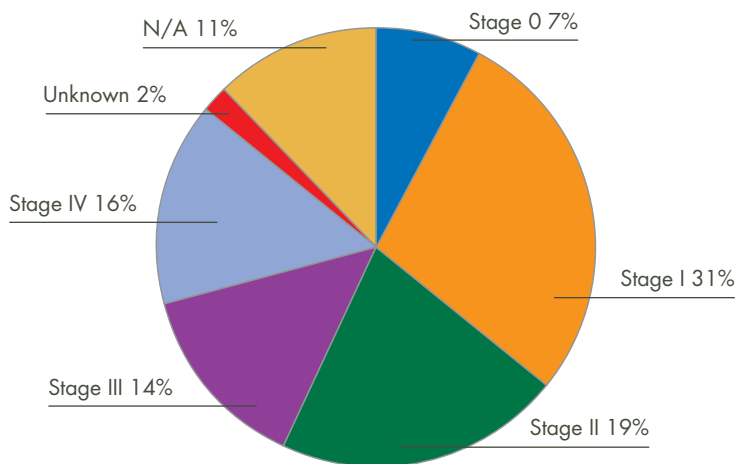
NEWLY DIAGNOSED CANCER CASES BY SITE - 2009

In 2009, Santa Barbara Cottage Hospital treated 1225 patients with cancer of which 1140 were newly diagnosed. Breast carcinoma was the most frequent primary site, followed by lung carcinoma.

Of the newly diagnosed cases, 82 percent were from Santa Barbara County, 4.6 percent were from San Luis Obispo County, 4.6 percent were from Ventura County and 2.7 percent from Tulare County. The remaining cases were from various counties throughout California, Washington, Arizona and several other states.

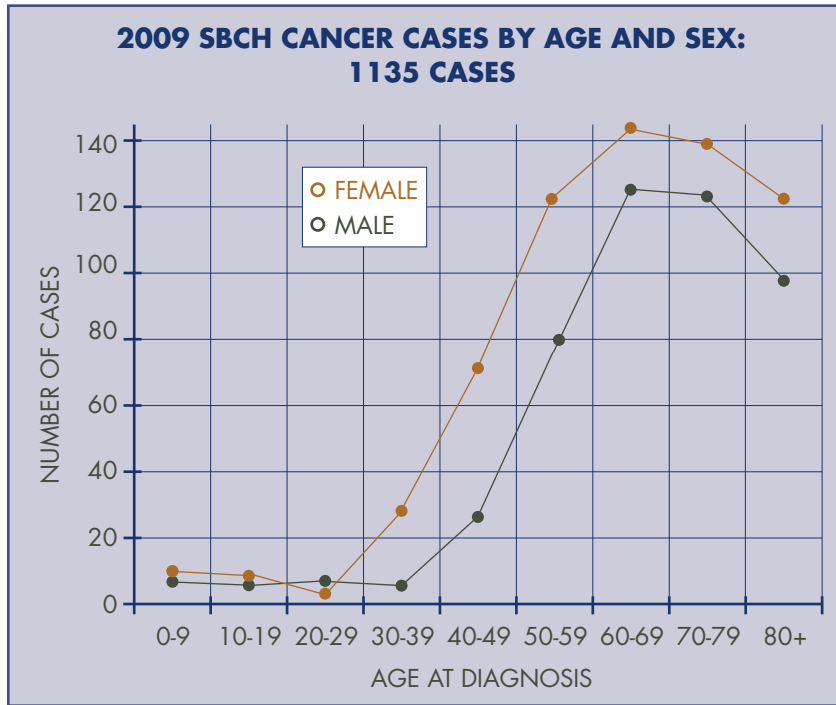


NEWLY DIAGNOSED CANCER CASES BY AJCC STAGE



Santa Barbara
Cottage Hospital
2009

*This number pertains to sites or histologic types which do not have an AJCC staging scheme.



NEWLY DIAGNOSED CANCER CASES BY AGE AND SEX

In 2009, 58 percent of our cancer patients were women, 42 percent were men. Cancer diagnosis occurred most frequently in those between the ages of 60-69 for both men and women. More women than men developed cancer under the age of 50, reflecting the high number of younger women with breast cancer.

TOP FIVE PRIMARY FEMALE SITES

These tables demonstrate a comparison between the top five sites for females in 2009 at SBCH and the top five primary sites for females as estimated by the American Cancer Society for 2009.

2009 ESTIMATED NEW CANCER CASES AMERICAN CANCER SOCIETY

BREAST	27%
LUNG	14%
COLON & RECTUM	10%
UTERINE CORPUS	6%
NON-HODGKIN LYMPHOMA	4%

2009 NEW CANCER CASES SANTA BARBARA COTTAGE HOSPITAL

BREAST	29%
LUNG & BRONCHUS	12%
UTERINE CORPUS	9%
COLON & RECTUM	8%
OVARY	4%

TOP FIVE PRIMARY MALE SITES

The top four primary sites for males in 2009 at SBCH are similar to the top five primary sites as estimated by the American Cancer Society for 2009.

2009 ESTIMATED NEW CANCER CASES AMERICAN CANCER SOCIETY

PROSTATE	25%
LUNG & BRONCHUS	15%
COLON & RECTUM	10%
URINARY BLADDER	7%
MELANOMA OF SKIN	5%

2009 NEW CANCER CASES SANTA BARBARA COTTAGE HOSPITAL

PROSTATE	19%
LUNG & BRONCHUS	12%
COLON & RECTUM	10%
URINARY BLADDER	7%
KIDNEY & RENAL PELVIS	6%

11 | 2009 SANTA BARBARA COTTAGE HOSPITAL PRIMARY SITE TABLE

PRIMARY SITE	TOTAL CASES	CLASS		SEX		STAGE*						
		Analytic	Non-Analytic	M	F	0	I	II	III	IV	N/A	Unknown
ALL SITES	1225	1140	85	534	691	86	352	213	158	182	129	20
ORAL CAVITY	13	13	0	7	6	0	3	0	2	7	1	0
TONGUE	4	4	0	2	2	0	0	0	1	2	1	0
SALIVARY GLANDS, MAJOR	2	2	0	1	1	0	1	0	0	1	0	0
FLOOR OF MOUTH/GUM/TONSIL	3	3	0	1	2	0	2	0	0	1	0	0
OROPHARYNX/HYPOPHARYNX	4	4	0	3	1	0	0	0	1	3	0	0
DIGESTIVE SYSTEM	218	206	12	119	99	3	44	47	42	49	12	9
ESOPHAGUS	17	15	2	13	4	0	3	2	3	6	0	1
STOMACH	13	12	1	8	5	0	2	1	0	7	1	1
SMALL INTESTINE	5	4	1	4	1	0	0	0	3	1	0	0
COLON	85	83	2	35	50	3	21	23	20	14	1	1
RECTUM & RECTOSIGMOID	23	21	2	17	6	0	7	8	6	0	0	0
ANUS, ANAL CANAL, ANORECTUM	5	5	0	2	3	0	2	2	0	0	0	1
LIVER	20	18	2	16	4	0	4	1	6	5	0	2
GALLBLADDER	2	2	0	0	2	0	1	0	0	1	0	0
BILE DUCTS	5	4	1	4	1	0	2	0	0	0	0	2
PANCREAS	33	32	1	18	15	0	2	10	4	14	1	1
PERITONEUM, OMENTUM, MESENT	7	7	0	0	7	0	0	0	0	1	6	0
OTHER DIGESTIVE	3	3	0	2	1	0	0	0	0	0	3	0
RESPIRATORY	150	145	5	69	81	2	45	7	30	59	1	1
LARYNX/NASAL CAVITY/SINUS	6	6	0	3	3	0	2	0	1	2	1	0
LUNG/BRONCHUS-SMALL CELL	20	20	0	11	9	0	5	1	4	10	0	0
LUNG/BRONCHUS-NON SM CELL	119	115	4	50	69	2	36	6	24	46	0	1
PLEURA	5	4	1	5	0	0	2	0	1	1	0	0
BLOOD & BONE MARROW	64	49	15	38	26	0	0	0	0	0	49	0
LEUKEMIA	39	31	8	26	13	0	0	0	0	0	31	0
MYELOMA	15	11	4	5	10	0	0	0	0	0	11	0
OTHER HEMATOPOIETIC	10	7	3	7	3	0	0	0	0	0	7	0
BONE	3	3	0	1	2	0	1	0	0	0	0	2
SOFT TISSUE	12	10	2	6	6	0	2	0	2	3	3	0
SKIN	48	41	7	28	20	4	18	9	7	3	0	0
MELANOMA OF SKIN	45	38	7	26	19	4	16	9	6	3	0	0
OTHER SKIN CA	3	3	0	2	1	0	2	0	1	0	0	0
BREAST	210	196	14	2	208	41	86	46	16	5	2	0
FEMALE GENITAL	123	120	3	0	123	8	64	7	19	12	4	6
CERVIX UTERI	12	12	0	0	12	1	3	0	3	5	0	0
CORPUS UTERI	62	61	1	0	62	0	48	3	4	3	2	1
OVARY	30	28	2	0	30	1	10	1	9	2	0	5
VAGINA	2	2	0	0	2	1	1	0	0	0	0	0
VULVA	12	12	0	0	12	5	1	2	2	2	0	0
OTHER FEMALE GENITAL	5	5	0	0	5	0	1	1	1	0	2	0
MALE GENITAL	111	98	13	111	0	0	7	66	17	8	0	0
PROSTATE	103	90	13	103	0	0	2	66	14	8	0	0
TESTIS	8	8	0	8	0	0	5	0	3	0	0	0
URINARY	110	107	3	73	37	28	44	13	6	12	2	2
BLADDER	46	45	1	35	11	20	14	7	0	4	0	0
KIDNEY AND RENAL PELVIS	57	55	2	33	24	3	30	5	6	8	2	1
URETER/OTHER URINARY	7	7	0	5	2	5	0	1	0	0	0	1
EYE	3	2	1	3	0	0	0	0	0	0	2	0
BRAIN	18	18	0	9	9	0	0	0	0	0	18	0
OTHER NERVOUS SYSTEM	15	14	1	5	10	0	0	0	0	0	14	0
THYROID/ENDOCRINE	40	38	2	14	26	0	27	2	6	0	3	0
LYMPHATIC SYSTEM	69	62	7	43	26	0	11	16	11	24	0	0
HODGKIN'S DISEASE	12	11	1	9	3	0	0	6	0	5	0	0
NON-HODGKIN LYMPHOMA	57	51	6	34	23	0	11	10	11	19	0	0
UNKNOWN OR ILL-DEFINED	18	18	0	6	12	0	0	0	0	0	18	0

*Tabulations for Stage Distribution include Analytic Cases only.

BREAST CARCINOMA

RONALD G. LATIMER, MD, FACS, W. WARREN SUH, MD, MPH
AND JULIE A. TAGUCHI, MD

Data from Santa Barbara Cottage Hospital from 1998-2009 were reviewed.

BREAST CANCER 2010

RONALD G. LATIMER, MD, FACS

I SANTA BARBARA BREAST CARE ALLIANCE

The Cottage Health System Cancer Committee proudly announces that the Santa Barbara Breast Care Alliance has received national accreditation for a “Breast Center Without Walls” collaboration.

After 18 months of work the Santa Barbara Breast Care Alliance—a collaboration of community surgeons, medical oncologists, radiation oncologists, pathologists, breast imagers, internists and plastic surgeons, all members of the Cancer Committee at Cottage Hospital—has received full accreditation by the National Accreditation Program for Breast Centers (NAPBC).

The NAPBC is administered by the American College of Surgeons and this special Breast Center Accreditation augments and expands the existing accredited Community Hospital Comprehensive Cancer Program at Santa Barbara Cottage Hospital.

The rigorous application process required the close collaboration of all providers for breast cancer patient care. A full on-site survey was performed to ensure that the NAPBC standards for leadership, clinical management, research, professional continuing education and quality standards and improvement were met.

The Santa Barbara Breast Care Alliance (SBBCA) is a powerful new community resource for patients with breast cancer and/or breast cancer concerns and offers patients comprehensive “state of the art” treatment and support and facilitates and measures quality improvement.

Besides this assurance of excellence in diagnosis and treatment of breast cancer, the SBBCA has added two new full-time programs:

1. The Hereditary Cancer Risk Counseling Service, which includes both individual risk and genetic evaluations.
2. The Breast Care Navigator Program where two specially trained nurses will support and facilitate the patient’s care as they navigate through their multidisciplinary evaluation and treatment programs.

II INTRODUCTION

During 2010 there will be 207,090 new cases of breast cancer in the United States, with 21,130 in California. Female deaths due to breast cancer will be 39,840, with 4,320 in California (**Figure 1**).

FIGURE 1
LEADING SITES OF NEW CANCER CASES & DEATHS
2010 FEMALE ESTIMATES

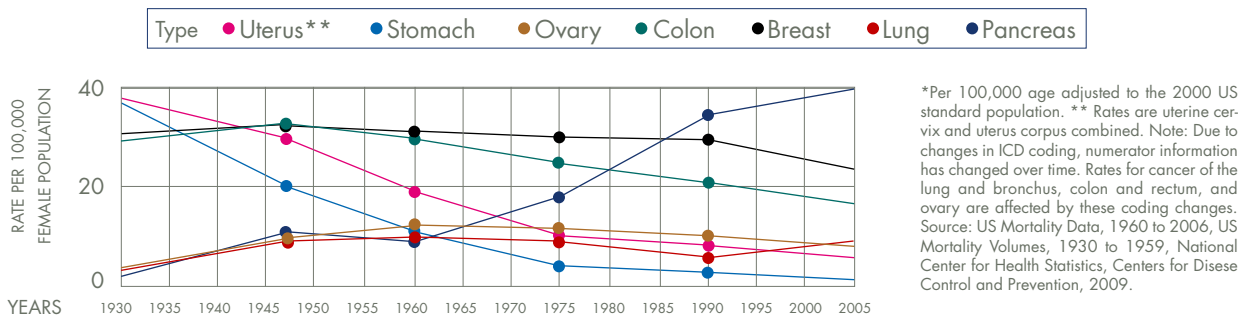
Estimated New Cases	Estimated Deaths
Breast: 207,090 (28%)	Lung & Bronchus: 71,080 (26%)
Lung & Bronchus: 105,770 (14%)	Breast: 39,840 (15%)
Colon & Rectum: 70,480 (10%)	Colon & Rectum: 24,790 (9%)
Uterine Corpus: 43,470 (6%)	Pancreas: 18,030 (7%)
Thyroid: 33,930 (5%)	Ovary: 13,850 (5%)
Non-Hodgkin Lymphoma: 30,160 (4%)	Non-Hodgkin Lymphoma: 9,500 (4%)
Melanoma of Skin: 29,260 (4%)	Leukemia: 9,180 (3%)
Kidney & Renal Pelvis: 22,870 (3%)	Uterine Corpus: 7,950 (3%)
Ovary: 21,880 (3%)	Liver & Intrahepatic Bile Duct: 6,190 (2%)
Pancreas: 21,770 (3%)	Brain/Other Nervous System: 5,720 (2%)
All Sites: 739,940	All Sites: 270,290 (100%)

The “good news” is that the age-adjusted death rates for breast cancer began to decrease in the 1990’s, probably representing the positive effects of mammographic screening examinations and exciting and better treatments. (**Figure 2**)

The probability of developing breast cancer increases with age, but it appears that older women or their physicians seem to be discounting the benefit of mammography in spite of this increasing incidence. (**Figure 3**)

From 1999 to 2005, white females were more likely to have higher rates of localized disease and lower rates of regional disease compared to other races, with better overall five-year survival rates for localized, regional, and distant disease compared to other races.

FIGURE 2: AGE-ADJUSTED CANCER DEATH RATES*, FEMALES BY SITE, US, 1930–2006



Comparing the intervals of 1975 to 1977 to 1999 to 2005, the relative five-year survival rates have statistically improved for all races from 75 percent to 90 percent (white females 76 percent to 91 percent, African American females 62 percent to 79 percent).

The data collected by the Cancer Data Center at Cottage Hospital documents that from 1999 to 2009 the number of patients with early breast cancer (Stage 0 and Stage I) has been stable at about 60 percent, which equals national trends (Figures 4 and 5). Stage II (nodal involvement) has remained near 28 percent which is comparable to other reporting comprehensive cancer centers.

During 2009 the government’s Preventative Services Task Force examined the efficiency of five screening modalities to reduce breast cancer mortality. Using population modeling techniques, they compared expected outcomes and resource requirements.

This task force recommended the elimination of population screening mammography for women between the ages 40 to 49 and discouraged physician training of women in breast self-examination techniques. This has been widely contested because of eight randomized controlled studies that confirmed a 15 percent decrease in breast cancer mortality due to screening mammography.

FIGURE 3A
PROBABILITY OF DEVELOPING INVASIVE BREAST CANCER

Age in years	Probability
39	1 in 206 / 0.49%
40-59	1 in 27 / 3.75%
60-69	1 in 29 / 3.4%
70+	1 in 15 / 6.5%
Birth to death	1 in 8 / 12.08%

In Santa Barbara during the last five years (2005-2009) 189 women less than 49 years of age developed breast cancer; of these cancers 77 (40 percent) were mammographically detected (Figure 6).

When the five-year survival data for women ages 35-44 (Figure 7) are compared against increasing stage at diagnosis it reinforces the intuitive observation that an earlier diagnosis of this disease in this group of women will favorably influence their survival.

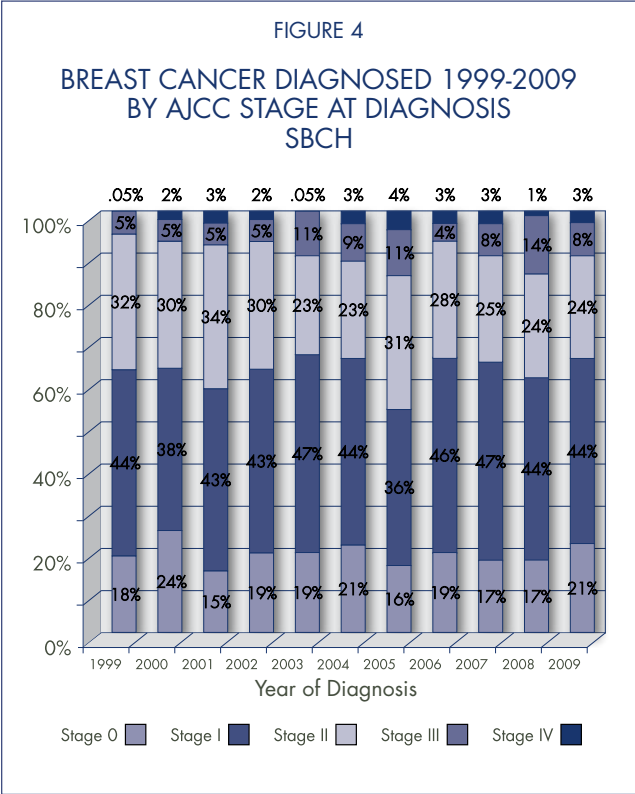
FIGURE 3B
MAMMOGRAPHY USE DECLINES WHEN BREAST CANCER RISK IS GREATEST

Age	Mammogram/100	Incidence/100,000
40-44	48.6	121.0
45-49	59.4	198.1
50-54	67.8	263.5
55-59	69.2	333.1
60-64	70.0	380.6
65-69	69.8	430.1
70-74	68.2	476.1
75-79	64.1	499.0
80-84	52.8	477.8
85+	38.8	401.7

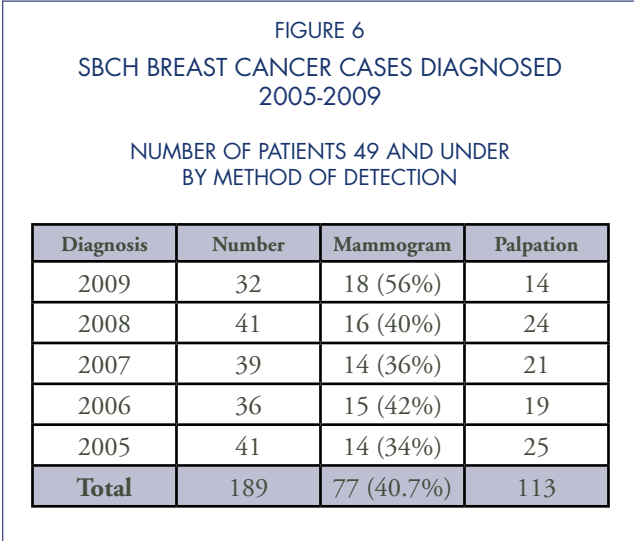
*Mammogram/100 is in the past year.
Breast cancer incidence is per 100,000 cases.*

Women are less likely to undergo mammograms after age 65, the time when they face the greatest risk of breast cancer. Although mammography use peaks at 70% among women aged 60-64, the rate drops to about 53% in the 80-84 age group and falls below 40% in women over 85. Hospitals and physicians need to educate women to become more vigilant about annual mammograms at the time of life when they can least afford to let their guard down.

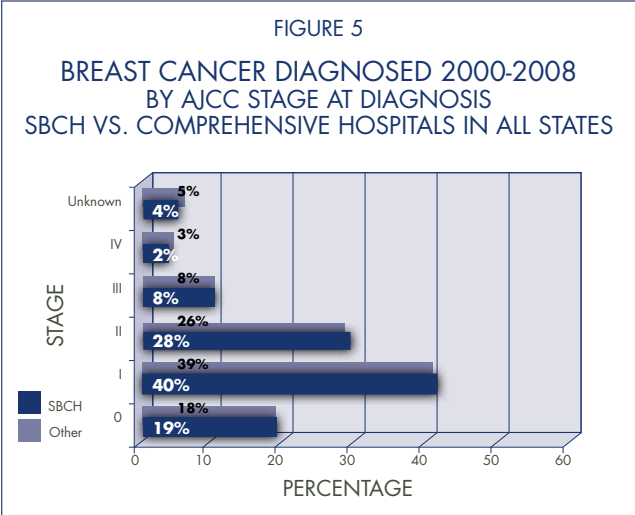
SBCH Cases Diagnosed by AJCC Stage



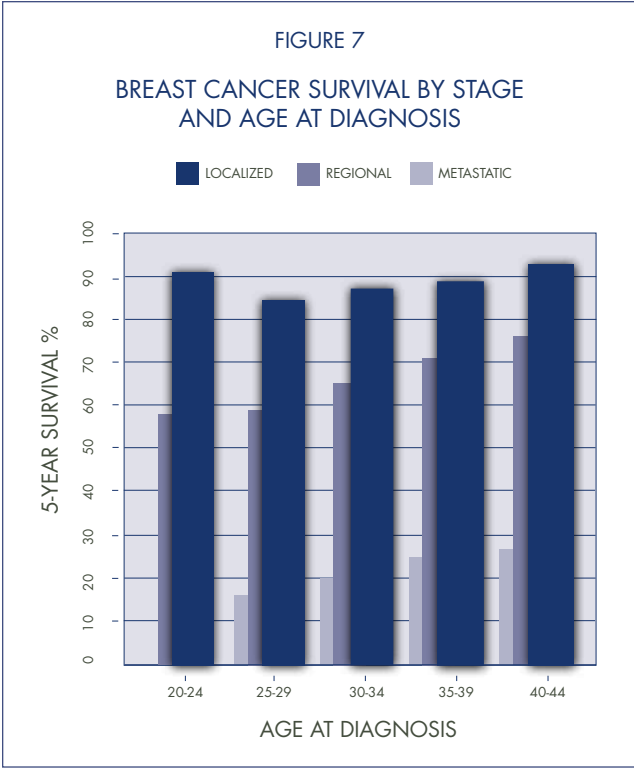
Cases Diagnosed



Cases by AJCC Stage Comparison



Five-Year Survival Rates



Comment: Since mammographic screening does detect invasive cancer at an earlier stage, it may not be population-wide “cost-effective” but it is definitely individually and personally “cost-effective,” lifesaving and increases options for less aggressive treatments.

Reflecting the high level of expertise in our community, the breast cancer survival rates for Santa Barbara’s patients have always been equal to or have exceeded those of other similar hospitals with Commission on Cancer approved cancer programs. (**Figure 8**) The overall ten-year survival rate in Santa Barbara is shown in **Figure 9**.

III EVOLUTION OF CARE FOR THE BREAST CANCER PATIENT

A. Introduction:

Over the past 40 years there has been an evolution in all three modalities of treatment for breast cancer patients: surgery, radiation therapy, and medical oncology. In each of these specialties there has been a shift from the maximum invasive and at times “over treatment” regimens to refined, defined and personalized treatment plans that maximize benefits and survival while reducing deformity, morbidity and toxicity.

B. Surgical Evolution:

In the 1980s the Halstedian “radical mastectomy,” the “modified radical mastectomy” and the Urban “super radical” mastectomy, all conceived to surround, contain and eliminate the cancer for cure, were proven to be no better for the patient’s survival than breast-conserving operations combined with radiation therapy.

This changed the surgical approach for breast cancer as illustrated in **Figure 10**. In 1988, 66 percent of women had total or modified mastectomies but 10 years later (1998) only 36 percent of patients had breast removal. Presently (2009) nearly 60 percent of women are treated with breast-conserving operations.

The increasing use of “up front” chemotherapy or endocrine therapy (neoadjuvant therapy) that reduces tumor size combined with “oncoplastic” operative techniques allows more women to preserve their breasts with improved acceptable cosmetic results.

For those women who choose or require total breast removal, creative and innovative surgical techniques of immediate or delayed plastic reconstruction with skin and muscle flaps, at times augmented with implants, permits appropriate cancer treatments with restoration and confirmation of body image.

Another significant advancement in the operative management for breast cancer has been the adoption of the “sentinel lymph node” axillary biopsy. This procedure reduces the need for a complete axillary dissection (Level I, II, & III lymph nodes) which in turn has reduced the morbid complication of lymphedema, shoulder immobility and intercostal-brachial nerve neuralgia.

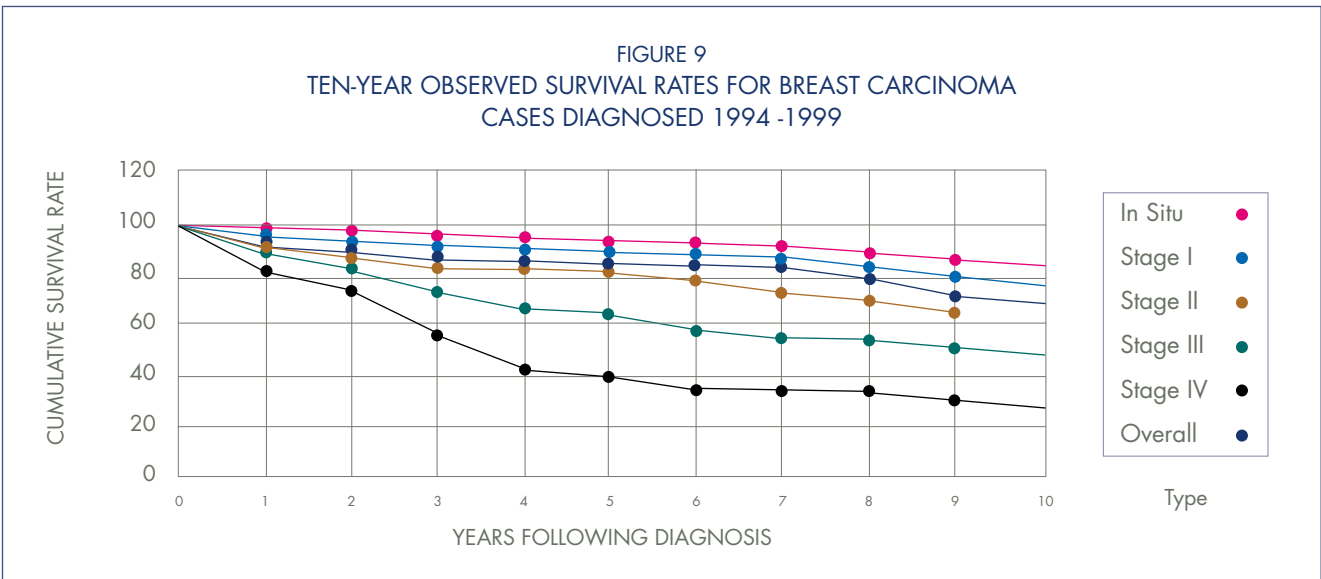
Utilizing newer imaging techniques (PET, PEM, MRI & sestamibi scans; axillary ultrasound with biopsy), in selected patients the need to disturb the axilla, even with the sentinel lymph node removal, may become unnecessary to treat a breast cancer patient appropriately.

With the continued progressive evolutionary improvement of adjuvant treatment (radiation therapy, chemotherapy, endocrine manipulation) as discussed in the following sections by Dr. Warren Suh and Dr. Julie Taguchi, plus the burgeoning field of genome analysis, it is possible to envision minimal non-operative, non-invasive, non-toxic and non-morbid treatments for this disease. Perhaps ultimately even “predictive preventive cures.” •

Survival Rate Comparison



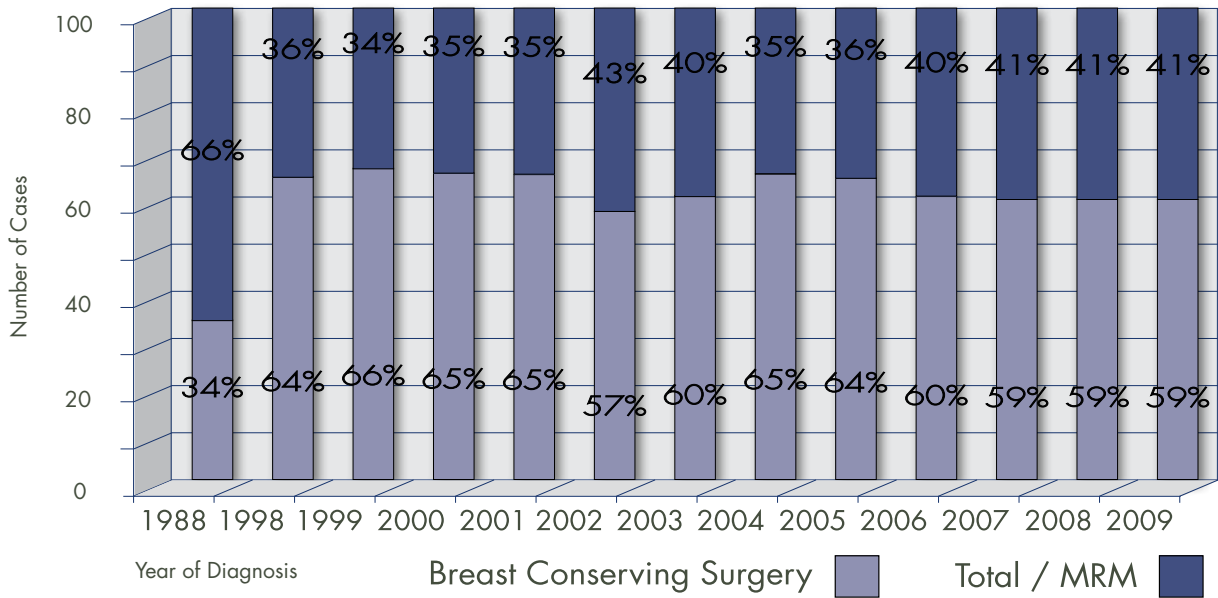
SBCH Ten-Year Observed Survival Rates



Cases by Type of Surgical Treatment

FIGURE 10

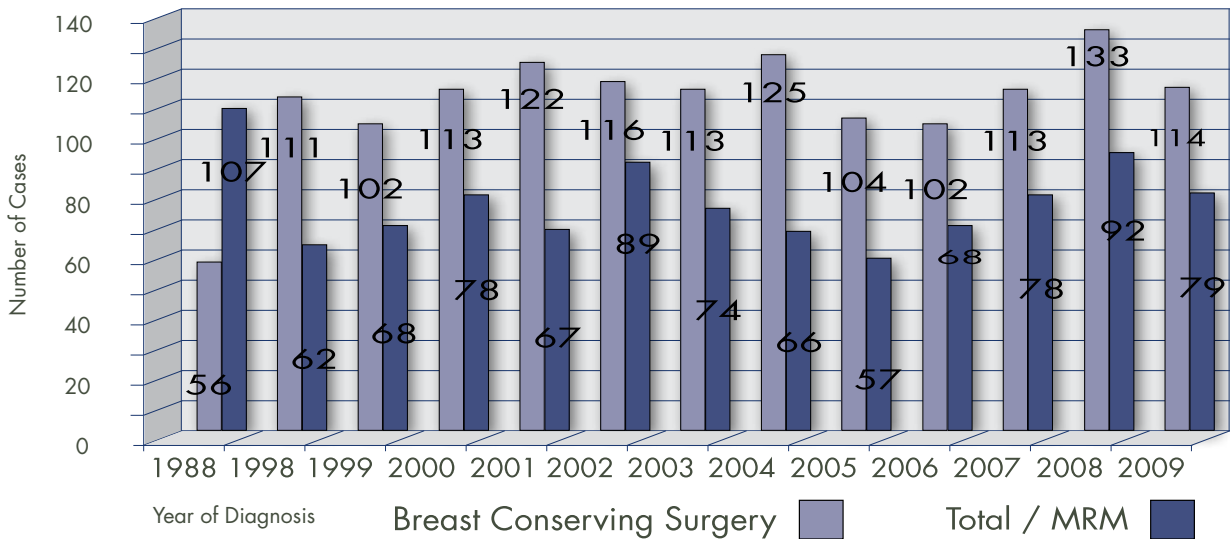
SANTA BARBARA COTTAGE HOSPITAL BREAST CANCER CASES 1999-2009
TYPE OF SURGICAL TREATMENT – ALL STAGES



Cases by Type of Surgical Treatment

FIGURE 11

SANTA BARBARA COTTAGE HOSPITAL BREAST CANCER CASES
TYPE OF SURGICAL TREATMENT – ALL STAGES



EVOLUTION OF RADIATION TREATMENTS FOR BREAST CANCER

W. WARREN SUH, MD, MPH

Since the early 1900s, radiation treatment has played an important role in the treatment of breast cancer. In the early era, radiation treatment was primarily used for patients with either chest wall recurrences or inoperable cancers.

Today, radiation treatment is a critical component of any breast-conserving treatment approach and has an established role in the post-mastectomy setting for patients with adverse tumor features. The benefits of radiation treatment, in terms of overall survival, cancer-specific survival and local control, are well-documented and supported by multiple randomized controlled trials, meta-analyses, and guidelines (i.e., 1990 National Institute of Health guideline).

In general principle, the goal of radiation treatment in the management of breast cancer is to minimize the risk of local-regional recurrence while minimizing the risk of treatment-related injury to adjacent normal tissue. To this end, there have been important advances achieved in all aspects of the radiation treatment for patients with breast cancer, enabling one to maximize the therapeutic ratio (treatment benefits/treatment side effects).

Over the years, radiation treatment planning process has evolved, from one based on external anatomic landmarks and crude patient thickness measurements via use of fluoroscopy to one based on CT scan planning, dramatically improving a radiation oncologist's ability to optimize dose delivery to target areas as well as dose avoidance to adjacent normal tissue organs.

The radiation treatment delivery techniques have also been revolutionized. Replacing the classic 2D radiotherapy approach, we now have 3D conformal radiotherapy, and IMRT (intensity modulated radiotherapy) modalities available for our patients. In conjunction with these advances, the sophistication of radiation treatment equipment has evolved from a Cobalt-60 unit to the state-of-the-art linear accelerators with dynamic multi-leaf collimation, robotic couch set-up, and daily imaging localization technologies.

Moreover, there have been increasing efforts to improve patient convenience and treatment accessibility as well. While the standard-of-care post-lumpectomy breast radiation treatment typically consists of a six and a half week long treatment course, a shortened radiation treatment schedule that takes place over four and a half weeks as well as alternate treatments such as accelerated partial breast radiation that target only a part of the breast and can be completed over one week's time, are now available as treatment options for the appropriately selected patients.

In conclusion, radiation treatment for patients with breast cancer has and will continue to evolve over time, enabling patients to benefit from the latest technological advances while addressing increasingly important factors such as treatment convenience and accessibility, all with the singular purpose of providing patients with personalized 21st century level of care. •

EVOLUTION OF CHEMOTHERAPY, ENDOCRINE MANIPULATION AND IMMUNE THERAPY FOR A BREAST CANCER PATIENT

JULIE A. TAGUCHI, MD

Breast cancer treatment has evolved rapidly as breast cancer research has been a leader in “targeted therapy” or what may be considered “personalized medicine.” These personalized efforts involve evaluation of the tumor genetics, refining chemotherapy for certain types of breast cancer subtypes, immunotherapy, and endocrine therapy (or anti-estrogens).

Breast cancer tumors are tested for the presence of the estrogen and progesterone receptors and expression of HER-2/neu protein (a marker of aggressive disease) to help plan pre- or post-surgical treatments. In addition, for early stage I or II breast cancer tumors, the genetic material of the tumors can be evaluated by genetic tests known as Oncotype Dx and MammaPrint. In conjunction with clinical information such as pre- or post-menopausal status and the number of involved axillary lymph nodes, these special tests may eliminate or confirm the need for chemotherapy for a particular patient.

In the 1980s, chemotherapy started as a “one size fits all” approach to breast cancer and was found to benefit mostly women with lymph node-positive breast cancer. We now know that breast cancer is not one disease, but encompasses many subtypes. Chemotherapy drugs have been tested and finely tuned for the best outcome for different types of breast cancers. For the majority of breast cancers (estrogen receptor positive and HER-2/neu non-over expressing), chemotherapy includes some combination of Cyclophosphamide (Cytoxan), Doxorubicin (Adriamycin), and taxanes (Taxotere, Taxol, and Abraxane).

Immunotherapy or drugs known as monoclonal antibodies have been added to chemotherapy to improve patient survival and tumor response. Cancers that contain HER-2/neu over-expression receive a different specific immune treatment that includes a monoclonal antibody called Trastuzumab (Herceptin). Trastuzumab in conjunction with selected chemotherapy agents has improved disease-free survival in this population by 50 percent at three years. Bevacizumab is another new monoclonal antibody protein that is used for patients with advanced stage of breast cancer.

Another “hot topic” in breast cancer includes the triple-negative subtype where there is lack of estrogen, progesterone receptors, and HER-2/neu over-expression. Even within this group, there are the basal cell triple negative tumors that are considered most aggressive. There is now a new drug awaiting FDA approval called the PARP inhibitor, also a monoclonal antibody. This new immunotherapy agent given with chemotherapy Gemcitabine (Gemzar) and Carboplatinum helps improve the response and progression-free survival in this aggressive subset of patients as well as BRCA1 and BRCA2 carriers.

On a more personal note, patients can be tested for BRCA1 and BRCA2 mutations, inherited genes that increase the risk of breast cancer to 80 percent by age 80. They are also associated with ovarian, male breast, and prostate cancers, and certain brain tumors. Women who carry the BRCA1 and BRCA2 genes also fail to respond to the PARP inhibitor.

It should be noted that breast cancer patient volunteers affected with this disease who participate in clinical research evolve and improve our treatments. The Santa Barbara oncology community is actively involved in current clinical research protocols which helped Trastuzumab (Herceptin) become standard of care, along with the current PARP inhibitor mentioned above.

For 75 percent of women, anti-estrogens are recommended for the estrogen receptor positive tumors. The aromatase inhibitors are the favored drugs due to their improvement in survival and less life-threatening complications compared to Tamoxifen for post-menopausal women.

Thus, by understanding the genetics of the tumor, fine-tuning chemotherapy to reduce the number of chemotherapeutic agents and limiting toxicity, plus combining these drugs with monoclonal protein antibodies, the lives and survival for women with breast cancer have been significantly improved. •

GLOSSARY OF TERMS

SURVIVAL ANALYSIS

Actuarial Survival Method provides a mean for the use of all follow-up information accumulated until the close of the study and provides additional information on the survival pattern of the group under study.

CLASS OF CASE

Analytic

Cases that are first diagnosed and/or receive all of part of their first course of treatment at Santa Barbara Cottage Hospital. These cases are included in all statistical reports.

Non-Analytic

Cases that have been diagnosed and have received their entire first course of treatment elsewhere and are first seen at Santa Barbara Cottage Hospital for recurrent, persistent or metastatic disease, or were first diagnosed at autopsy. These cases are not generally included in statistical reports.

First Course of Treatment

The initial cancer-directed treatments or series of treatments planned and usually initiated within the first four months following diagnosis.

AMERICAN JOINT COMMITTEE ON CANCER TNM STAGING SUMMARY (varies with primary site)

Stage 0 Carcinoma in situ; a tumor that fulfills all the microscopic criteria for malignancy except invasion.

Stage 1 Localized disease with no evidence of lymph node or distant spread.

Stage 2 Generally, direct extension of disease without lymph node extension.

Stage 3 Generally, lymph node extension but may have direct extension also.

Stage 4 Generally, any tumor with distant metastasis.

Unknown Tumors that cannot be staged due to lack of diagnostic documentation.

SANTA BARBARA COTTAGE HOSPITAL CANCER PROGRAM

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