



# Action Plan

## On Breast & Cervical Cancers for Texas

### A Guide to Resources & Data



TEXAS  
CANCER  
COUNCIL



TexasMedical  
Association

PHYSICIAN ONCOLOGY  
**POEP**  
EDUCATION PROGRAM

# Action Plan on Breast and Cervical Cancers for Texas: A Guide to Resources and Data

**August 2003**

**Developed by:**

Texas Medical Association's  
Physician Oncology Education Program

**Andrew Miller, MHSE, CHES**

*Project Director*

**Robin C. Meadows**

*Project Coordinator*

**Martha T. Johnson**

*Graphic Designer*

**This project is a collaboration of these agencies and organizations:**

Texas Cancer Council  
Texas Department of Health  
Texas Medical Association  
Physician Oncology Education Program

Funded by the Centers for Disease Control and Prevention

This report is also available on the Web at: [www.tcc.state.tx.us](http://www.tcc.state.tx.us)



# Contents

|  |    |
|--|----|
| Acknowledgements .....   | 4  |
| I. Current Resources .....   | 6  |
| II. Breast Cancer in Texas, 2003 .....                                       | 20 |
| What is Breast Cancer? .....   | 22 |
| Breast Cancer Incidence, 1995–1999 and Mortality, 1997–2001 .....            | 23 |
| Differences by Race/Ethnicity .....  | 23 |
| Differences by Age and Race/Ethnicity .....                                  | 24 |
| Stage of Disease at Diagnosis, 1995–1999% .....                              | 25 |
| Differences in Stage of Disease at Diagnosis by Race/Ethnicity .....         | 25 |
| Early Detection and Cervical Cancer Screening in Texas, 2002 .....           | 25 |
| Physician Breast Cancer Screening Knowledge, Attitudes, and Practices .....  | 26 |
| Regional Variation .....   | 26 |
| Breast Cancer Along the Texas-Mexico Border .....                            | 27 |
| Breast Cancer in Urban and Rural Counties .....                              | 28 |
| Breast Cancer Mortality Trends in Texas by Race/Ethnicity, 1992–2001 .....   | 29 |
| What are the Risk Factors? .....   | 29 |
| Summary .....  | 30 |
| Technical Notes .....  | 30 |
| III. Cervical Cancer in Texas, 2003 .....                                    | 35 |
| What Is Cervical Cancer? .....   | 36 |
| Cervical Cancer Incidence, 1995–1999 and Mortality, 1992–2001 .....          | 37 |
| Differences by Race/Ethnicity .....  | 38 |
| Differences by Age and Race/Ethnicity .....                                  | 39 |
| Stage of Disease at Diagnosis, 1995–1999 .....                               | 39 |
| Differences in Stage of Disease at Diagnosis by Race/Ethnicity .....         | 40 |
| Early Detection and Cervical Cancer Screening in Texas .....                 | 40 |
| Physician Pap Smear Screening Knowledge, Attitudes, and Practices .....      | 41 |
| Regional Variation .....   | 41 |
| Cervical Cancer Along the Texas-Mexico Border .....                          | 42 |
| Cervical Cancer in Urban and Rural Counties, 1995–1999 .....                 | 43 |
| Cervical Cancer Mortality Trends in Texas by Race/Ethnicity, 1992–2001 ..... | 44 |
| Risk Factors .....   | 44 |
| Summary .....  | 45 |
| Technical Notes .....  | 45 |

|  |    |
|--|----|
| IV. Talk Back Against Cancer Surveys .....   | 51 |
| V. 1998 Estimated Breast Cancer Costs in Texas.....  | 56 |
| VI. American Cancer Society Objectives .....   | 59 |
| VII. Number of Texas Breast and Cervical Cancer Physician<br>Specialists & Primary Care Physicians ..... | 61 |

# Acknowledgements

# Acknowledgements

The Steering Committee to develop the *Action Plan on Breast and Cervical Cancers for Texas* would like to thank the Texas Cancer Registry (TCR) and the Texas Department of Health for their significant contribution to the creation of this resource guide. The TCR provided data, analysis, and numerous hours of technical assistance in drafting the chapters on breast and cervical cancer incidence and mortality in Texas.

Special thanks also go to the American Cancer Society –Texas Division Inc., Baylor College of Medicine Chronic Disease Prevention and Control Research Center, Texas Cancer Data Center at the University of Texas MD Anderson Cancer Center, and the TMA Physician Oncology Education Program’s Trends Subcommittee for their contributions to this resource guide.

Thank you to the following individuals for their time and expertise:

Caroline G. Bernard  
Angie Colbert, MA  
Diana Contreras, MD  
H. Paul Cooper, MA  
Lewis Foxhall, MD  
A. Marilyn Leitch, MD  
Brenda Mokry  
Susan Miller, MD  
Nancy Weiss, PhD  
Melanie Williams, PhD  
Armin Weinberg, PhD

# I. Current Breast & Cervical Cancer Resources

# I. Current Breast & Cervical Cancer Resources

*This section contains an overview of state and nationwide breast and cervical cancer resources. In addition to those listed, your local physician or health care professional should be used as a resource, as well as local and county health departments.*

## **Alamo Breast Cancer Foundation**

The Alamo Breast Cancer Foundation (ABCF) is a non-profit organization in San Antonio, that provides support and information by trained peer volunteers via the Breast Cancer Helpline, educates the public on the importance of early detection and breast self-exam, and to participate in community outreach programs. ABCF, together with other breast cancer organizations throughout the United States, is a member of the National Breast Cancer Coalition, headquartered in Washington, D.C.

## **Alamo Breast Cancer Foundation**

24-Hour Breast Cancer Helpline, (800) 692-9535  
or Sandi Stanford at sandissues@msn.com  
[www.alamobreastcancer.org](http://www.alamobreastcancer.org)

## **Alliance for Cervical Cancer Prevention**

The Alliance for Cervical Cancer Prevention (ACCP) consists of five partner organizations to address technology, access to services, community needs, awareness and prevention in cervical cancer in developing countries. The Alliance focuses on regions where cervical cancer is highest: sub-Saharan Africa, Latin America, and South Asia.

## **Alliance for Cervical Cancer Prevention**

[www.alliance-cxca.org](http://www.alliance-cxca.org)

## **American Cancer Society, Local Units and the Texas Division**

Information Services: The American Cancer Society (ACS) provides information and educational resources through its toll-free number, available 24 hours a day, seven days a week on all cancer sites. This includes screening, detection, diagnosis, staging and treatment, and survivorship issues, as well as information on local community resources available for cancer patients and those affected by cancer. Additionally, the ACS national Web site at [www.cancer.org](http://www.cancer.org) offers cancer information, referrals to services, breaking news on cancer, and ACS office information. The **Cancer Survivors Network** is specifically designed as a telephone and Internet support for cancer survivors, family, friends and caregivers.

**Direct services** (available to Texas cancer patients and families)

- Reach to Recovery – Volunteers who have been treated for breast cancer visit patients before and

after surgery. Patients receive gift items including literature and a temporary breast form. Exercises are demonstrated at the request of the patient's physician.

- Coping with Breast Cancer – This support group educates and provides emotional support for patients and their families.
- Dialogue Support Group – This ongoing support group helps patients, their families and friends better understand and learn to live with cancer.
- I Can Cope – This program educates people with cancer, their families and friends through presentations by physicians, nurses, social workers and other health care professionals.
- Look Good...Feel Better – Licensed cosmetologists and health care professionals provide information to women undergoing cancer treatment to help them look and feel more comfortable with changes in their appearance. This program is offered in a group setting.

## **Educational programs**

- Tell A Friend – Through a peer-to-peer approach women are encouraged to schedule a mammogram and clinical exam with their breast health provider.
- Purple Teas – This educational program focuses on outreach to women in a relaxed social setting.

Many of these resources are available in Spanish and other languages.

## **American Cancer Society**

1-800-ACS-2345

[www.cancer.org](http://www.cancer.org)

## **American Social Health Association**

The American Social Health Association (ASHA) offers facts, support, and resources about sexually transmitted diseases including a National Human Papillomavirus (HPV) and Cervical Cancer Prevention Resource Center. This resource center provides current HPV and cervical cancer prevention information and is a source for referrals. It also acts as a voice to influence HPV and cervical cancer awareness and sponsors medical research on HPV.

American Social Health Association

P.O. Box 13827

Research Triangle Park, NC 27709

[www.ashastd.org](http://www.ashastd.org)



### **American Society of Breast Disease**

The American Society of Breast Disease (ASBD) was founded in 1977, and offers a multidisciplinary approach to breast health management and to breast disease prevention, early detection, treatment and research. The society offers such services as publications, education programming, consensus development, and advocacy. Throughout the year, ASBD organizes many symposia on breast cancer issues for all types of health care professionals.

### **American Society of Breast Disease**

PO Box 140186  
Dallas, TX 75214  
[www.asbd.org](http://www.asbd.org)

### **American Society of Clinical Oncology**

The American Society of Clinical Oncology (ASCO) represents health care professionals who treat people with cancer. The organization offers annual meetings, symposia and continuing medical education.. The society also advocates on legislative and regulatory issues that impact clinical oncology. In addition, ASCO maintains several Web sites, including, the Journal of Clinical Oncology ([www.jco.org](http://www.jco.org)), ASCO Foundation ([www.ascofoundation.org](http://www.ascofoundation.org)), People Living With Cancer ([www.plwc.org](http://www.plwc.org)) and ASCO MD ([www.ascomd.org](http://www.ascomd.org)).

### **American Society of Clinical Oncology**

1900 Duke St., Suite 200  
Alexandria, VA 22314  
(703) 299-0150  
[www.asco.org](http://www.asco.org)

### **Avon Breast Care Fund**

The Avon Breast Care Fund is a nonprofit organization of Avon Products Inc. that provides grants to community-based organizations that promote breast health education, provide access to service, raise breast cancer awareness, and perform community outreach. Avon targets medically underserved women and provides access to free or low-cost screening mammograms, clinical breast exams, and breast health and cancer education.

### **Avon Breast Care Fund**

505 Eighth Ave., Suite 2001  
New York, NY 10018-6505  
(212) 244-5368  
[www.avonbreastcare.org](http://www.avonbreastcare.org)

### **Baylor College of Medicine**

Baylor College of Medicine offers education, research and patient care. The Breast Care Center at Baylor College of Medicine and the Methodist Hospital offers comprehensive, multidisciplinary care and includes four sections: breast imaging; breast cancer risk assessment, genetic testing and counseling, and prevention; an evaluation and diagnostic clinic; and a breast cancer clinic. Clinical research is an integral component of the Center, which offers state-of the art nationwide and local/region-

al clinical trials in all aspects of breast health. Training of physicians, fellows, medical students, and other health care providers is also an integral function of the center.

In addition, Baylor coordinates *Redes En Acción* through the Chronic Disease Prevention and Control Research Center. *Redes En Acción* is a nationwide Special Populations Networks initiative funded by the National Cancer Institute to bring together organizations to fight cancer among Hispanic/Latino populations in the United States. For more details and contact information about *Redes En Acción*, see that entry later in this list.

### **Breast Center at Baylor College of Medicine and The Methodist Hospital**

Baylor College of Medicine  
One Baylor Plaza, Alkek N550, MS600  
Houston, TX 77030  
713-798-1600  
[breastcenter@bcm.tmc.edu](mailto:breastcenter@bcm.tmc.edu)

### **Bridge Breast Network**

The Bridge Breast Network (BBN) is a nonprofit program that links clients to diagnostic evaluation, biopsies, surgery, chemotherapy, imaging, laboratory tests, prescription drugs, radiation oncology and limited follow-up. Women served are low income (up to 250 percent of the federal poverty level), uninsured or underinsured.

### **Bridge Breast Network**

3600 Gaston Ave., Suite 401  
Dallas, TX 75246  
(877) 258-1396  
[www.bridgebreast.org](http://www.bridgebreast.org)

### **Cancer Care Services**

Cancer Care Services is a nonprofit organization that offers financial, emotional and social assistance to underserved cancer patients and their families while undergoing treatment. Cancer Care Services works within a network of community agencies and medical suppliers to provide patients with the help they need. Most services provided are offered at no charge to cancer patients including counseling, case management, and support groups.

### **Cancer Care Services**

605 West Magnolia Avenue  
Fort Worth, TX 76104  
(800) 789-9944  
[www.cancercareservices.org](http://www.cancercareservices.org)

### **Cancer and Chronic Disease Consortium**

The Cancer Consortium of El Paso is an association of public and private organizations devoted to developing community-based strategies to educate and empower the community and individuals about cancer. The group is designed to help cancer patients make informed decisions; to offer assistance to underserved/uninsured

clients to obtain early detection and diagnosis; and to act as advocates for the needs of these constituents.

#### **Cancer and Chronic Disease Consortium**

670 Gateway East, Suite 404  
El Paso, TX 79905-202  
(915) 771-6305

#### **Cancer Control PLANET**

In partnership with the American Cancer Society, the Substance Abuse and Mental Health Services Administration (SAMHSA) and the Centers for Disease Control and Prevention, the National Cancer Institute (NCI) has developed a universal portal Web site called **Cancer Control PLANET (Plan, Link, Act, and Network with Evidence-Based Tools)**. This Web site is designed to help bridge the gap between research/discovery and program delivery, and increase the adoption of evidence-based approaches across the cancer control continuum. This Web portal allows universal access to a series of research/practice partnership tools that are being developed by the three agency partners. The tools include state cancer profiles, a community assessment E-tool, a guide to community preventive services, and research-tested programs for cancer prevention and control.

#### **Cancer Control PLANET**

<http://cancercontrolplanet.cancer.gov/index.html>

#### **Cancer Gateway of Texas**

The Cancer Gateway of Texas provides a comprehensive list to access cancer-related information, resources and publications on the Internet. The site is funded by the Texas Cancer Council. An evaluation committee ensures the overall quality and usefulness of the information. Access to the links is organized by cancer topic and type. The links include Texas, as well as national organizations and private agencies that provide information on all types of cancer and services.

#### **Cancer Gateway of Texas**

[www.cancergateway.org](http://www.cancergateway.org)

#### **Cancer Information Service National Cancer Institute**

The National Cancer Institute's Cancer Information Service (CIS) educates about cancer, including breast and gynecological cancers by providing the latest and most accurate cancer information from the NCI to patients and their families, the public, and health professionals. . The CIS is a leader in helping people become active participants in their health care. Personalized information is available by calling toll free and online via LiveHelp, an instant messaging service located on the National Cancer Institute's Web site.

CIS Partnership Program staff collaborate with health and community-based organizations across the country to develop programs that address the cancer education and access needs of minority and medically under-

served populations. The CIS also participates in research efforts to find the best ways to help people adopt healthier behaviors.

Through its network of regional offices, the CIS serves the United States, Puerto Rico, the U.S. Virgin Islands, and the Pacific Islands. The regional office located in Houston at M. D. Anderson Cancer Center serves Texas and Oklahoma.

#### **Cancer Information Service**

National Cancer Institute  
Room 3036A  
6116 Executive Blvd., MSC 8322  
Bethesda, MD 20892  
(800) 4-CANCER  
(800) 332-8615 (TTY number)  
[www.cancer.gov](http://www.cancer.gov)

#### **Cancer Nutrition Network for Texans**

The Cancer Nutrition Network for Texans (CNNT) is a program funded by the Texas Cancer Council to meet the nutritional support needs of cancer patients and their principal caregivers. The CNNT initiative offers a Web site, patient education materials, and monthly newsletters for patients and caregivers.

#### **Cancer Nutrition Network for Texans**

301 University Blvd.  
Galveston, TX 77555-1153  
(409) 772-2336  
[www2.utmb.edu/nsights](http://www2.utmb.edu/nsights)

#### **Cancer Research and Prevention Foundation**

The Cancer Research and Prevention Foundation (CRPF) is a national, nonprofit health foundation committed to the prevention and early detection of cancer through scientific research and education. It concentrates its efforts and resources on cancers, including breast and cervical cancer that can be prevented through lifestyle changes or detection and treatment in the early stages.

#### **Cancer Research Foundation of America**

1600 Duke St., Suite 110  
Alexandria, VA 22314  
(703) 836-4412  
[www.preventcancer.org](http://www.preventcancer.org)

#### **Cancer Therapy & Research Center**

The Cancer Therapy & Research Center (CTRC) is a not-for-profit, multidisciplinary, outpatient clinic and research center committed to the prevention, treatment and cure of cancer. The center conducts cancer treatment and prevention trials conducted throughout the United States, Puerto Rico, and Canada.

Bosom Buddies 4 San Antonio is a breast cancer awareness program offered by the Cancer Therapy & Research Center. This program focuses on women helping women prevent breast cancer and emphasizes the importance of early detection.

**Cancer Therapy & Research Center**

(800) 340-CTRC or (210) 616-5504

[www.ctrc.saci.org](http://www.ctrc.saci.org)

**Centers for Disease Control and Prevention**

The Centers for Disease Control and Prevention (CDC) is the lead federal agency for developing and applying disease prevention and control, environmental health, and health promotion and education activities to improve the health of Americans. The CDC promotes partnerships with other health organizations, collects and analyzes data, promotes public health policies, and provides training. The CDC Web site for Centers for Disease Control and Prevention (CDC) offers breast and cervical cancer information, also available in Spanish. CDC resources include a fact sheet, national and state data and breast and cervical cancer news. The **National Breast and Cervical Cancer Early Detection Program** helps low-income, uninsured, and underserved women gain access to lifesaving early detection screening programs for breast and cervical cancers.

**CDC/DCPC**

4770 Buford Hwy., NE

MS K64

Atlanta, GA 30341

(800) 842-6355

[www.cdc.gov](http://www.cdc.gov)

**CRISP**

CRISP (Computer Retrieval of Information on Scientific Projects) is a searchable database of federally funded biomedical research projects at universities, hospitals, and other research institutions. Users are able to search by state and identify the extent of ongoing research in breast and cervical cancer in Texas.

**CRISP**

<http://crisp.cit.nih.gov/>

**Gynecologic Cancer Foundation (GFC)**

The Gynecologic Cancer Foundation is a nonprofit organization established by the Society for Gynecologic Oncologists to raise funds for programs to benefit women affected by gynecologic cancer. Programs focus on raising public awareness, providing education, and supporting gynecologic cancer research.

**Gynecologic Cancer Foundation**

401 N. Michigan Ave.

Chicago, IL 60611

(312) 644-6610

[www.wcn.org/gcf/](http://www.wcn.org/gcf/)

**Harrington Cancer Center**

The Don and Sybil Harrington Cancer Center is a free-standing cancer center serving patients in the Texas Panhandle, Eastern New Mexico, parts of Oklahoma, Southeast Colorado and Southwest Kansas.

**Harrington Cancer Center**

1500 Wallace Blvd.

Amarillo, TX 79106

(806) 359-HOPE (4673)

[www.harringtoncc.org](http://www.harringtoncc.org)

**Harris County Hospital District**

The Harris County Hospital District (HCHD) provides academic teaching facilities for the faculty and residents of Baylor College of Medicine and The University of Texas-Houston Medical School. The Harris County Hospital District's two major hospitals, Ben Taub and Lyndon B. Johnson, offer breast specialty surgery and oncology services, and provide access to clinical trials.

**Harris County Hospital District**

[www.hchdonline.com](http://www.hchdonline.com)

**Hendrick Health System**

The Hendrick Health System (HHS) in Abilene is one of seven health care institutions affiliated with the Baptist General Convention of Texas, and it serves as the hub for health care services in the Texas Midwest. Hendrick also offers a telemedicine link with The University of Texas M.D. Anderson physicians.

**Hendrick Health System**

1242 N. 19th St.

Abilene, TX 79601

(915) 670-2000

[www.hendrickhealth.org](http://www.hendrickhealth.org)

**Intercultural Cancer Council**

The Intercultural Cancer Council (ICC) promotes policies, programs, partnerships, and research to eliminate the unequal burden of cancer among racial/ethnic minorities and medically underserved populations in the United States and its associated territories. The ICC sponsors a Biennial Symposium to summarize current scientific information available on specific cancers, discuss the importance of prevention and detection, illustrate how to set up cancer control programs in communities, and outline cancer services and materials. Throughout the year, ICC sponsors symposia and conferences on specific cancers, including breast and cervical cancer, for the public and professionals.

**Intercultural Cancer Council**

PMB-C

1720 Dryden

Houston, TX 77030

(713) 798-4617

[www.iccnetwork.org](http://www.iccnetwork.org)

**Joe Arrington Cancer Treatment and Research Center**

Joe Arrington Cancer Treatment and Research Center (JACC) in Lubbock, part of Covenant Health System, provides comprehensive, state-of-the-art diagnostic, therapeutic and support services for residents in West

Texas and Eastern New Mexico with cancer or blood disorders. The center offers cancer screenings and education to patients, and communities, as well as professional, and staff education. The center added The Arrington Comprehensive Breast Center in 1998 to offer a variety of services, including an Advanced Breast Biopsy Instrumentation system.

#### **Joe Arrington Cancer Treatment and Research Center**

4101 22nd Place  
Lubbock, TX 79410  
(806) 725-8000  
[www.jacc.org](http://www.jacc.org)

#### **Living Beyond Breast Cancer**

The Living Beyond Breast Cancer (LBBC) is a nonprofit educational organization that addresses post-treatment and quality-of-life issues. Programs include a semi-annual educational conference, a newsletter, outreach to medically underserved women, and a consumer-focused education booklet.

#### **Living Beyond Breast Cancer**

10 E Athens Ave., Suite 204  
Ardmore, PA 19003  
(610) 645-4567  
[www.lbbc.org](http://www.lbbc.org)

#### **Migrant Health Promotion**

Migrant Health Promotion originated in 1983 in Michigan when migrant workers identified health disparities and acting to eliminate them. Originally, camp health aides operated as liaisons between clinics and migrant camps on various health issues. Since that time, the Camp Health Aide model has expanded to seven Midwestern states, and Camp Health Aides requested that Migrant Health Promotion initiate programs in the Rio Grande Valley.

In Texas, community health workers (*promotores*) receive training on specific health issues, and bring information and services to their own communities in a culturally and linguistically appropriate manner. Currently, the Texas programs center on diabetes, HIV/AIDS, Children's Health Insurance Program/children's Medicaid, women's reproductive rights, parenting, and breast/cervical cancer.

*Nuestra Salud* is a bilingual, bicultural breast and cervical cancer screening and prevention program of Migrant Health. Through this program, eight *promotores* educate some 1,500 Rio Grande Valley individuals on breast/cervical cancer and offer free annual exams and mammograms for Valley residents in need. In total, more than 100 *promotores* in the Rio Grande Valley receive training from Migrant Health Promotion in Texas every year.

#### **Migrant Health Promotion**

P.O. Box 337  
Progreso, TX 78579  
(956) 565-0002

#### **National Alliance of Breast Cancer Organizations**

The National Alliance of Breast Cancer Organizations (NABCO) offers no-cost breast cancer programs in education, information services, outreach and advocacy to patients, survivors and their families, medical professionals and their organizations, and the media.

#### **National Alliance of Breast and Cancer Organizations**

9 E 37th St., 10th Floor  
New York, NY 10016  
(888) 80-NABCO  
[www.nabco.org](http://www.nabco.org)

#### **The Greater East Texas Chapter of the National Black Leadership Initiative on Cancer**

The Greater East Texas Chapter of the National Black Leadership Initiative on Cancer is a nonprofit organization that provides a network to educate, enrich, and empower the African-American community. The NBLIC provides services to East Texas communities in a 12-county area: Smith, Gregg, Harrison, Panola, Cherokee, Titus, Upshur, Van Zandt, Henderson, Rusk, Marion, and Camp. Programs at the NBLIC include assessment, community education, health provider education, and intervention.

The NBLIC is located in three main regions of East Texas in Tyler, Longview, and Marshall; however, they access all areas by mobile mammography units and through church based health fairs. Area churches and local nurses also volunteer their time and services to support local health fairs. For more information, contact:

#### **Tyler Office**

Ebbie Starling, Executive Director NBLIC  
The University of Texas Health Center at Tyler  
11937 U. S. Hwy 271  
Tyler, TX 75708  
(903) 877-7563

#### **Longview Office**

Dreka Strickland  
Office of Minority Health  
Texas Department of Health  
1750 N Eastman Rd.  
Longview, TX 75603  
(903) 232-3231

#### **Marshall Office**

Carolyn Harvey, RN, PhD  
Dean, School of Nursing  
East Texas Baptist University

1209 N Grove  
Marshall, TX 75670  
(903) 923-2210

### National Breast Cancer Coalition

The National Breast Cancer Coalition (NBCC) is an advocacy group that works to educate and train individuals to be activists and to influence public policy that affects breast cancer research and treatment. The coalition focuses on research, access, and influence. Programs are offered to leaders from various disciplines, such as researchers, clinicians, the media, government officials, advocates, industry representatives, the public.

### National Breast Cancer Coalition

1707 L St., NW, Suite 1060  
Washington, D.C. 20036  
(800) 622-2838  
[www.natlbcc.org](http://www.natlbcc.org)

### National Cancer Institute

The National Cancer Institute (NCI) is one of the federally funded institutes that the National Institutes of Health. It supports and conducts innovative research in cancer biology, causation, prevention, detection, treatment, and survivorship by funding thousands of researchers across the nation and the world. NCI also sponsors clinical trials, development and use of new technologies, training and career development of cancer researchers, and methods to measure and monitor cancer prevention and care. NCI provides access to CancerNet and publishes *What You Need to Know about Breast Cancer*, which includes information about detection, symptoms, diagnosis, and treatment of breast cancer.

### NCI Public Inquiries Office

Suite 3036A  
6116 Executive Blvd, MSC8322  
Bethesda, MD 20892-8322  
(800) 4-CANCER  
[www.cancer.gov](http://www.cancer.gov)

### National Center for Farmworker Health

Through funding from the Centers for Disease Control and Prevention, the National Center for Farmworker Health Inc. (NCFH) has developed a comprehensive cancer-training curriculum to help *promotoras* and health educators deliver cancer education messages to the farmworker community. This comprehensive bilingual cancer-training curriculum is a user-friendly tool that provides *promotoras* and/or health educators with the basic information and about the most commonly found cancers.

The curriculum includes *Cultivando La Salud*: Breast and Cervical Cancer Education Program. In 1998, the CDC awarded NCFH a grant to assess screening practices among migrant and seasonal farmworker women age 50 and over, and to develop an intervention to increase mammography, clinical breast exam, breast self-exam,

and Pap test use among this community. As a result, NCFH developed the *Cultivando La Salud* Breast and Cervical Cancer Education Program, based on the *promotora*-based educational model. This program is intended to provide migrant and community health centers with the tools to successfully implement *Cultivando La Salud* and to encourage this population to get screened for breast and cervical cancers.

### National Center for Farmworker Health, Inc.

1770 FM 967  
Buda, TX 78610  
(800) 531-5120  
[www.ncfh.org/00\\_ct\\_cpd.shtml](http://www.ncfh.org/00_ct_cpd.shtml)

### National Institutes of Health

The National Institute of Health (NIH) is one of the eight health agencies in the Public Health Services department of the United States Department of Health and Human Services. It is comprised of 27 Institutes and Centers which lead the world in medical research and is the federal focus of medical research in the nation. NIH conducts research; supports non-federal research at universities, medical schools, hospitals, and research institutions across the country; trains research investigators; and encourages communication of medical information. It features MEDLINEplus and Healthfinder™, complete databases of breast and cervical cancer information, and provides access to thousands of clinical studies on breast and cervical cancers.

### National Cancer Institute

(800) 4-CANCER  
(800) 422-6237  
(800) 332-8615 (TTY)  
[www.nih.gov](http://www.nih.gov)

### National Women's Health Information Center

The National Women's Health Information Center (NWHIC) is a service of the Office on Women's Health in the Department of Health and Human Services that features a Web site and a toll-free call center. The Web site provides an extensive list of federal and other women's health information resources. The toll-free call center offers information and a referral service to the general public.

### National Women's Health Information Center

(800) 994-WOMAN  
[www.4woman.gov](http://www.4woman.gov)

### Nurse Oncology Education Program

The Nurse Oncology Education Program (NOEP) is a statewide cancer education program for nurses funded by the Texas Cancer Council through the Texas Nurses Foundation. NOEP provides cancer education to nurses through a variety of resources that focus on cancer prevention, detection, and treatment. NOEP is led by a steering committee of health care professionals. Volunteers from a

variety of health care settings assist in planning and implementing the NOEP's cancer education initiatives.

#### **Nurse Oncology Education Program**

7600 Burnet Rd., Suite 440  
Austin, TX 78757  
(800) 515-6770 or in Austin, (512) 467-2803  
[www.noep.org](http://www.noep.org)

(For continuing nursing education, visit [www.noep-texas.org/ce](http://www.noep-texas.org/ce))

#### **Patient Advocate Foundation**

The Patient Advocate Foundation (PAF) is a national organization that serves as a liaison between patients and insurers, employers and/or creditors to solve insurance, job retention, and/or debt crisis situations relative to the patient's diagnosis. The Foundation uses case managers, doctors and attorneys to help safeguard patients through mediation. In addition, the PAF offers individualized assistance, resources, a calendar of events, and a monthly newsletter. For more information, contact:

#### **Patient Advocate Foundation**

700 Thimble Shoals Blvd., Suite B  
Newport News, VA 23606  
(800) 532-5274  
[www.patientadvocate.org](http://www.patientadvocate.org)

#### **Physician Oncology Education Program**

The Physician Oncology Education Program (POEP) was created by the Texas Cancer Council through the Texas Medical Association to carry out the professional education recommendations of the Texas Cancer Plan. The POEP is dedicated to providing cancer resources and education to primary care physicians across Texas. POEP is led by a steering committee of experts from a variety of health organizations. The POEP offers a Cervical Cancer self-study module with 41 slides that includes education on statistics, screening, detection, and treatment. In addition, POEP offers an interactive Breast Cancer CD-ROM that contains a full motion video on breast examination.

#### **Physician Oncology Education Program**

401 West 15th St.  
Austin, TX 78701-1680  
(800) 880-1300, ext. 1672  
[www.poep.org](http://www.poep.org)

#### **Program for Appropriate Technology in Health**

The Program for Appropriate Technology (PATH) in Health works in partnerships with organizations and companies such as health clinics, community-based groups, and private-sector companies to improve the health of women and children, especially reproductive health and widespread communicable diseases. PATH is

a member of the Alliance for Cervical Cancer Prevention that works to clarify, promote and implement strategies for cervical cancer in developing countries.

#### **Program for Appropriate Technology in Health**

1455 NW Leary Way  
Seattle, WA 98107-5136  
(206) 285-3500  
[www.path.org](http://www.path.org)

#### **Redes En Acción: The National Hispanic/Latino Cancer Network**

*Redes En Acción* is a major Special Populations Networks initiative funded by the National Cancer Institute to organize an extensive nationwide collaboration in the fight against cancer among Hispanic/Latino populations. This national network of cancer research centers, community-based organizations and federal partners is setting an agenda of Latino cancer issues and is coordinated by Chronic Disease Prevention and Control Research Center at Baylor College of Medicine (BCM).

Through network activities, the initiative is establishing training and research opportunities for Latino students and researchers, generating research projects on key cancer issues impacting Latinos and supporting cancer awareness activities. Regional Network Center staffs around the country raise awareness of the program and promote its major research, training and awareness goals.

Working with funding agencies such as the Susan G. Komen Breast Cancer Foundation, *Redes En Acción* researchers in San Antonio are leading wide-ranging studies associated with breast cancer in Latinas. *Familias En Acción Contra el Cáncer* (Families in Action Against Cancer) is a psychosocial study of breast cancer survivorship and genetic testing among Latinas, as well as an assessment of the impact of breast cancer on the Hispanic family.

The Breast Cancer Genetics Survey is exploring the knowledge, attitudes and beliefs about genetic testing among five different special population groups, including African-American, Appalachian, Asian-American, Latino and Native American. *Nuestras Historias: Mujeres Latinas Sobreviviendo el Cáncer del Seno* (Our Stories: Latinas Surviving Breast Cancer) is a project designed to increase awareness of breast cancer issues among Hispanic women by developing a culturally sensitive, linguistically appropriate booklet of stories of Latina breast cancer survivors. In addition, *Buena Vida: Protecting Yourself from Cervical Cancer*, is a publication to educate Latinas about cervical cancer and regular Pap testing.

#### **Redes En Acción**

Chronic Disease Prevention and Control Research Center  
8207 Callaghan, Ste. 110  
San Antonio, TX 78230  
(210) 348-0255  
[www.redesenaccion.org/](http://www.redesenaccion.org/)

**Redes En Acción**

The University of Texas Health Science Center at San Antonio 4201 Medical Dr., Ste. 240  
San Antonio, TX 78229  
(210) 567-7785, (210) 567-7772  
[www.redesenaccion.org/](http://www.redesenaccion.org/)

**The Rose**

The Rose, located in Houston was founded in 1986 as a nonprofit breast health care center providing cancer screening, diagnosis, and support to women regardless of ability to pay. The Rose offers services for insured and uninsured clients, including, mammograms, ultrasound, and biopsies.

**The Rose Diagnostic Center**

The Rose Medical Plaza  
12700 N. Featherwood, Ste. 260  
Houston, TX 77034  
(281) 484-4708  
[www.the-rose.org](http://www.the-rose.org)

**The Rose Joan Gordon Center**

3400 Bissonnet, Ste. 185  
Houston, TX 77005  
(713) 668-2996  
[www.the-rose.org](http://www.the-rose.org)

**San Antonio Cancer Institute**

The San Antonio Cancer Institute (SACI) represents the combined cancer research programs of the Cancer Therapy and Research Center (CTRC) and The University of Texas Health Science Center at San Antonio (UTHSCSA). The collaborations cultivated by this institute incorporate the outpatient cancer services and clinical research supported by the CTRC with the cancer-related scientific and academic programs of UTHSCSA.

**The Breast Health Center** from the CTRC offers women can participate in programs aimed at the prevention, early detection, and treatment of breast cancer with expertise in mammography, surgery, medical oncology, and radiation therapy. State-of-the-art programs and investigational programs are available. The Breast Health Center also offers Ductal Lavage for women at high risk for breast cancer, or those who have a previous history of the disease.

The San Antonio Cancer Institute provides information on cervical cancer and on the National Cervical Cancer Coalition through its Web site includes a Cervical Cancer Risk assessment.

The **Office of Cancer Survivorship (OCS)** represents the unique perspectives and experiences of cancer patients, survivors and caregivers. The mission of the OCS is to encourage survivorship advocacy and participation in decision-making activities of the SACI, including its governing boards and committees, protocol and project review, research programs, and symposium and seminar planning.

**San Antonio Cancer Institute**

8122 Datapoint Dr.  
San Antonio, TX 78229  
(210) 616-5590  
[www.saci.org](http://www.saci.org)

**Scott & White Memorial Hospital & Clinic**

The Scott and White Memorial Hospital and Clinic provides patient care, clinical centers, clinical education programs, and institutional resources. Scott and White also offers cancer prevention and care support groups, information on specific cancers, and research opportunities.

**Scott and White Memorial Hospital and Clinic**

2401 S. 31st Street  
Temple, TX 76508  
(254) 724-2111  
[www.sw.org](http://www.sw.org)

**Shannon Health System**

The Shannon Health System provides a comprehensive program to patients and their families. It offers a complete range of services for patients such as treatment, a cancer committee, cancer case managers, support groups, cancer conferences and its own cancer registry. Shannon Health System has served the San Angelo and West Texas areas since the 1930s.

**Shannon Health System**

(800) 530-4143  
[www.shannonhealth.com](http://www.shannonhealth.com)

**Sisters Network**

The Sisters Network Inc. was founded in 1994 offer support, education, advocacy and research for African American women. Chapters are run by survivors and receive volunteer assistance from community leaders and associate members. The Sisters Network has 35 nationwide. Its initiatives include educational outreach projects, a brochure, as well as print, radio and television media coverage through affiliate chapter projects.

**Sisters Network**

National Headquarters  
8787 Woodway Dr., Suite 4206  
Houston, TX 77063  
(713) 781-0255  
[www.sistersnetworkinc.org](http://www.sistersnetworkinc.org)

**South Texas Promotora Association**

The South Texas Promotora Association (STPA) consists of approximately 300 members in South Texas who work or volunteer for clinics in that area. These members live and work in their own communities and deliver health information to neighbors and friends. The association uses Healthy People 2010 as a guide to the educational messages it delivers including breast and cervical cancer.

**South Texas Promotora Association**

Contact Aurelio Martinez  
(956) 787-8915

**Susan G. Komen Breast Cancer Foundation**

The mission of the nonprofit Susan G. Komen Breast Cancer Foundation is to eradicate breast cancer as a life-threatening disease by advancing research, education, screening and treatment. Since its inception, the Komen Foundation and its affiliates have raised in excess of \$300 million (gross audited figure through 1999). The Komen Race for the Cure® Series is a series of 5K runs/fitness walk.

The Komen Foundation administers grant programs in breast cancer, with a focus on research projects with potential for high impact that may not be considered by other agencies.

The Komen awards project grants and fellowships in basic, clinical, and translational research. Komen Affiliates fund community-based breast health education and breast cancer screening and treatment projects for the medically underserved.

**Susan G. Komen Breast Cancer Foundation**

(800) I'M AWARE

[www.komen.org](http://www.komen.org)

**Texas A&M University System Health Science Center**

The Texas A&M University System Health Science Center (A&M System HSC) brings together three key elements of American higher education: the land-grant university; health professions education; and a premier university research enterprise. Texas A&M Health Science Center includes the College of Medicine, Graduate School of Biomedical Sciences, Institute of Biosciences and Technology, and the School of Rural Public Health. Its mission is to educate health-related professionals and scientists, research and scholarly activity, and public service. The System offers specialty researchers in breast and cervical cancer and breast and cervical cancer, education for health care providers. For more information, contact:

**The Texas A&M University System Health Science Center****College of Medicine**

Joe H. Reynolds Medical Bldg., Suite 104  
College Station, TX 77843-1114  
(979) 458-1485

<http://tamushsc.tamu.edu>

**Texas Cancer Council**

The Texas Cancer Council (TCC) is the sole state agency charged with implementing the Texas Cancer Plan, the state's blueprint for addressing cancer issues and needs. The TCC accomplishes this by addressing four goals:

prevention information and services, early detection and treatment, professional education and practice, and cancer data and planning.

The Council uses collaborative efforts in its initiatives and has formed partnerships with public and private organizations throughout the state to carry out these goals. TCC creates and funds innovative cancer education and prevention strategies and initiatives in areas of critical need, many of which assist underserved Texans at greatest risk for cancers.

Since 1985, the Council has funded 92 initiatives in breast and cervical cancers. In addition, TCC funds professional education initiatives that provide breast and cervical education to primary care physicians and nurses through the Physician Oncology Education Program and the Nurse Oncology Education Program.

**Texas Cancer Council**

P.O. Box 12097  
Austin, TX 78711  
(512) 463-3190  
<http://www.tcc.state.tx.us>

**Texas Cancer Data Center**

The Texas Cancer Data Center is a Web-based information service funded by the Texas Cancer Council that provides data about health professionals, health facilities, demographics and statistics, and community resources. Anyone can search the database at no charge and locate statistical information on Texas physicians, population, mortality rates and incidences. The center also contains links to resources for all types of cancer services.

**Texas Cancer Data Center**

1515 Holcombe Blvd.-573  
Houston, TX 77030-4009  
(713) 792-2277  
[www.txcancer.org](http://www.txcancer.org)

**Texas Cooperative Extension**

Texas Cooperative Extension, through a program funded by the Texas Cancer Council, offers educational programs and other activities to improve the public's knowledge about cancer early detection and risk reduction. County agents are available to assist with community programming to raise awareness of breast, cervical and other cancers in all Texas counties.

**Texas Cooperative Extension**

311 History Bldg.  
2251 TAMU  
College Station, TX 77843-2251  
(979) 845-3850  
<http://fcs.tamu.edu/health>

**Texas Department of Health**

The Texas Department of Health (TDH) is a multi-tiered organization that addresses the health concerns of



Texans. Within TDH, the Texas Cancer Registry maintains a statewide cancer incidence reporting system. The registry is used to monitor data accuracy, reliability and completeness through systematic quality assurance procedures; analyze cancer incidence and mortality data; and disseminate cancer information and facilitate studies related to cancer prevention and control.

The Breast and Cervical Cancer Control Program (BCCCP) and its local providers partner with diagnostic and treatment centers, businesses, churches and other community-based organizations to provide and improve services to area women, particularly those age 50-64 at greatest risk of developing breast cancer. Other key partners include the Texas Cancer Council, the Susan G. Komen Breast Cancer Foundation, and the American Cancer Society.

Each provider works with the BCCCP state office on an annual basis, receiving funding for breast and cervical screening and diagnostic services at no cost to low-income women who have no health insurance. Since 1992, more than 134,000 women across Texas have received early cancer detection services, which they likely could not afford otherwise. In addition to clinical services, the BCCCP provides services to women at risk for breast and cervical cancer through public information, client education, professional staff training, stringent quality control measures for mammography and cytology, and the collection and analysis of demographic and medical data.

#### **Texas Department of Health**

1100 W. 49th St.  
Austin, TX 78756-3199  
(888) 963-7111  
[www.tdh.state.tx.us](http://www.tdh.state.tx.us)

#### **Texas Tech University Health Science Center**

Texas Tech University Health Sciences Center (TTUHSC) serves West Texas with four sites in Lubbock, Amarillo, El Paso, and Odessa. The center's major objectives are quality education and the development of academic, research, patient care, and community service programs to meet the needs of the 108 counties in West Texas.

#### **Texas Tech University Health Sciences Center**

[www.ttuhscc.edu](http://www.ttuhscc.edu)

#### **University of North Texas Health Science Center at Fort Worth**

The University of North Texas Health Science Center at Fort Worth (UNT-Fort Worth) provides education, research and patient care. It is home to the Institute for Cancer Research, with ongoing cutting-edge research into the causes and forms of cancer, and the Center for Epidemiologic and Disease Prevention Research at the Institute for Public Health Research, where public health researchers study factors leading to cancer. The institution's School of Public Health also is engaged in prevention and public education endeavors related to cancer.

#### **University of North Texas Health Science Center**

3500 Camp Bowie Blvd.,  
Fort Worth, TX 76107  
(817) 735-2113  
[www.hsc.unt.edu](http://www.hsc.unt.edu)

#### **The University of Texas Health Science Center at San Antonio**

The University of Texas Health Science Center at San Antonio (UTHSCSA) is a center for biomedical education, training, and research in South Texas. It is a significant provider of health care to the medically indigent of the region. The National Cancer Institute has approved the health science center for patient trials of new anti-cancer drugs.

The Cancer Prevention and Risk Assessment Clinic, a multidisciplinary collaboration, includes medical oncologists, surgical oncologists, and a genetic counselor. Three programs fall within the clinic: the Genetic Risk Assessment Clinic, the Texas Cancer Genetics Consortium, and the STAR trial of agents in the prevention of breast cancer in high-risk women.

#### **The University of Texas Health Science Center at San Antonio**

7703 Floyd Curl Dr.  
San Antonio, TX 78229-3900  
(210) 567-2056  
[www.uthscsa](http://www.uthscsa)

#### **The University of Texas M.D. Anderson Cancer Center**

The University of Texas M.D. Anderson Cancer Center was created by the Texas Legislature in 1941 as a component of The University of Texas System. Its mission is to eliminate cancer in Texas, the nation and the world through outstanding integrated programs in patient care, research, education and prevention. As the first National Cancer Institute-designated comprehensive cancer center in Texas, M. D. Anderson now is one of the world's most respected cancer centers.

M.D. Anderson offers comprehensive breast and gynecologic care through prevention, treatment, reconstruction and survivorship programs. The Cancer Prevention Center offers risk assessment, early detection examinations, and genetic counseling. Leading-edge cancer treatment is provided through the Nellie B. Connally Breast Center and the Gynecologic Oncology Center. A mobile mammography unit provides the same quality breast cancer screening and diagnosis as that of the cancer center. Ongoing clinical trials provide information about being conducted to help learn more about cancer diagnosis and prevention. Education programs in the community help people learn more about reducing their risks on a variety of wellness programs help patients and caregivers address the quality-of-life issues that accompany a cancer diagnosis.

**The University of Texas M.D. Anderson Cancer Center**

1515 Holcombe Blvd.  
Houston, TX 77030  
(800) 392-1611  
[www.mdanderson.org](http://www.mdanderson.org)

**The University of Texas Medical Branch**

The University of Texas Medical Branch at Galveston (UTMB) was created in 1881 by the Texas Legislature. UTMB's network of six on-site hospitals, plus the adjacent Shriners Burns Hospital, are a health care resource available to all Texans. UTMB is an active participant in the states Breast and Cervical Cancer Control Program, with an extensive cancer control outreach program (Cancer Stop.) This program currently is available in 20 sites in East and South Texas. Other services at UTMB range from primary care to the specialized diagnostic and treatment resources found only at the nation's largest teaching, research and clinical care centers.

**The University of Texas Medical Branch at Galveston**

301 University Blvd.  
Galveston, TX 77555-0802  
[www.utmb.edu](http://www.utmb.edu)

**University of Texas Southwestern Medical Center at Dallas**

The University of Texas Southwestern Medical Center at Dallas (UT Southwestern) is made up of three degree-granting institutions-Southwestern Medical School, Southwestern Graduate School of Biomedical Sciences, and Southwestern Allied Health Sciences School-that annually train some 3,000 medical, graduate and allied health students, and residents and postdoctoral fellows. The UT Southwestern campus also is home to four hospitals: Zale Lipshy University Hospital, St. Paul University Hospital, Parkland Memorial Hospital, and Children's Medical Center of Dallas.

The Center for Breast Care at UT Southwestern provides care for women with benign and malignant breast disorders, develops new therapeutic approaches to improve breast cancer care and aids in scientific research for breast cancer. The center offers breast cancer education of health professionals and scientists, biomedical research, clinical care for the sick, and preventive care for the healthy. At Parkland Memorial Hospital, the Breast Care Program offers many services for the underserved including a multidisciplinary breast cancer clinic for newly diagnosed cancer patients, screening and diagnostic mammography, and a breast evaluation clinic. Parkland also is a site for clinical trials.

**The University of Texas Southwestern Medical Center at Dallas**

5323 Harry Hines Blvd.  
Dallas, TX 75390  
(214) 648-3111  
[www.utsouthwestern.edu](http://www.utsouthwestern.edu)

**WINGS**

WINGS (Women Involved in Nurturing, Giving, Sharing) is a nonprofit Texas Corporation that brings breast care to men and women of Central and South Texas regardless of their ability to pay. This includes direct funding for breast health care services, including diagnostic testing, physicians' fees, and hospital charges. WINGS also funds nontraditional services such as outpatient medication and psychosocial counseling.

**WINGS**

P.O. Box 460669  
San Antonio, TX 78246  
(210) 946-9464  
[www.texaswings.org](http://www.texaswings.org)

**Women's Cancer Network**

The Women's Cancer Network (WCN) was developed by the Gynecologic Cancer Foundation as an interactive Web site to inform women about gynecologic cancers. The network assists women and their families in understanding more about cancer, learning about treatment options, and gaining access to new or experimental therapies. It also allows women to find cancer treatment specialists in their area.

**Women's Cancer Network**

c/o Gynecologic Cancer Foundation  
401 N. Michigan Ave.  
Chicago, IL 60611  
(312) 644-6610  
[www.wcn.org](http://www.wcn.org)

**Young Survival Coalition**

The Young Survival Coalition (YSC) is a nonprofit organization that addresses the needs in women aged 40 and younger with breast cancer. Through advocacy and awareness, YSC concentrates on educating the medical, research, breast cancer and legislative communities. The organization's activities include lobbying on the state and federal levels, speaking at universities, colleges and health fairs; and, an annual awareness campaign targeting the medical community. For more information, contact:

**Young Survival Coalition**

P.O. Box 528  
52A Carmine St.  
New York, NY 10014  
(212) 916-7667  
[www.youngsurvival.org](http://www.youngsurvival.org)

**BREAST AND CERVICAL  
HEALTH OBSERVANCES:**

- **Breast Cancer Awareness Day**, Oct. 8
- **National Mammography Day**, Oct. 18
- **Breast Cancer Awareness Month**, October
- **Breast Cancer Control Month**, October
- **National Minority Cancer Awareness Week**  
(mid April)
- **National Cervical Cancer Awareness Month**,  
January

## Current Resource Information

|   | <b>Advocacy</b> | <b>Information</b> | <b>Professional Education</b> | <b>Research</b> | <b>Support</b> | <b>Treatment</b> |
|---|-----------------|--------------------|-------------------------------|-----------------|----------------|------------------|
| Alamo Breast Cancer Foundation  | X               | X                  |                               |                 | X              |                  |
| Alliance for Cervical Cancer  |                 | X                  |                               | X               | X              |                  |
| American Cancer Society, Local Units and the Texas Division                 | X               | X                  |                               |                 | X              |                  |
| American Social Health Association  | X               | X                  |                               | X               | X              |                  |
| American Society of Breast Disease  | X               | X                  | X                             |                 |                |                  |
| American Society of Clinical Oncology                                       | X               | X                  | X                             | X               |                |                  |
| Avon Breast Care Fund   | X               | X                  |                               | X               | X              |                  |
| Baylor College of Medicine  |                 |                    | X                             | X               |                | X                |
| Bridge Breast Network   |                 | X                  |                               |                 |                |                  |
| Cancer Care Services  |                 |                    |                               |                 | X              |                  |
| Cancer and Chronic Disease Consortium                                       | X               | X                  |                               |                 | X              |                  |
| Cancer Control PLANET   |                 | X                  |                               |                 |                |                  |
| Cancer Gateway of Texas   |                 | X                  |                               |                 |                |                  |
| Cancer Information Service ( <i>National Cancer Institute</i> )             |                 | X                  |                               |                 |                |                  |
| Cancer Nutrition Network for Texans   |                 | X                  |                               |                 |                |                  |
| Cancer Research Foundation of America                                       | X               | X                  |                               |                 |                |                  |
| Cancer Therapy & Research Center  |                 | X                  | X                             | X               |                | X                |
| Centers for Disease Control & Prevention                                    |                 | X                  |                               | X               |                |                  |
| CRISP (Computer Retrieval of Information on Scientific Projects)            |                 | X                  |                               |                 |                |                  |
| Gynecologic Cancer Foundation   |                 | X                  |                               | X               |                |                  |
| Harrington Cancer Center  |                 |                    | X                             | X               | X              | X                |
| Harris County Hospital District   |                 |                    |                               |                 |                |                  |
| Hendrick Health System  |                 | X                  |                               |                 | X              | X                |
| Intercultural Cancer Council  | X               | X                  | X                             | X               |                |                  |
| Joe Arrington Cancer Treatment and Research Center                          |                 | X                  | X                             | X               | X              | X                |
| Living Beyond Breast Cancer   |                 | X                  |                               |                 | X              |                  |
| Migrant Health Promotion  |                 | X                  |                               |                 | X              | X                |
| National Alliance of Breast Cancer Organizations                            | X               | X                  |                               |                 | X              |                  |
| National Black Leadership Initiative on Cancer (Greater East Texas Chapter) | X               | X                  | X                             |                 | X              |                  |
| The National Breast Cancer Coalition  | X               |                    |                               |                 |                |                  |
| National Cancer Institute   |                 | X                  | X                             | X               | X              |                  |
| National Center for Farmworker Health, Inc.                                 |                 | X                  |                               |                 | X              |                  |
| National Institutes of Health   |                 | X                  |                               | X               |                |                  |
| National Women's Health Information Center                                  |                 | X                  |                               |                 |                |                  |
| Nurse Oncology Education Program  |                 |                    | X                             |                 |                |                  |
| Patient Advocate Foundation   | X               |                    |                               |                 |                |                  |
| Program for Appropriate Technology in Health                                |                 |                    |                               |                 | X              |                  |
| Physician Oncology Education Program  |                 |                    | X                             |                 |                |                  |
| <i>Redes En Acción</i> : The National Hispanic/Latino Cancer Network        | X               | X                  | X                             | X               |                |                  |
| The Rose  |                 | X                  |                               |                 | X              | X                |
| San Antonio Cancer Institute  |                 | X                  | X                             | X               | X              | X                |
| Scott & White Memorial Hospital and Clinic                                  | X               | X                  | X                             | X               | X              |                  |
| Shannon Health System   |                 | X                  | X                             | X               | X              | X                |
| Sisters Network Inc.  | X               | X                  |                               |                 |                |                  |
| South Texas Promotora Association   |                 | X                  |                               |                 |                |                  |
| Susan G. Komen Breast Cancer Foundation                                     |                 | X                  |                               | X               | X              |                  |
| Texas A&M University System Health Science Center                           |                 | X                  | X                             | X               |                |                  |
| Texas Cancer Council  |                 | X                  | X                             |                 | X              |                  |
| Texas Cancer Data Center  |                 | X                  |                               |                 |                |                  |
| Texas Cooperative Extension   |                 | X                  |                               |                 | X              |                  |
| Texas Department of Health  |                 | X                  | X                             |                 |                |                  |
| Texas Tech University Health Science Center                                 |                 |                    | X                             |                 | X              | X                |
| University of North Texas Health Science Center at Fort Worth               |                 |                    | X                             | X               |                | X                |
| The University of Texas Health Science Center at San Antonio                |                 |                    | X                             | X               |                | X                |
| The University of Texas Medical Branch at Galveston                         |                 |                    | X                             | X               |                | X                |
| The University of Texas M. D. Anderson Cancer Center                        |                 | X                  | X                             | X               | X              | X                |
| University of Texas Southwestern Medical Center at Dallas                   |                 | X                  | X                             | X               |                | X                |
| WINGS   |                 | X                  |                               |                 | X              | X                |
| Women's Cancer Network  |                 | X                  |                               |                 |                |                  |
| Young Survival Coalition  | X               | X                  |                               | X               |                |                  |

# II. Breast Cancer in Texas, 2003

## II. Breast Cancer in Texas, 2003

The data presented in this chapter represents just one of the steps taken by the Texas Cancer Registry and the Texas Department of Health to describe and better understand the impact of breast cancer on the residents of our State. Each number and statistic presented not only represents the cancer patient but also family, friends, and countless others affected by this disease. Information provided in this report can be used to describe the epidemiology of breast cancer in Texas, to better plan cancer control activities, target and evaluate interventions, and ultimately save lives.

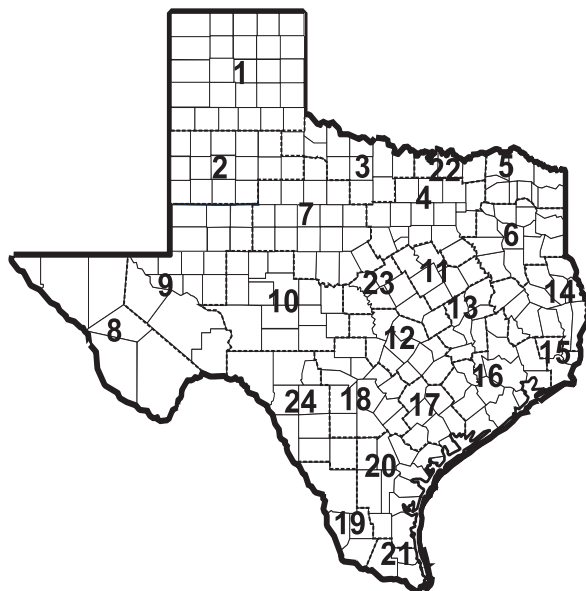
**Table 1. The Cost of Breast Cancer in Texas, 1998**

| Cost Component        | Cost in Millions |
|-----------------------|------------------|
| Hospitals             | 91.3             |
| Inpatient Physicians  | 19.7             |
| Emergency Services    | 0.9              |
| Hospice Care          | 6.8              |
| Cancer Screening      | 206.2            |
| <b>Direct Costs</b>   | <b>324.9</b>     |
| Disability            | 486.4            |
| Mortality             | 437.7            |
| <b>Indirect Costs</b> | <b>924.2</b>     |
| <b>TOTAL COSTS</b>    | <b>1,249.0</b>   |

Source: Texas Department of Health. Texas Comprehensive Cancer Control Program. The Economic Impact of Cancer in Texas. (TDH Publication No. 44-11140) Texas: 2001.

Breast cancer threatens the lives of thousands of Texas women and continues to take a staggering physical, psychological, and economic toll. Breast cancer is the most commonly diagnosed invasive cancer among women of any race/ethnic group in Texas, and is second only to lung cancer as a leading cause of female cancer-related deaths. It is estimated that breast cancer costs for the State exceed \$1.2 billion each year (Table 1).<sup>1</sup> Even though breast cancer incidence and mortality rates remain steady or are declining, the number of women who are newly diagnosed or who die continues to rise. It is estimated that in 2003, approximately 13,300 Texas women will be diagnosed with invasive breast cancer and 2,700 women will die of the disease. A distribution of 2003 expected breast cancer cases and deaths by Texas Regional Councils of Government (COG) is shown in Figure 1 (See Table 2 for a listing of COGs).

**Figure 1: Texas Regional Councils of Government**



**Table 2. Estimated Number of New Breast Cancer Cases and Deaths in Texas for 2003**

| COG | Council of Regional Government                   | Cases         | Deaths       |
|-----|--|---------------|--------------|
| 1   | Panhandle Regional Planning Commission           | 305           | 59           |
| 2   | South Plains Association of Regional Governments | 257           | 52           |
| 3   | Nortex Regional Planning Commission              | 186           | 37           |
| 4   | North Central Texas Council of Governments       | 3,341         | 645          |
| 5   | Ark-Tex Council of Governments                   | 233           | 49           |
| 6   | East Texas Council of Governments                | 640           | 131          |
| 7   | West Central Texas Council of Governments        | 270           | 54           |
| 8   | Rio Grande Council of Governments                | 345           | 74           |
| 9   | Permian Basin Regional Planning Commission       | 254           | 50           |
| 10  | Concho Valley Council of Governments             | 116           | 23           |
| 11  | Heart of Texas Council of Governments            | 252           | 53           |
| 12  | Capital Area Planning Council                    | 825           | 156          |
| 13  | Brazos Valley Council of Governments             | 168           | 35           |
| 14  | Deep East Texas Council of Governments           | 304           | 62           |
| 15  | South East Texas Regional Planning Commission    | 297           | 63           |
| 16  | Houston-Galveston Area Council                   | 2,897         | 578          |
| 17  | Golden Crescent Regional Planning Commission     | 141           | 29           |
| 18  | Alamo Area Council of Governments                | 1,151         | 236          |
| 19  | South Texas Development Council                  | 99            | 22           |
| 20  | Coastal Bend Council of Governments              | 332           | 68           |
| 21  | Lower Rio Grande Valley Development Council      | 435           | 95           |
| 22  | Texoma Council of Governments                    | 157           | 31           |
| 23  | Central Texas Council of Governments             | 233           | 46           |
| 24  | Middle Rio Grande Development Council            | 78            | 17           |
|     | <b>TOTAL</b>                                     | <b>13,315</b> | <b>2,668</b> |

2003 expected number of cases were calculated by applying California age, sex, and race/ethnic-specific average annual incidence rates (1995-1999) to the 2003 Texas population.

2003 expected number of deaths were calculated by applying Texas age, sex, and race/ethnic-specific average annual mortality rates (1997-2001) to the 2003 Texas population.

## What is Breast Cancer?

Cancer begins when cells in a part of the body change and grow abnormally. Most cancers are named for the part of the body from where the cancer starts. Breast cancer is a malignant cell growth that starts from the cells of the breast.<sup>2</sup> If left untreated, the cancer may spread to other areas of the body. Breast cancer is most common among women.

There are two main types of breast cancer. Breast cancer that begins in the lobes and spreads to nearby tissue is called invasive lobular carcinoma. Breast cancer that begins in the ducts and spreads to nearby tissue is called invasive ductal carcinoma. There is also a condition called carcinoma in situ, where there are abnormal but non-cancerous cells in the breast. Carcinoma in situ is a pre-invasive state and breast cancer may develop later.

## Breast Cancer Incidence, 1995–1999 and Mortality, 1997–2001

From 1995–1999, breast cancer was the leading newly diagnosed cancer in Texas women, with an average of 10,724 cases per year. Breast cancer represented nearly one of every three (30.8%) invasive cancers diagnosed among women during this time period. The overall average annual age-adjusted female breast cancer incidence rate was 120.3 per 100,000 women.

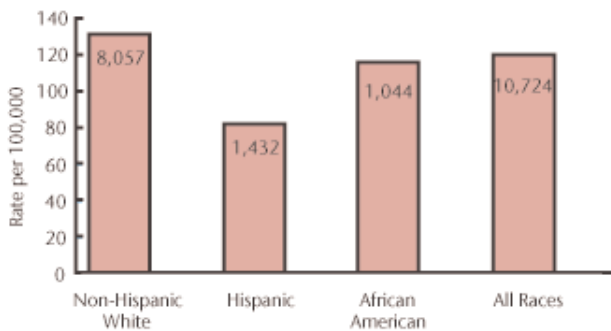
From 1997–2001, breast cancer was the second leading cause of cancer deaths among Texas females, surpassed only by lung cancer and killing an average of 2,444 women annually. The overall annual age-adjusted breast cancer mortality rate was 25.9 per 100,000 women.

## Differences by Race/Ethnicity

Breast cancer incidence rates were lower in Texas women as compared with California and United States Surveillance, Epidemiology and End Results (U.S. SEER) for each race/ethnic group (Figure 2)<sup>3,4,5</sup> Breast cancer mortality rates were also slightly lower in Texas non-Hispanic whites compared with California and U.S. SEER non-Hispanic white women (Figure 3). However, Texas Hispanic and African American women experienced slightly higher breast cancer mortality compared to California and U.S. SEER Hispanics and African Americans.

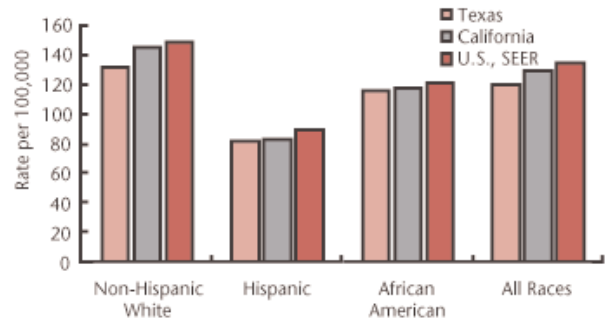
Being diagnosed with breast cancer or dying from breast cancer varied among Texas women by race/ethnicity. From 1995–1999, non-Hispanic white women experienced the highest breast cancer incidence rates (131.3 per 100,000), followed by African Americans (115.9 per 100,000), and Hispanics (81.9 per 100,000) (Figure 4). The age-adjusted incidence rate for breast cancer in non-Hispanic white and African American women was 60 percent and 42 percent higher than the rate for Hispanics. Non-Hispanic white women throughout the United States experience the highest breast cancer rates of any race/ethnic group.<sup>6</sup>

Figure 4. Female Breast Cancer Incidence Rates and Average Annual Cases by Race/Ethnicity, Texas, 1995-1999



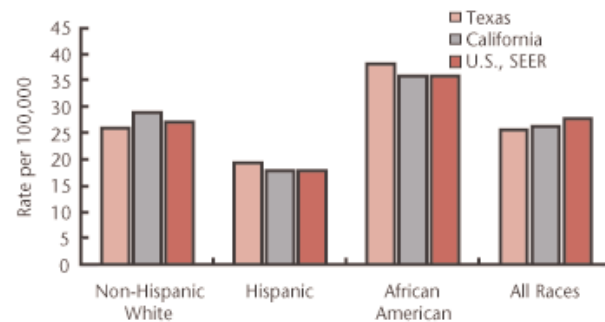
Rates are average annual rates per 100,000 population, age-adjusted to the 2000 U.S. Standard Population. Average annual incidence counts are rounded to the nearest whole.

Figure 2. Female Breast Cancer Incidence Rates (1995-1999) Compared with California (1995-1999) and the U.S. SEER (1996-2000) by Race/Ethnicity



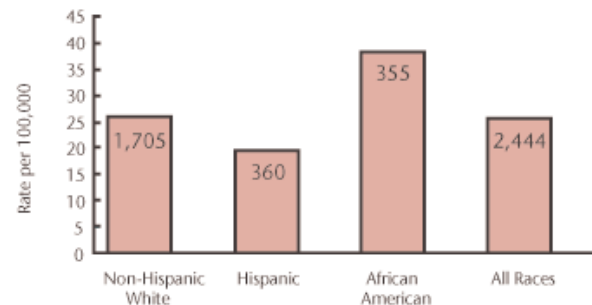
Rates are average annual rates per 100,000, age-adjusted to the 2000 U.S. Standard Population. Source: Texas Cancer Registry, *Cancer in California, 1988-1999*; SEER, *Cancer Statistics Review, 1975-2000*.

Figure 3. Female Breast Cancer Mortality Rates (1997-2001) Compared with California (1995-1999) and the U.S. SEER (1996-2000) by Race/Ethnicity



Rates are average annual rates per 100,000, age-adjusted to the 2000 U.S. Standard Population. Source: Texas Cancer Registry, *Cancer in California, 1988-1999*; SEER, *Cancer Statistics Review, 1975-2000*.

Figure 5. Female Breast Cancer Mortality Rates and Average Annual Deaths by Race/Ethnicity, Texas, 1997-2001



Rates are average annual rates per 100,000 population, age-adjusted to the 2000 U.S. Standard Population. Average annual mortality counts are rounded to the nearest whole.



Despite the fact that African Americans had lower incidence of breast cancer than non-Hispanic whites, their age-adjusted mortality rate (38.3 per 100,000) was over 30 percent higher than the non-Hispanic white mortality rate (26.0 per 100,000) and almost twice that of Hispanic women (19.6 per 100,000) (Figure 5). This disparity in the African American mortality rates could be due to a variety of factors, such as later diagnosis resulting in less chance of survival, lack of timely and appropriate treatment, and overall health, in general.

## Differences by Age and Race/Ethnicity

Of the 10,724 average annual cases of breast cancer diagnosed among Texas women from 1995–1999, 9,124 (85.1%) were diagnosed in women 45 years of age and older (Table 3). The highest rates of breast cancer occurred among non-Hispanic whites in most age groups (Figure 6). Non-Hispanic whites 75–84 years of age had the highest rates of all Texas women. Breast cancer is almost nonexistent until the age of 35, after which the incidence rises rapidly and peaks for each race/ethnic group at age 75–84.

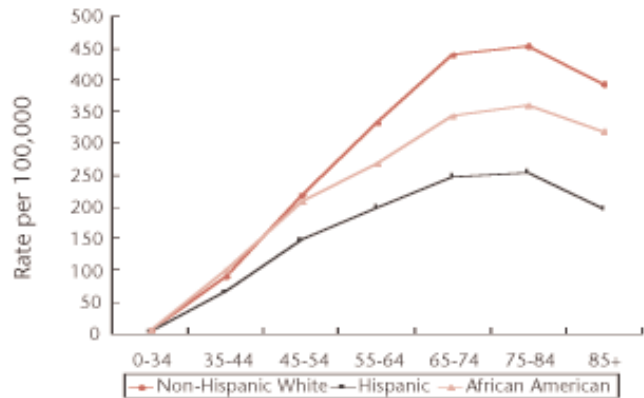
Of the 2,444 average annual female breast cancer deaths from 1997–2001, 2,198 (89.9%) were among women 45 years of age and older (Table 4). In all three race/ethnic groups, breast cancer mortality was almost nonexistent until age 35, when mortality rates increased with each subsequent decade (Figure 7). The highest rates of breast cancer deaths occurred among African Americans in every age group.

**Table 3. Average Annual Female Breast Cancer Cases and Percentage of Total New Cancers by Age at Diagnosis, Texas, 1995-1999**

| Age   | No. of Cases | % Total New Cases |
|-------|--------------|-------------------|
| 0-34  | 280          | 2.6               |
| 35-44 | 1,320        | 12.3              |
| 45-54 | 2,316        | 21.6              |
| 55-64 | 2,217        | 20.7              |
| 65-74 | 2,377        | 22.2              |
| 75-84 | 1,647        | 15.4              |
| 85+   | 566          | 5.3               |

Average annual incidence counts are rounded to the nearest whole. Percentages are based on unrounded counts and total. Cases included invasive cancer only.

**Figure 6. Age-Specific Female Breast Cancer Incidence Rates by Race/Ethnicity, Texas, 1995-1999**



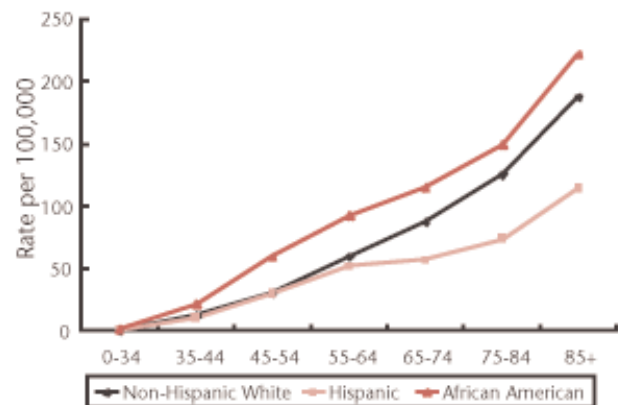
Rates are age-specific rates per 100,000 population.

**Table 4. Average Annual Female Breast Cancer Deaths and Percentage of Total Cancer Deaths by Age at Death, Texas, 1997-2001**

| Age   | No. Deaths | % Total Deaths |
|-------|------------|----------------|
| 0-34  | 39         | 1.6            |
| 35-44 | 207        | 8.5            |
| 45-54 | 417        | 17.1           |
| 55-64 | 482        | 19.7           |
| 65-74 | 512        | 20.9           |
| 75-84 | 489        | 20.0           |
| 85+   | 298        | 12.2           |

Average annual mortality counts are rounded to the nearest whole. Percentages are based on unrounded counts and total.

**Figure 7. Age-Specific Female Breast Cancer Mortality Rates by Race/Ethnicity, Texas, 1997-2001**



Rates are age-specific rates per 100,000 population.

## Stage of Disease at Diagnosis, 1995-1999

Stage denotes the physical characteristics of malignant tumors, particularly size and the degree of growth and spread. In breast cancer, as in most cancers, the stage at diagnosis determines treatment options as well as an estimate of survival. While many different kinds of detailed staging systems have been developed for different kinds of cancer, the basic classifications are very similar. Breast cancer tumors are classified in the following four stage categories:

**In-Situ**— a non-invasive stage where abnormal cells are confined to the point of origin.

**Localized**—tumor has spread through connective tissue membranes, but is still confined to the breast.

**Regional**—tumor has extended directly to adjacent organs, tissues, or lymph nodes.

**Distant**— tumor has spread to distant organs or lymph nodes, a process known as metastasis.

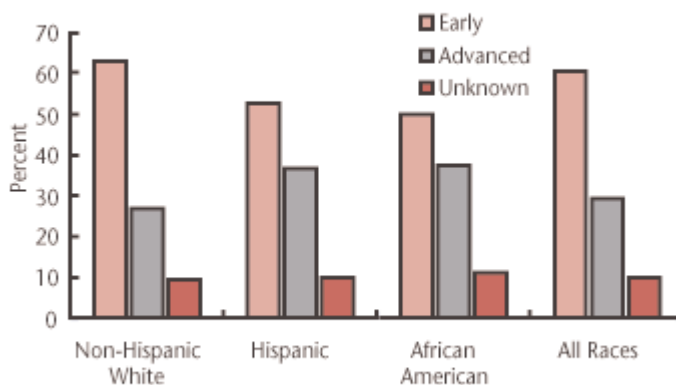
For comparison purposes, this report combines the above stages of disease into two more general categories. “Early” breast cancer is defined as cancer diagnosed at either the in situ or localized stages, while “late” includes both regional and distant stages.

From 1995–1999, 60.8 percent of all breast cancer cases were diagnosed at the early stage and 29.3 percent were diagnosed at the late stage. However, 9.9 percent of cases during that time period had an unspecified stage at diagnosis.

## Differences in Stage of Disease at Diagnosis by Race/Ethnicity

As the stage at diagnosis moves across the categories into more advanced or extensive stages, the chance of cure declines. The greatest proportion of early breast cancer diagnoses was found among non-Hispanic white women (63.4%), followed by Hispanic (53.1%), and African American (50.4%) women (Figure 8). Hispanic and African American females had higher percentages of cases diagnosed at the late stage (36.8%, 38.0%, respectively) than non-Hispanic white females (27.0%). This likely represents differences in mammography screening prevalence among Hispanics and African Americans and may contribute to the significantly higher breast cancer mortality experienced by African Americans.

Figure 8. Percent Distribution of Female Breast Cancer Stage at Diagnosis by Race/Ethnicity, Texas, 1995-1999



Early = in situ + localized stages. Advanced = regional + distant stages. Percent of breast cancer cases within each race/ethnic group.

## Early Detection and Breast Cancer Screening in Texas, 2002

It is very important for breast cancer to be detected and treated early. The earlier breast cancer is detected, the greater the chance of successful treatment and survival. To reduce breast cancer mortality in the United States, the United States Department of Health and Human Services published their objectives for improving health across the country in Healthy People 2010. One of the objectives consists of increasing the proportion of women aged 40 years and older who have received a mammogram within the preceding two years to 70 percent.

The Texas Department of Health, Behavioral Risk Factor Surveillance System (BRFSS) Program conducts surveys on a monthly basis to collect data on lifestyle risk factors. The 2002 survey included a mammography ques-

Table 5. Percentages of Women 40 and Older Who Have Had a Recent Mammogram, Texas, 2002

| Mammogram Within Past 2 Years | Percentage |
|-------------------------------|------------|
| 40 years and older            | 69         |
| 40-64 years old               | 68         |
| 65 years and older            | 71         |
| White, Non-Hispanic           | 71         |
| Hispanic                      | 62         |
| African American              | 70         |
| Low Education*                | 54         |
| Rural Counties                | 65         |
| Urban Counties                | 71         |
| Border Counties               | 61         |
| Non-Border Counties           | 70         |

Source: Texas Behavioral Risk Factor Surveillance System, Statewide BRFSS Survey, 2002. Border counties are the 32 Texas counties defined by the Office of Border Health, Texas Department of Health. Rural counties defined by the U.S. Office of Management & Budget, 1993. \*Women 40 years and older with less than a high school education.

tion for Texas women, age 40 and over.<sup>7</sup> Sixty-nine percent of the women surveyed reported having had a mammogram within the past two years (Table 5).

Non-Hispanic whites reported the highest percentage of having been screened for breast cancer in the last two years (71%), followed by African Americans (70%), and Hispanics (62%). However, African American women experience a disproportionate amount of breast cancer mortality compared to non-Hispanic whites and were found to have the greatest percentage of late stage breast cancer at the time of diagnosis.

Women 65 and over reported a higher percentage of women having had a recent mammogram (71%) than women aged 40–64 (68%). Only 54 percent of women with less than a high school education reported a recent mammogram. There were also some important regional differences. The proportion of women having had a recent mammogram who live along the Texas-Mexico Border was lower (61%) compared to non-Border women (70%), as was the proportion of women having a recent mammogram who live in rural counties (65%) compared to women living in urban portions of the state (71%). Possible reasons for these disparities include access to health care, inadequate health insurance, as well as the need for culturally sensitive preventive healthcare.

## Physician Breast Cancer Screening Knowledge, Attitudes, and Practices

In 2003, the Texas Medical Association’s Physician Oncology Education Program conducted a survey of general surgeons and surgical oncologists, as well as primary care specialists regarding breast cancer screening knowledge, attitudes, and practices (see Chapter IV for complete survey results). General surgeons and surgical oncologists, as well as other primary care specialists, most frequently indicated the same four barriers for patients following through with mammography screening. These barriers included pain of mammography (72% and 49%, respectively), cost (65% and 62%, respectively), fear of cancer diagnosis (60% and 50%, respectively), and lack of insurance (58% and 68%, respectively).

Mammography was considered the most effective breast cancer screening element (as opposed to clinical exam and breast self-exam) by the majority of these physicians. Ninety-five percent of general surgeons and surgical oncologists and 97 percent of other primary care specialists still recommended breast self-exam as part of breast screening. Approximately half of the physicians surveyed were aware of changes in the U.S. Preventive Services Task Force recommendations for breast cancer screening announced in the Spring, 2002.

## Regional Variation

The Texas-Mexico Border and large rural portions of our state make Texas unique, presenting a number of challenges for reducing the burden of breast cancer (Table 6 and 7).

**Table 6. Urban or Metro Counties,\* Texas**

|          |           |            |              |           |
|----------|-----------|------------|--------------|-----------|
| Archer   | Dallas    | Hays       | Nueces       | Victoria  |
| Bastrop  | Denton    | Henderson  | Orange       | Waller    |
| Bell     | Ector     | Hidalgo    | Parker       | Webb      |
| Bexar    | El Paso   | Hood       | Potter       | Wichita   |
| Bowie    | Ellis     | Hunt       | Randall      | Williamsc |
| Brazoria | Fort Bend | Jefferson  | Rockwall     | Wilson    |
| Brazos   | Galveston | Johnson    | San Patricio |           |
| Caldwell | Grayson   | Kaufman    | Smith        |           |
| Cameron  | Gregg     | Liberty    | Tarrant      |           |
| Chambers | Guadalupe | Lubbock    | Taylor       |           |
| Collin   | Hardin    | McLennan   | Tom Green    |           |
| Comal    | Harris    | Midland    | Travis       |           |
| Coryell  | Harrison  | Montgomery | Upshur       |           |

Urban/rural designations by the U.S. Office of Management and Budget, 1993.  
\*Rural county designations are all other counties not listed here.

**Table 7. Urban or Metro Counties\***

|          |           |            |              |            |
|----------|-----------|------------|--------------|------------|
| Archer   | Dallas    | Hays       | Nueces       | Victoria   |
| Bastrop  | Denton    | Henderson  | Orange       | Waller     |
| Bell     | Ector     | Hidalgo    | Parker       | Webb       |
| Bexar    | El Paso   | Hood       | Potter       | Wichita    |
| Bowie    | Ellis     | Hunt       | Randall      | Williamson |
| Brazoria | Fort Bend | Jefferson  | Rockwall     | Wilson     |
| Brazos   | Galveston | Johnson    | San Patricio |            |
| Caldwell | Grayson   | Kaufman    | Smith        |            |
| Cameron  | Gregg     | Liberty    | Tarrant      |            |
| Chambers | Guadalupe | Lubbock    | Taylor       |            |
| Collin   | Hardin    | McLennan   | Tom Green    |            |
| Comal    | Harris    | Midland    | Travis       |            |
| Coryell  | Harrison  | Montgomery | Upshur       |            |

Urban/rural designations by the U.S. Office of Management and Budget, 1993.  
\*Rural county designations would be all other counties not listed here.

A recent study funded by the Centers for Disease Control and Prevention found that Hispanic women, particularly those who live in counties along the United States-Mexico Border, are less likely than non-Hispanic women to receive routine screenings for breast and cervical cancers. This report cited that lack of access to healthcare in the Border region and the need for culturally sensitive preventive healthcare may partly account for these low screening rates among Hispanic women.<sup>8</sup>

Another Centers for Disease Control and Prevention study found that women living in rural areas are also less likely than women living in urban areas to have had a recent mammogram or Pap test. Women in rural areas of the United States have been found to have higher rates of cancer and late stage disease than women in non-rural areas. This report also cited lack of access to healthcare, inadequate health insurance, as well as lower education and income levels in rural areas as accounting for the lower screening rates.<sup>9</sup>

As mentioned in the previous section, the 2002 Texas BRFSS Program survey confirmed that in Texas, as in the CDC studies, a lower proportion of women who live along the Texas-Mexico Border or who live in the rural portions of the state reported having had a mammogram within the last two years compared to women who live in other regions of the state.

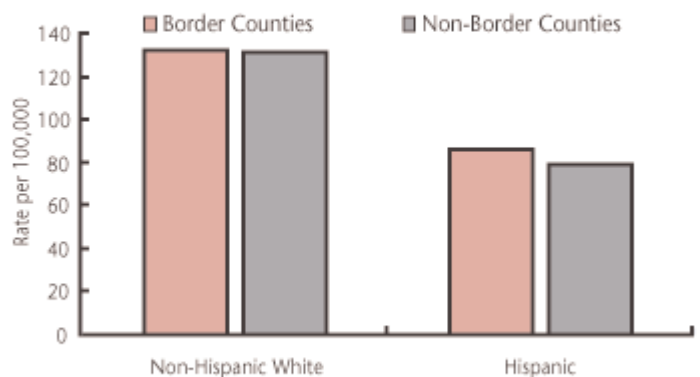
## Breast Cancer Along the Texas-Mexico Border

From 1995–1999, Hispanic women living along the Texas-Mexico Border experienced a slightly higher breast cancer incidence rate (86.5 per 100,000) than Hispanics living in non-Border counties (79.4 per 100,000) (Figure 9). Non-Hispanic whites in the Border counties experienced very similar incidence rates when compared to non-Border non-Hispanic whites (132.5 and 131.4 per 100,000, respectively).

From 1997–2001, non-Hispanic whites along the Border had a 7 percent higher mortality rate compared to non-Hispanic whites in non-Border counties (27.9 per 100,000 and 26.0 per 100,000, respectively) (Figure 10). Border county Hispanic women experienced a 14 percent higher breast cancer mortality rate (21.4 per 100,000) than non-Border Hispanics (18.7 per 100,000).

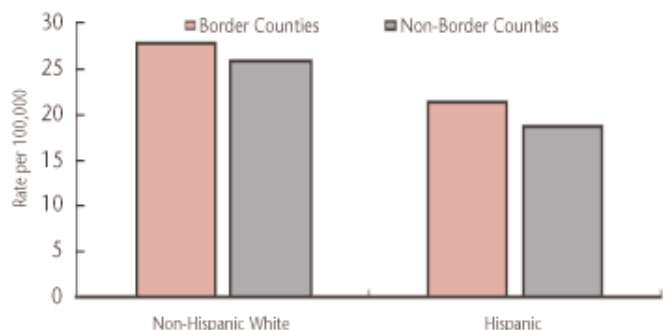
There were also differences between Border and non-Border women when comparing stage of disease at the time of diagnosis. Overall, 54.4 percent of women living along the Border were diagnosed at the early stage, compared with 61.3 percent of non-Border women (Figure 11). When examined by race/ethnicity, only 49.8 percent of Border Hispanic women were diagnosed at the early stage, compared to 54.8 percent of non-Border Hispanic women. Similar results occurred when comparing Border non-Hispanic white women (61.8%) to non-Hispanic white women residing in non-Border Texas counties (63.4%). Higher percentages of breast cancer diagnosed at the late stage were also observed for Border women compared to non-Border women. However, some caution must be used when evaluating differences in breast cancer stage at diagnosis due to the large number of cases diagnosed with an unknown stage in both Border and non-Border counties (10.5% and 9.8%, respectively).

Figure 9. Female Breast Cancer Incidence Rates Compared by Texas-Mexico Border and Non-Border Counties, Texas, 1995-1999



Rates are average annual rates per 100,000 population, age-adjusted to the 2000 U.S. Standard Population. Border counties are the 32 Texas counties defined by the Office of Border Health, Texas Department of Health.

Figure 10. Female Breast Cancer Mortality Rates Compared by Texas-Mexico Border and Non-Border Counties, Texas, 1997-2001



Rates are average annual rates per 100,000, age-adjusted to the 2000 U.S. Standard Population. Border counties are the 32 Texas counties as defined by the Office of Border Health, Texas Department of Health.

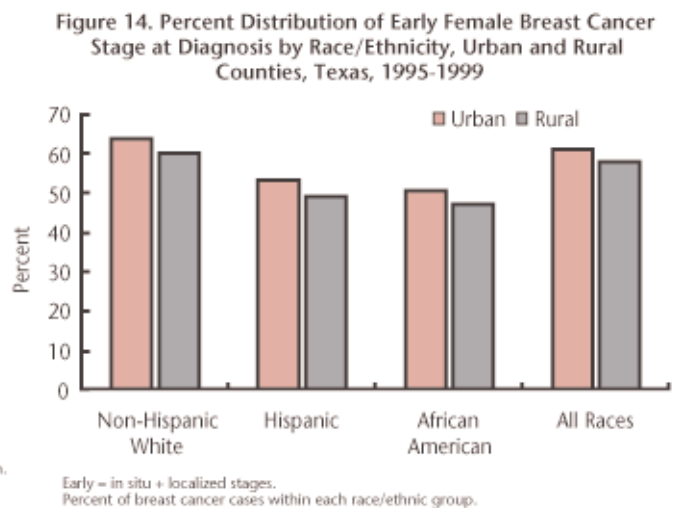
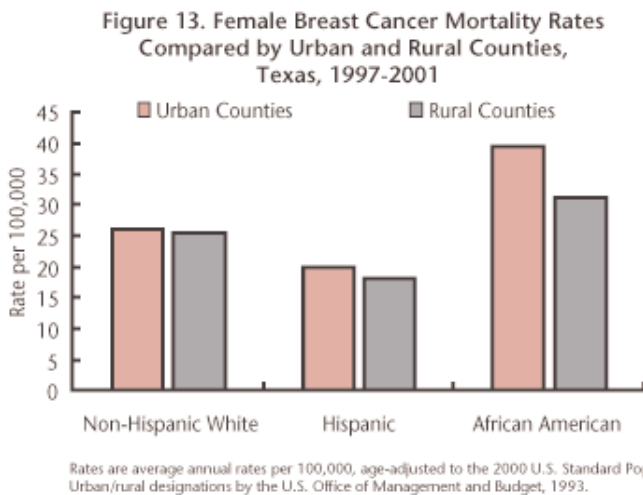
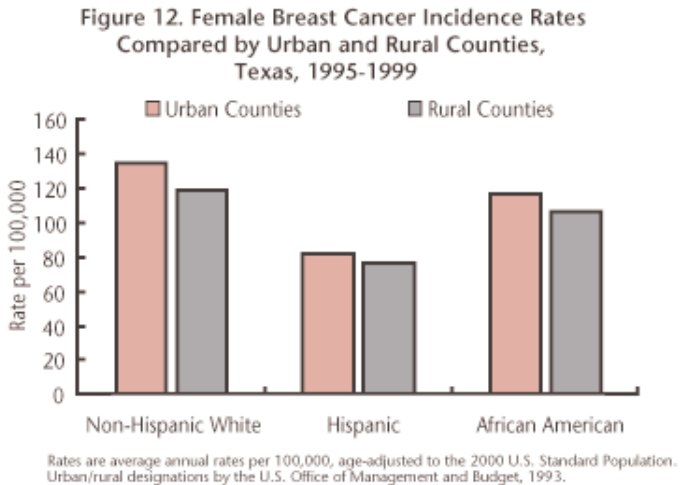
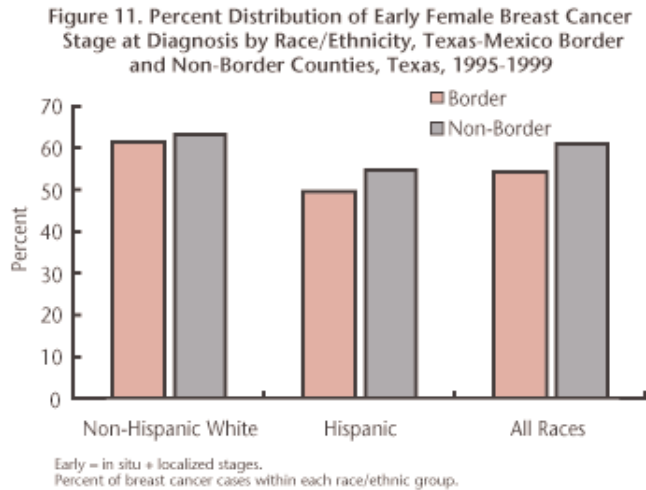
The Border counties revealed an extremely small population of African Americans, and thus very few breast cancer cases or deaths. As a result, African American women living along the Texas-Mexico Border were not included in the Border county analyses.

## Breast Cancer in Urban and Rural Counties

From 1995–1999, rural non-Hispanic whites and African Americans experienced somewhat lower average annual age-adjusted breast cancer incidence rates (119.0 per 100,000 and 106.9 per 100,000 respectively) compared to urban county non-Hispanics and African Americans (135.3 per 100,000 and 117.8 per 100,000, respectively) (Figure 12). Rural county Hispanic women also experienced lower (7%) breast cancer incidence rates than urban county Hispanic women (77.3 per 100,000 and 82.9 per 100,000, respectively).

From 1997–2001, rural county non-Hispanic whites had similar mortality rates (25.6 per 100,000) as urban county non-Hispanic whites (26.2 per 100,000) (Figure 13). Rural county Hispanics (18.2 per 100,000) had slightly lower rates compared to their urban counterparts (19.9 per 100,000). African American women experienced the greatest urban and rural mortality rate difference. The average annual age-adjusted mortality rate for rural county African American women was 27 percent lower (31.3 per 100,000) than the rate for urban African Americans (39.6 per 100,000).

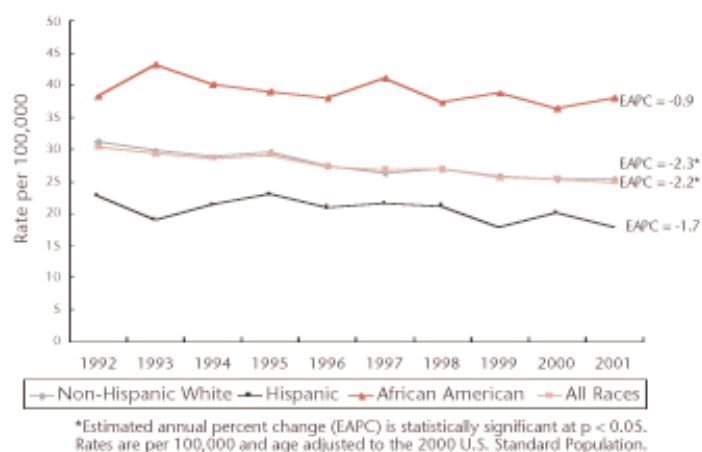
When comparing urban and rural women as a whole in regards to stage of disease at diagnosis, rural residents tend to have slightly fewer breast cancers diagnosed at the early stage. This was also consistent when separate race/ethnic groups were examined (Figure 14). However, some caution must be used when evaluating differences in breast cancer stage at diagnosis due to the large number of cases diagnosed with an unknown stage in both rural and urban counties (11.5% and 9.5%, respectively).



## Breast Cancer Mortality Trends in Texas by Race/Ethnicity, 1992–2001

Figure 15 presents trends in breast cancer mortality rates by race/ethnicity over the ten-year period of 1992–2001. Since 1992, breast cancer mortality rates decreased for all race/ethnic groups, ranging from 0.9 percent per year for African Americans to 2.3 percent per year for non-Hispanic whites. However, no clear trend is apparent for African American and Hispanic women and only all races combined (-2.2%) and non-Hispanic white females (-2.3%) indicated statistically significant decreases. Mortality rates for African American women were still the highest for all years and had the least amount of decrease per year. This finding suggests that despite increased breast cancer screening efforts not all women appear to be benefiting to the same extent.

Figure 15. Trends in Age-Adjusted Female Breast Cancer Mortality Rates by Race/Ethnicity, Texas, 1992–2001



## What are the Risk Factors?

While the causes of breast cancer are not yet completely understood, researchers have identified several risk factors that are consistently associated with the disease.<sup>10,11</sup> A risk factor is something that puts a person at an increased risk of developing the disease. Some risk factors can be controlled (smoking, diet), and some cannot (age, race). Through studies of women all over the world, researchers have identified the following risk factors for breast cancer:

**Gender:** The main risk factor for breast cancer is being a woman. While men can develop the disease, breast cancer is about 100 times more common among women than men.

**Age:** The chance of getting breast cancer increases as a woman gets older.

**Genetic Risk Factors:** Certain gene mutations have been linked to the development of breast cancer. About one case of breast cancer in ten is linked to such mutations. These mutated genes can be inherited from either parent.

**Family History:** Breast cancer risk is higher among women who have a family history of the disease on either side of the family. However, the risk is higher for first-degree relatives. Having a mother, sister, or daughter with breast cancer almost doubles a woman's risk, and having two such family members with the disease increases the risk 5-fold.

**Personal History:** A woman with cancer is at greater risk of developing a new cancer in the other breast or in another part of the same breast.

**Race/Ethnicity:** Non-Hispanic white women are more likely to get breast cancer than African American or Hispanic women. However, African American women are more likely to die of breast cancer.

**Reproductive Factors:** Women who began having menstrual periods before the age of 12 or who went through menopause after the age of 50 have a small increased risk of breast cancer. The same is true for women who have not had children, or who had their first child after they were 30 years old.

**Hormone Replacement Therapy (HRT):** Most studies suggest that long-term use (five years or more) of HRT may slightly increase the risk of breast cancer.

**Alcohol:** Studies have clearly linked use of alcohol to an increased risk of developing breast cancer. Women who have one drink a day have a very small increased risk. Those who have two to five drinks daily have about 1.5 times the risk of women who drink no alcohol.

**High Body Mass Index (BMI):** Having a high BMI or being overweight is linked to a higher risk of breast cancer, especially for postmenopausal women.

**Radiation Exposure:** The risk of breast cancer is increased in women who as children or young adults received radiation therapy to the chest area, such as treatment for lymphoma or other cancers.

**History of Breast Biopsies:** Women who have breast biopsies diagnosed with a histology of proliferative breast disease or atypical hyperplasia are 1.5 to 5 times more likely to develop breast cancer.

**Birth Control Pills:** Some studies have shown that use of birth control pills slightly increases a woman's risk for breast cancer.

**Physical Activity:** Exercise as a youth or as an adult may lower breast cancer risk.

It is important to remember that having one of the above risk factors, or even several, does not mean that a person will get breast cancer. Risk factors do, however, increase the chance of developing the disease. Rarely do women without any of the above risk factors develop breast cancer.

In addition, it is important when considering these risk factors to focus on those that can be changed or avoided (such as physical activity and alcohol consumption), rather than those that cannot (such as age and family history). However, understanding risk factors that cannot be changed is still important, as this can help determine appropriate breast cancer screening for the individual.

## Summary

In summary, breast cancer remains a serious threat to the lives of thousands of Texas women. Breast cancer incidence and mortality vary by age, race/ethnicity, and geographic region. Texas non-Hispanic white women experienced the highest breast cancer incidence while Texas African American women experienced the highest breast cancer mortality. African American breast cancer mortality was over 30 percent higher than non-Hispanic white breast cancer mortality and was almost twice that of Hispanic women. The highest rates of breast cancer incidence occurred among non-Hispanic whites in most age groups. However, the highest rates of breast cancer mortality occurred among African American women in every age group. African American and Hispanic women also had a higher percentage of cases diagnosed at the late stage. Such differences in the African American women breast cancer mortality experience from non-Hispanic whites and Hispanics suggest disparities in screening and early diagnosis, timely and appropriate treatment, and possibly even overall health.

Regional differences in breast cancer incidence and mortality also occurred across the state. Hispanic women living along the Texas-Mexico Border experienced higher breast cancer incidence than non-Border Hispanics, while Border and non-Border non-Hispanic whites were very similar. Breast cancer mortality was higher among both non-Hispanic white and Hispanic Border women than for their non-Border counterparts. Women who lived in rural counties experienced lower breast cancer incidence and mortality than women who lived in urban counties. A lower proportion of women who live along the Texas-Mexico Border or who live in the rural portions of the state reported having had a mammogram within the last two years compared to women who live in other regions of the state.

Although Texas breast cancer incidence and mortality rates remain steady or are declining, much work remains to reduce the impact of breast cancer on the residents of our State.

## Technical Notes

### Sources of Data

The Texas Cancer Registry (TCR) collects incident reports of neoplasms occurring among state residents, including certain benign tumors and borderline malignancies. The incidence rates in this report are for primary malignant breast cancers. In situ breast cancers were only included when evaluating stage at diagnosis.

The TCR is a population-based reporting system. Texas hospitals and cancer treatment centers are the primary sources of case reporting. Additionally, information is sought for Texas residents who are diagnosed and treated at

facilities outside of Texas. The incidence data used in this report are primarily abstracted from medical records and pathology reports.

The completeness of the 1995–1999 data was evaluated by applying California's age, race, and sex-specific cancer incidence rates to the Texas population in order to generate expected numbers of cases. California rates were used because of more complete California Cancer Registry case ascertainment and similarity between Texas and California populations. Based on these calculations, the 1995–1999 data presented here are estimated to be 100 percent complete. The incidence file used was extracted on March 5, 2003.

Cancer mortality data were extracted from electronic files provided by the Texas Department of Health, Bureau of Vital Statistics. These files contained demographic and cause of death information for all deaths occurring among Texas residents.

### **Confidentiality**

Maintaining the confidentiality of persons whose cancers are reported to the TCR is mandated by law and is the highest priority of the Registry in all aspects of operations. Data presented in this report are not intended to identify individuals who have been diagnosed with cancer.

### **Primary Site Codes**

Primary site and histologic type were coded for each cancer incident case using the International Classification of Diseases for Oncology (ICD-O, version 2).<sup>12</sup> The ICD-O codes corresponding to the breast cancer site category in this report are C500–C509 (excluding morphologic types 9050: 9055, 9140, 9590: 9989).

For 1997–1998 cancer mortality data, the breast cancer site presented in this report corresponds to site grouping 174–175 for the 9th Revision of the International Classification of Diseases (ICD-9).<sup>13</sup> For 1999–2001 cancer mortality data, the breast cancer site presented corresponds to site grouping C50 from the 10th Revision of the International Classification of Diseases (ICD-10).<sup>14</sup>

### **Data Management**

Data on incident cancers are reported to the Texas Cancer Registry in accordance with the Texas Cancer Incidence Reporting Act (Chapter 82, Health and Safety Code). Standard data items are requested on the Confidential Cancer Incidence Reporting Form or in electronic format. These data are entered into a cancer incident database after being checked for completeness and quality. Multiple reports for the same individual are consolidated to assure the most complete and correct information possible.

### **Race and Ethnicity of Cancer Cases**

The race/ethnic groups used in this report for incidence data include the following mutually exclusive categories: non-Hispanic white, African American, and Hispanic. The Hispanic designation can therefore be of any race, but from 1995–1999, 98.9 percent of cancers in Hispanics were of the white race. The race and ethnicity of each cancer patient was taken from the medical records and classified according to the categories defined in the North American Association of Central Cancer Registries (NAACCR) coding manual.<sup>15</sup>

The race/ethnic groups used in this report for 1997–1998 mortality data include the following mutually exclusive categories: non-Hispanic white, African American, and Hispanic. However, for 1999–2001 mortality data, Hispanic African Americans are included with Hispanics, rather than with African Americans as in previous years of mortality data. In 1999–2001, 99.5 percent of cancer deaths in Hispanics were of the white race.

The classification of Hispanics is based on the death certificate's Hispanic origin question, which is answered by the informant. The informant may be next of kin, a friend, funeral director, attending physician, medical examiner, justice of the peace, or other source. This method is consistent with the classification schema used by other state programs.

Persons in race/ethnic subgroups other than non-Hispanic white, African American, or Hispanic (i.e., American Indians, Asians, etc.), as well persons of unknown race are not included in any of the race/ethnic-specific incidence



and mortality rates, but are included in the total for all races. Persons of other race/ethnic subgroups and unknown race make up only 1.8% of the total number of breast cancer cases from 1995–1999 and 1.0 percent of the total number of breast cancer deaths from 1997–2001.

### Population Data

Estimates of the population used for the calculation of rates were obtained from the Texas Department of Health, Center for Health Statistics. For 1995–1999, the largest group is the non-Hispanic white population with 57.5 percent of the state population. Texas Hispanics comprise 28.4 percent of the total population, African Americans represent 11.6 percent of the total population, and there were 2.5 percent Other Races. For 1997–2001, these percentages changed slightly to non-Hispanic white (55.2%), Hispanic (30.3%), African American (11.6%), and Other Races (2.9%).

### Cancer Incidence Data Quality

Numerous quality assurance procedures are applied to the data based on the SEER Program procedures and NAACCR standards. The quality control procedures include both internal and external processes to insure the reliability, completeness, consistency, and comparability of TCR data. The internal process included a review of the hard copy abstract for multiple primaries, duplicate records, and valid codes for all fields.

Both hard copy and computerized data were scrutinized for identification of: 1) possible duplicates of existing records, 2) unacceptable codes for any field, or inter-field inconsistencies, and 3) invalid or unusual site/sex, age/site, age/morphology or site/morphology combinations. Inconsistencies in date of birth, race, ethnicity, sex, county of residence, date of diagnosis, site, and histologic type were rectified. Multiple primaries for an individual were identified among the various reports during the editing process. Information on the same primary from duplicate reports was consolidated and checked for consistency and legitimate codes.

External procedures included hospital training, on-site case-finding studies, re-abstracting studies, and death clearance. Cancer death certificate files were matched against reported incident cases for an additional check of reporting completeness.

To identify any cancer cases not reported to the TCR, information on all death certificates with the underlying cause of death due to malignant neoplasm was obtained from the Bureau of Vital Statistics, Texas Department of Health. Institutions listed on the death certificates as place of death were queried for additional cancer case information. Missed cases not identified from any institution were added to the cancer database. Cases for which the only available information is the death certificate, classified as "death certificate only" cases, were included in this report. The date of death was considered to be the date of diagnosis for these cases. From 1995–1999, 1.9 percent of breast cancer cases were death certificate only cases.

The percentage of cases microscopically confirmed measures the quality of the diagnostic information on which the assignment of primary site is based. A case is microscopically confirmed if the diagnosis is based on autopsy, histology, cytology, or hematology findings. Of the total 1995–1999 breast cancer cases, 96.7 percent were microscopically confirmed.

### Data Analysis

In this report, average annual incidence and mortality rates were age-adjusted using the direct method. Age adjustment eliminates the effects of differences in the age structure between populations and allows direct comparison of incidence and mortality rates for these populations. Direct standardization weights the age-specific rates for a given sex, race/ethnicity or geographic area by the age distribution of the standard population. The 2000 United States standard million population was used as the standard for all calculations (Table 8).<sup>17</sup>

**Table 8. United States  
2000 Standard Million Population by Age**

| Age      | Population |
|----------|------------|
| All Ages | 1,000,000  |
| 00-04    | 69,135     |
| 05-09    | 72,533     |
| 10-14    | 73,032     |
| 15-19    | 72,169     |
| 20-24    | 66,478     |
| 25-29    | 64,529     |
| 30-34    | 71,044     |
| 35-39    | 80,762     |
| 40-44    | 81,851     |
| 45-49    | 72,118     |
| 50-54    | 62,716     |
| 55-59    | 48,454     |
| 60-64    | 38,793     |
| 65-69    | 34,264     |
| 70-74    | 31,773     |
| 75-79    | 26,999     |
| 80-84    | 17,842     |
| 85+      | 15,508     |

Source: U.S. Bureau of the Census, Census of Population, 2000.

The incidence and mortality rates and frequencies used in this report were calculated using SEER\*Stat software (version 4.2). This software was developed by SEER to analyze population-based cancer registry data, and provides the age-adjusted incidence and mortality rates for the standard set of cancer sites and site groups recognized by the SEER program. Information regarding availability and use of this software can be found on the SEER web site: <http://www-seer.ims.nci.nih.gov/-scientificsystems>.

### Trend Analysis

The Estimated Annual Percent Change (EAPC) represents the average percent increase or decrease in cancer rates per year over a specified period of time. The EAPC is calculated by fitting a linear regression to the natural logarithm of the annual rates, using calendar year as a predictor variable (formula:  $\ln(r) = m(\text{year}) + b$ ). From the slope of the regression line,  $m$ , EAPC is calculated as:  $\text{EAPC} = 100 \times (e^m - 1)$ .

Testing the hypothesis that the EAPC is equal to zero is equivalent to testing the hypothesis that the slope of the line in the regression is equal to zero. Statistical significance was set at  $\alpha = 0.05$ , thus a trend in rates was considered statistically significant if there was less than a five percent chance that the difference was the result of random variation. The EAPC assumes that the cancer rate is changing at a constant rate over the interval examined.<sup>18</sup>

Asterisks indicate that the change is statistically significant at the  $p < 0.05$  level. Trends should be interpreted with caution because of the relatively short time period for which data are available.

### References

1. The Economic Impact of Cancer in Texas. Texas Department of Health. Texas Comprehensive Cancer Control Program. (TDH Publication No. 44-11140) Texas: 2001
2. Breast Cancer Fact Sheet. Harvard Center for Cancer Prevention. Retrieved June 3, 2003 from the World Wide Web. [http://www.yourcancerrisk.harvard.edu/hccpquiz.pl?func=show&quiz=breast&page=fact\\_sheet](http://www.yourcancerrisk.harvard.edu/hccpquiz.pl?func=show&quiz=breast&page=fact_sheet)
3. Kwong SL, Perkins CI, Morris CR, Cohen R, Allen M, Wright WE. Cancer in California: 1988-1999. Sacramento, CA: California Department of Health Services, Cancer Surveillance Section, December 2001.
4. Ries, LAG, Eisner MP, Kosary CL, Hankey BF, Miller BA, Clegg L, Mariotto A, Fay MP, Feuer EJ, Edwards BK (eds). SEER Cancer Statistics Review, 1975-2000, National Cancer Institute. Bethesda, MD, [http://seer.cancer.gov/csr/1975\\_2000](http://seer.cancer.gov/csr/1975_2000), 2003.
5. Surveillance, Epidemiology, and End Results (SEER) Program ([www.seer.cancer.gov](http://www.seer.cancer.gov)) Public-Use Data (1973-2000), National Cancer Institute, DCCPS, Surveillance Research Program, Cancer Statistics Branch, released April 2003, based on the November 2002 submission.
6. Henderson B, Pike MC, Bernstein L, Ross RK. Breast Cancer In: Schottenfeld D and Fraumeni JF (eds). Cancer Epidemiology and Prevention (Second Edition); New York: Oxford University Press, 1996:1022-1039.
7. Texas Behavioral Risk Factor Surveillance System Survey, 2002. Prepared by: Community Assessment Team, Center for Health Statistics, Texas Department of Health.
8. Coughlin SS, Uhler RJ, Richards T, and Wilson KM. Breast and cervical cancer screening practices among Hispanic and non-Hispanic women residing near the United States-Mexico border, 1999-2000. Family and Community Health. 2003;26:i2 130-139.
9. Coughlin SS, Thompson TD, Hall HI, Logan P, and Uhler RJ. Breast and cervical carcinoma screening practices among women in rural and nonrural areas of the United States, 1998-1999. Cancer. 2002; 94(11): 2801-2812.
10. What are the Risk Factors for Breast Cancer? American Cancer Society. Retrieved June 3, 2003 from the World Wide Web. [http://www.cancer.org/docroot/CRI/content/CRI\\_2\\_4\\_2X\\_What\\_are\\_the\\_risk\\_factors\\_for\\_breast\\_cancer\\_5.asp](http://www.cancer.org/docroot/CRI/content/CRI_2_4_2X_What_are_the_risk_factors_for_breast_cancer_5.asp)

11. Singletary S. Rating the Risk Factors for Breast Cancer. *Annals of Surgery*. 2003;237:474-482.
12. Percy C, Van Holten V, and Muir C (eds). *International Classification of Disease for Oncology, Second Edition*. Geneva: World Health Organization, 1990.
13. World Health Organization. *Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death. Ninth Revision, vol. 1*. Geneva: WHO, 1977.
14. World Health Organization. *Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death. Tenth Revision, vol. 1*. Geneva: WHO, 1992.
15. Seiffert JE (ed). NAACR (North American Association of Central Cancer Registries, March 20, 1998. (Standards for Cancer Registries, vol. 2).
16. Buechley RW. Generally useful ethnic search system, GUESS. Presented to the annual meeting of American Name Society, December 1976.
17. Anderson RN, Rosenberg HM. Age Standardization of Death Rates: Implementation of the Year 2000 Standard. *National Vital Statistics Reports*, v. 47, no. 3, October 7, 1998 (USDHHS, CDC, NCHS).
18. Rothman KJ. *Modern Epidemiology*. Boston, MA: Little, Brown, and Company, 1986:144-145.

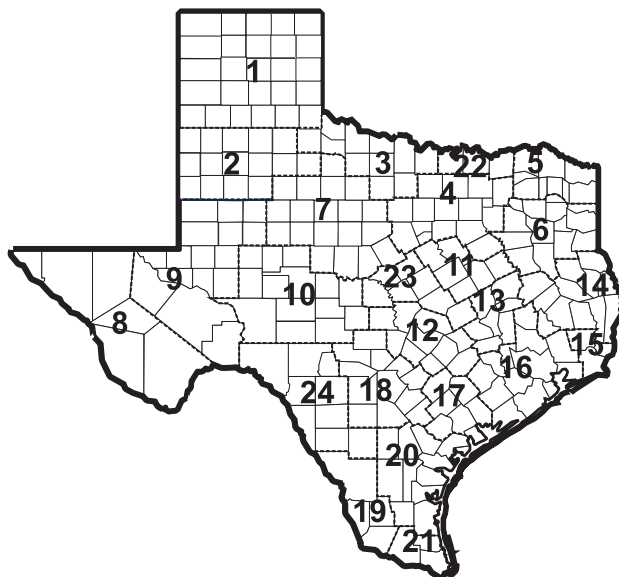
# III. Cervical Cancer in Texas, 2003

# III. Cervical Cancer in Texas, 2003

Like the preceding chapter on breast cancer, this chapter addresses cervical cancer in Texas and represents just one of the steps taken by the Texas Cancer Registry and Texas Department of Health to describe and better understand the impact of cervical cancer on the residents of our State. Each number and statistic presented not only represents the cancer patient but also family, friends, and countless others affected by this disease. Information provided in this report can be used to describe the epidemiology of cervical cancer in Texas, to better plan cancer control activities, target and evaluate interventions, and ultimately save lives.

Of all cancers, cervical cancer is one of the most preventable and detectable through regular screening. Yet, cervical cancer remains a serious threat to the lives of Texas women. It is estimated that in 2003, approximately 1,100 Texas women will be diagnosed with invasive cervical cancer and 365 women will die of the disease. A distribution of 2003 expected cervical cancer cases and deaths by Texas Regional Councils of Government (COG) is shown in Figures 1 (see Table 1 for a listing of COGs).

**Figure 1: Texas Regional Councils of Government**



## What Is Cervical Cancer?

Cancer begins when cells in a part of the body change and grow abnormally. Most cancers are named for the part of the body from where the cancer starts. Cervical cancer begins in the lining of the cervix. The cervix is the lower part of the uterus and connects the uterus to the vagina.<sup>1</sup>

Cervical cancer does not form suddenly, but rather can take many years to develop. In the early stages of cervical cancer, some cells begin to change and become abnormal. These pre-cancerous changes are not true cancer, but have the potential to develop into cancer if left untreated.

**Table 1. Estimated Number of New Cervical Cancer Cases and Deaths in Texas for 2003**

| <b>COG</b> | <b>Council of Regional Government</b>            | <b>Cases</b> | <b>Deaths</b> |
|------------|--|--------------|---------------|
| 1          | Panhandle Regional Planning Commission           | 19           | 6             |
| 2          | South Plains Association of Regional Governments | 19           | 6             |
| 3          | Nortex Regional Planning Commission              | 10           | 4             |
| 4          | North Central Texas Council of Governments       | 264          | 85            |
| 5          | Ark-Tex Council of Governments                   | 13           | 5             |
| 6          | East Texas Council of Governments                | 35           | 14            |
| 7          | West Central Texas Council of Governments        | 15           | 6             |
| 8          | Rio Grande Council of Governments                | 52           | 15            |
| 9          | Permian Basin Regional Planning Commission       | 20           | 7             |
| 10         | Concho Valley Council of Governments             | 8            | 3             |
| 11         | Heart of Texas Council of Governments            | 15           | 6             |
| 12         | Capital Area Planning Council                    | 68           | 21            |
| 13         | Brazos Valley Council of Governments             | 11           | 4             |
| 14         | Deep East Texas Council of Governments           | 17           | 7             |
| 15         | South East Texas Regional Planning Commission    | 18           | 8             |
| 16         | Houston-Galveston Area Council                   | 257          | 84            |
| 17         | Golden Crescent Regional Planning Commission     | 10           | 4             |
| 18         | Alamo Area Council of Governments                | 113          | 35            |
| 19         | South Texas Development Council                  | 20           | 5             |
| 20         | Coastal Bend Council of Governments              | 35           | 11            |
| 21         | Lower Rio Grande Valley Development Council      | 67           | 18            |
| 22         | Texoma Council of Governments                    | 8            | 3             |
| 23         | Central Texas Council of Governments             | 17           | 6             |
| 24         | Middle Rio Grande Development Council            | 11           | 3             |
|            | <b>TOTAL</b>                                     | <b>1,124</b> | <b>365</b>    |

2003 expected number of cases were calculated by applying California age, sex, and race/ethnic-specific average annual incidence rates (1995-1999) to the 2003 Texas population.

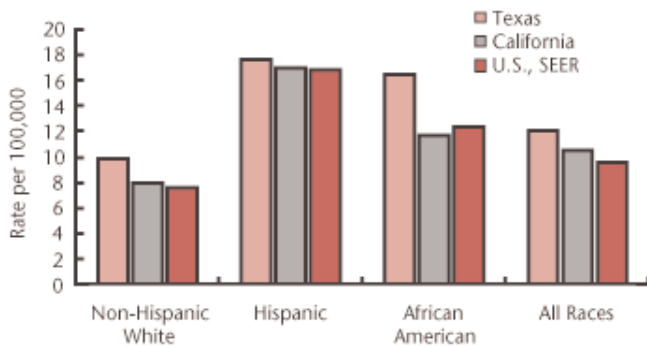
2003 expected number of deaths were calculated by applying Texas age, sex, and race/ethnic-specific average annual mortality rates (1997-2001) to the 2003 Texas population.

There are two main types of cervical cancer. By far, the most common type is squamous cell carcinoma, which develops from the flat cells that cover the outer surface of the cervix at the top of the vagina. The other type is adenocarcinoma, which develops from the glandular cells that line the cervical canal. A few other types of cervical cancer exist, including a mixed or adenosquamous carcinoma.

## Cervical Cancer Incidence, 1995–1999 and Mortality, 1992–2001

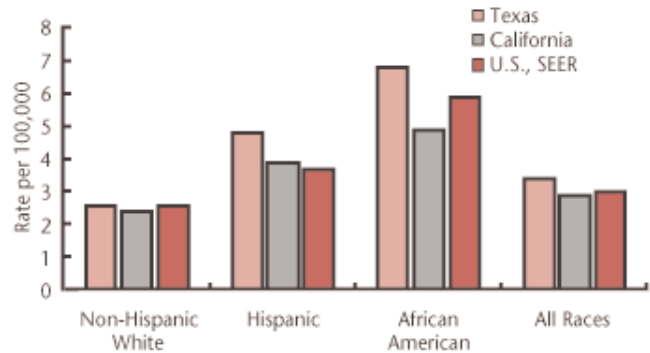
From 1995–1999, a total of 5,600 cases of invasive cervical cancer were newly diagnosed in Texas women, with an average of 1,120 cases per year. The overall average annual age-adjusted cervical cancer incidence rate was 12.1 per

**Figure 2. Cervical Cancer Incidence Rates (1995-1999) Compared with California (1995-1999) and the U.S. SEER (1996-2000) by Race/Ethnicity**



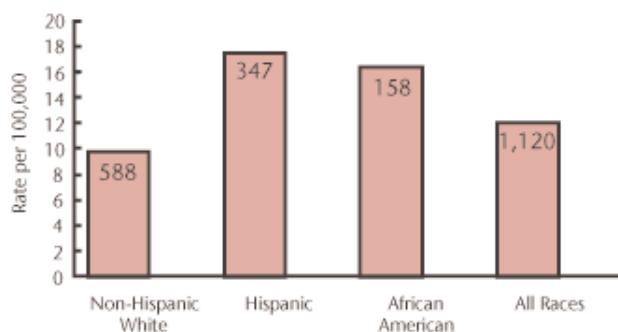
Rates are average annual rates per 100,000, age-adjusted to the 2000 U.S. Standard Population. Source: Texas Cancer Registry, *Cancer in California, 1988-1999*; SEER, *Cancer Statistics Review, 1975-2000*.

**Figure 3. Cervical Cancer Mortality Rates (1997-2001) Compared with California (1995-1999) and the U.S. SEER (1996-2000) by Race/Ethnicity**



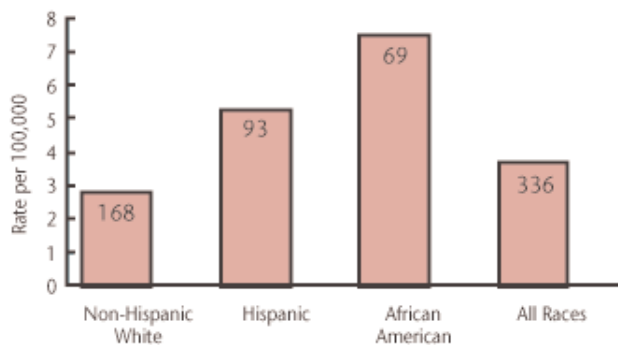
Rates are average annual rates per 100,000, age-adjusted to the 2000 U.S. Standard Population. Source: Texas Cancer Registry, *Cancer in California, 1988-1999*; SEER, *Cancer Statistics Review, 1975-2000*.

**Figure 4. Cervical Cancer Incidence Rates and Average Annual Cases by Race/Ethnicity, Texas, 1995-1999**



Rates are average annual rates per 100,000 population, age-adjusted to the 2000 U.S. Standard Population. Average annual incidence counts are rounded to the nearest whole.

**Figure 5. Cervical Cancer Mortality Rates and Average Annual Deaths by Race/Ethnicity, Texas, 1992-2001**



Rates are average annual rates per 100,000 population, age-adjusted to the 2000 U.S. Standard Population. Average annual mortality counts are rounded to the nearest whole.

100,000 women. Despite being virtually preventable, cervical cancer killed an average of 336 Texas women annually from 1992–2001. The overall average annual age-adjusted cervical cancer mortality rate was 3.7 deaths per 100,000 women.

## Differences by Race/Ethnicity

Cervical cancer incidence and mortality rates were higher in Texas women as compared with California and U.S. SEER for each race/ethnic group (Figures 2–3).<sup>2,3,4</sup>

Being diagnosed with cervical cancer or dying from cervical cancer varied among Texas women by race/ethnicity. From 1995–1999, both Hispanic and African American females experienced higher cervical cancer incidence and mortality rates than Texas non-Hispanic white women. Hispanics had the highest incidence of cervical cancer, followed by African Americans, and non-Hispanic whites (Figure 4). The age-adjusted incidence rate for cervical cancer in Hispanic women (17.6 per 100,000) was almost two times higher than the rate for non-Hispanic whites (9.9 per 100,000). The age-adjusted cervical cancer incidence rate for African American women (16.5 per 100,000) was over one and a half times higher than the rate for non-Hispanic whites and was only slightly lower than the rate for Hispanics.

Despite the fact that African Americans had a slightly lower incidence of cervical cancer than Hispanics, their age-adjusted mortality rate (7.5 per 100,000) was 42 percent higher than the mortality rate for Hispanic women (5.3 per 100,000) (Figure 5). African American women had the highest age-adjusted cervical cancer mortality rate, which was almost three times that of non-Hispanic whites (2.8 per 100,000). This disparity in the African American incidence and mortality rates could be due to a variety of factors, such as later diagnosis resulting in less chance of survival, lack of timely and appropriate treatment, and overall health, in general.

## Differences by Age and Race/Ethnicity

Of the 1,120 average annual cases of cervical cancer diagnosed among Texas women from 1995–1999, 733 (65.5%) were diagnosed in women younger than 55 years of age (Table 2). The highest rates of cervical cancer occurred among Hispanics in most age groups (Figure 6). African Americans 75 years of age and older had the highest rates of all Texas women.

Cervical cancer incidence rises rapidly and peaks in non-Hispanic whites at ages 35–44. In contrast, Hispanics and African Americans peak later at ages 65–74, and ages 75–84, respectively. This finding is particularly troublesome because research indicates that women who are diagnosed with cervical cancer at age 50 years and older are more likely to have advanced stage disease.<sup>5</sup>

Of the 336 average annual cervical cancer deaths among Texas women from 1992–2001, 175 (52.1%) were among women 55 years of age and older (Table 3). In all three race/ethnic groups, cervical cancer mortality was almost nonexistent until age 35, when mortality rates generally increased with each subsequent decade (Figure 7). The highest rates of cervical cancer deaths occurred among African Americans in every age group.

## Stage of Disease at Diagnosis, 1995–1999

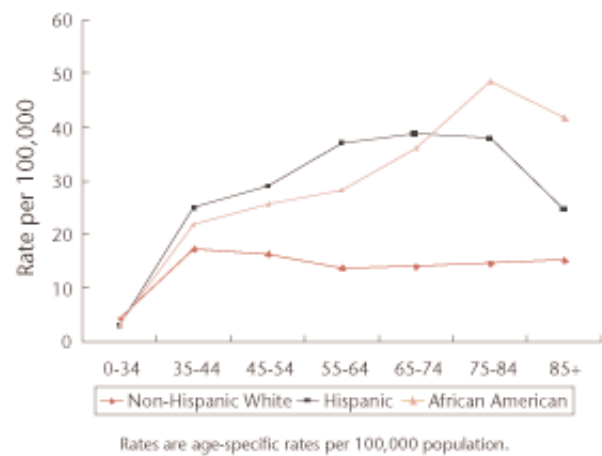
Stage denotes the physical characteristics of malignant tumors, particularly size and the degree of growth and spread. In cervical cancer, as in most cancers, the stage at diagnosis determines treatment options as well as an

**Table 2. Average Annual Cervical Cancer Cases and Percentage of Total New Cancers by Age at Diagnosis, Texas, 1995-1999**

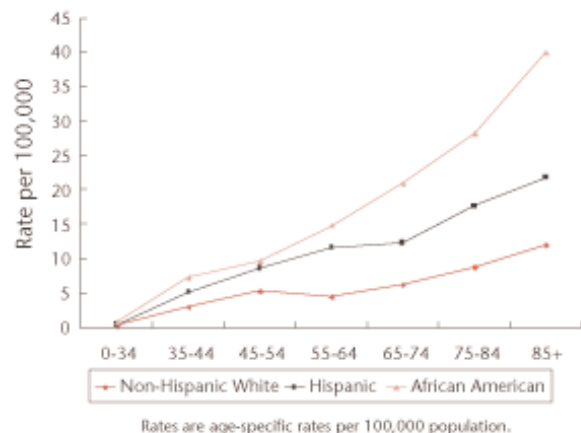
| Age   | No. of Cases | % Total New Cases |
|-------|--------------|-------------------|
| 0-34  | 197          | 17.6              |
| 35-44 | 304          | 27.2              |
| 45-54 | 232          | 20.7              |
| 55-64 | 150          | 13.4              |
| 65-74 | 126          | 11.2              |
| 75-84 | 82           | 7.3               |
| 85+   | 30           | 2.7               |

Average annual incidence counts are rounded to the nearest whole. Percentages are based on unrounded counts and total. Cases included invasive cancer only.

**Figure 6. Age-Specific Cervical Cancer Incidence Rates by Race/Ethnicity, Texas, 1995-1999**



**Figure 7. Age-Specific Cervical Cancer Mortality Rates by Race/Ethnicity, Texas, 1992-2001**



**Table 3. Average Annual Cervical Cancer Deaths and Percentage of Total Cancer Deaths by Age at Death, Texas, 1992-2001**

| Age   | No. Deaths | % Total Deaths |
|-------|------------|----------------|
| 0-34  | 25         | 7.4            |
| 35-44 | 62         | 18.5           |
| 45-54 | 74         | 22.0           |
| 55-64 | 52         | 15.5           |
| 65-74 | 53         | 15.8           |
| 75-84 | 46         | 13.7           |
| 85+   | 24         | 7.1            |

Average annual mortality counts are rounded to the nearest whole. Percentages are based on unrounded counts and total.



estimate of survival. While many different kinds of detailed staging systems have been developed for different kinds of cancer, the basic classifications are very similar. Invasive cervical cancer tumors are classified in the following three stage categories:

**Localized** – tumor is entirely confined to the cervix.

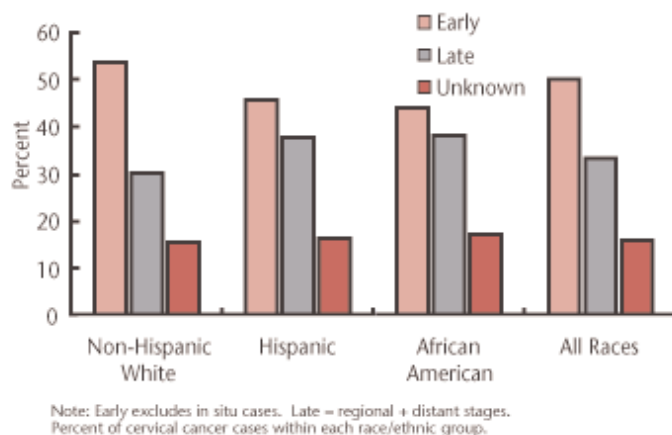
**Regional** – tumor has extended directly to adjacent organs, tissues, or lymph nodes.

**Distant** – tumor has spread to distant organs or lymph nodes, a process known as metastasis.

For comparison purposes, this report combines the three invasive stages of disease into two more general categories. “Early” cervical cancer is limited to the localized stage only, while “late” includes both regional and distant stages.

From 1995–1999, 50.1 percent of all cervical cancer cases were diagnosed at the early stage and 33.7 percent were diagnosed at the late stage. However, 16.2 percent of cases during that time period had an unspecified stage at diagnosis.

Figure 8. Percent Distribution of Cervical Cancer Stage at Diagnosis by Race/Ethnicity, Texas, 1995-1999



## Differences in Stage of Disease at Diagnosis by Race/Ethnicity

As the stage at diagnosis moves across the categories into more advanced or extensive stages, the chance of cure declines. The greatest proportion of early cervical cancer diagnoses was found among non-Hispanic whites (53.9%), followed by Hispanic (45.8%), and African American (44.2%) women (Figure 8). Hispanic and African American females had higher percentages of cases diagnosed at the late stage (37.8%, 38.3%, respectively) than non-Hispanic white females (30.3%). This likely represents differences in Pap test/screening prevalence among Hispanics and African Americans and may contribute to the higher cervical cancer mortality experienced by these women.

## Early Detection and Cervical Cancer Screening in Texas

It is very important for cervical cancer to be detected and treated during the early pre-cancerous changes. The earlier abnormal cells are detected, the greater the chance of successful treatment and prevention of developing cancer. Most pre-cancerous conditions can be detected through routine pelvic exams and Pap tests. Since pre-cancerous changes rarely cause any symptoms, regular examinations are critical to cervical cancer detection and prevention.

In 2000, the United States Department of Health and Human Services published their objectives for improving health across the country in *Healthy People 2010*. One of the objectives consists of increasing the proportion of women aged 18 years and older who have received a Pap test within the previous three years to 90 percent.

The Texas Department of Health, Behavioral Risk Factor Surveillance System (BRFSS) Program conducts surveys on a monthly basis to collect data on lifestyle risk factors. The survey in 2002 included a Pap test screening question for Texas women, age 18 and over.<sup>6</sup> This survey included women without a uterine cervix. Of the women surveyed, 82 percent reported having had a Pap test within the past three years (Table 4). Although African American women experience a disproportionate amount of cervical cancer incidence and mortality compared to non-Hispanic whites in Texas and were found to have the greatest percentage of late stage cervical cancer at the time of diagnosis, they reported the highest proportion of having been screened for cervical cancer in the last three years (90%). This suggests possible differences in timely and appropriate treatment, as well as overall health.

Women aged 65 years and over reported a lower percentage (66%) of having had a recent pap test than women aged 40–64 (84%) and 18–39 (86%). Only 76 percent of women with less than a high school education reported a

recent Pap test. There were also some important regional differences. The proportion of women having had a recent Pap test who live along the Texas-Mexico Border was lower (76%) compared to non-Border women (83%), as was the proportion of women having a recent Pap test who live in rural counties (75%) compared to women living in urban portions of the state (84%). Possible reasons for these disparities include access to health care, inadequate health insurance, as well as the need for culturally sensitive preventive healthcare.

## Physician Pap Smear Screening Knowledge, Attitudes, and Practices

In 2002, the Texas Medical Association’s Physician Oncology Education Program conducted a survey of obstetrics and gynecology specialists, as well as primary care specialists regarding Pap smear screening knowledge, attitudes, and practices (see Chapter IV for complete survey results). Obstetricians and gynecologists most frequently indicated patient lack of understanding about the purpose of the Pap test as a patient barrier to receiving the screening (73 %), followed by cost to the patient (69%), and insurance carrier criteria (58%). Sixty-nine percent of primary care specialists considered cost to the patient to be a barrier, followed by fear of diagnosis (55%), socio-cultural issues (48%), and lack of understanding about the purpose of the Pap test (48%).

Obstetricians and gynecologists, as well as primary care specialists most frequently indicated patient non-compliance as a physician barrier to Pap smear screening (70% and 66%, respectively). Insurance carrier was the second most frequently chosen physician barrier by obstetricians and gynecologists (51%), followed by patient lack of understanding about the purpose of the test (42%). For primary care physicians, the second most frequently chosen physician barrier was cost to the patient (47%), followed by insurance carrier criteria (40%).

## Regional Variation

The Texas–Mexico Border and large rural portions of our state make Texas unique, presenting a number of challenges for reducing the burden of cervical cancer (Tables 6 and 7).

**Table 4. Percentages of Women 18 and Older Who Have Had a Recent Pap Test, Texas, 2002**

| Pap Smear Within Past 3 Years | Percentage |
|-------------------------------|------------|
| 18 years and older            | 82         |
| 18-39 years old               | 86         |
| 40-64 years old               | 84         |
| 65 years and older            | 66         |
| White, Non-Hispanic           | 82         |
| Hispanic                      | 82         |
| African American              | 90         |
| Low Education*                | 76         |
| Rural Counties                | 75         |
| Urban Counties                | 84         |
| Border Counties               | 76         |
| Non-Border Counties           | 83         |

Source: Texas Behavioral Risk Factor Surveillance System, Statewide BRFSS Survey, 2002. Includes women without a uterine cervix. Percentages are rounded to the nearest whole. Border counties are the 32 Texas counties defined by the Office of Border Health, Texas Department of Health. Rural counties defined by the U.S. Office of Management & Budget, 1993. \*Women 40 years and older with less than a high school education.

**Table 5. Texas-Mexico Border Counties**

|           |            |           |
|-----------|------------|-----------|
| Brewster  | Hudspeth   | Reeves    |
| Brooks    | Jeff Davis | Starr     |
| Cameron   | Jim Hogg   | Sutton    |
| Crockett  | Kenedy     | Terrell   |
| Culberson | Kinney     | Uvalde    |
| Dimmit    | La Salle   | Val Verde |
| Duval     | Maverick   | Webb      |
| Edwards   | McMullen   | Willacy   |
| El Paso   | Pecos      | Zapata    |
| Frio      | Presidio   | Zavala    |
| Hidalgo   | Real       |           |

Border counties are the 32 counties as defined by the Office of Border Health, Texas Department of Health.

**Table 6. Urban or Metro Counties,\* Texas**

|          |           |            |              |            |
|----------|-----------|------------|--------------|------------|
| Archer   | Dallas    | Hays       | Nueces       | Victoria   |
| Bastrop  | Denton    | Henderson  | Orange       | Waller     |
| Bell     | Ector     | Hidalgo    | Parker       | Webb       |
| Bexar    | El Paso   | Hood       | Potter       | Wichita    |
| Bowie    | Ellis     | Hunt       | Randall      | Williamson |
| Brazoria | Fort Bend | Jefferson  | Rockwall     | Wilson     |
| Brazos   | Galveston | Johnson    | San Patricio |            |
| Caldwell | Grayson   | Kaufman    | Smith        |            |
| Cameron  | Gregg     | Liberty    | Tarrant      |            |
| Chambers | Guadalupe | Lubbock    | Taylor       |            |
| Collin   | Hardin    | McLennan   | Tom Green    |            |
| Comal    | Harris    | Midland    | Travis       |            |
| Coryell  | Harrison  | Montgomery | Upshur       |            |

Urban/rural designations by the U.S. Office of Management and Budget, 1993. \*Rural county designations are all other counties not listed here.

A recent study funded by the Centers for Disease Control and Prevention found that Hispanic women, particularly those who live in counties along the United States–Mexico Border, are less likely than non-Hispanic women to receive routine screenings for breast and cervical cancers. This report cited that lack of access to healthcare in the Border region and the need for culturally sensitive preventive healthcare may partly account for these low screening rates among Hispanic women.<sup>7</sup>

Another Centers for Disease Control and Prevention study found that women living in rural areas are also less likely than women living in urban areas to have had a recent mammogram or Pap test. Women in rural areas of the United States have been found to have higher rates of cancer and late stage disease than women in non-rural areas.<sup>8</sup> This report also cited lack of access to healthcare, inadequate health insurance, as well as lower education and income levels in rural areas as accounting for the lower screening rates.

As mentioned in the previous section, the 2002 Texas BRFSS Program survey confirmed that in Texas as in the CDC studies, a lower proportion of women who live along the Texas–Mexico Border or who live in the rural portions of the state reported having had a Pap test within the last three years compared to women who live in other regions of the state.

## Cervical Cancer Along the Texas-Mexico Border

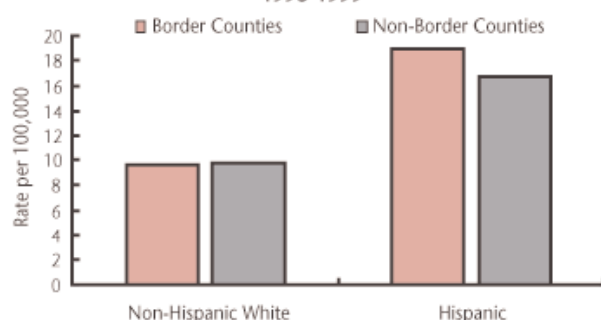
From 1995–1999, Non-Hispanic whites in the Texas-Mexico Border counties experienced very similar incidence rates when compared to non-Border non-Hispanic whites (9.7 and 9.9 per 100,000, respectively) (Figure 9). However, Hispanic women living along the Border experienced a higher cervical cancer incidence rate (19.0 per 100,000) than Hispanics living in non-Border counties (16.8 per 100,000).

From 1992–2001, cervical cancer mortality was slightly lower in non-Hispanic white women (2.6 per 100,000) along the Border compared to non-Hispanic whites in non-Border counties (2.8 per 100,000) (Figure 10). However, Border county Hispanic women had a 25 percent higher cervical cancer mortality rate (6.0 per 100,000) than non-Border Hispanics (4.8 per 100,000).

There were also differences between Border and non-Border women when comparing stage of disease at the time of diagnosis. Overall, 37.0 percent of women living along the Border were diagnosed at the early stage, compared with 52.0 percent of non-Border women (Figure 11). When examined by race/ethnicity, only 36.2 percent of Border Hispanic women were diagnosed at the early stage, compared to 50.9 percent of non-Border Hispanic women. Similar results occurred when comparing Border non-Hispanic white women (41.4%) to non-Hispanic white women residing in non-Border Texas counties (54.2%). Higher percentages of cervical cancer diagnosed at the late and unknown stages were also observed for Border women compared to non-Border women. However, some caution must be used when evaluating differences in cervical cancer stage at diagnosis due to the large number of cases with unknown stage in both Border and non-Border counties (21.2% and 15.5%, respectively).

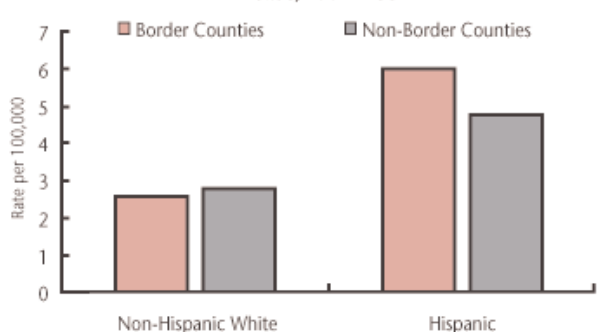
The Border counties revealed an extremely small population of African Americans, and thus very few cervical cancer cases or deaths. As a result, African American women living along the Texas–Mexico Border were not included in the Border county analyses.

Figure 9. Cervical Cancer Incidence Rates Compared by Texas-Mexico Border and Non-Border Counties, Texas, 1995-1999



Rates are average annual rates per 100,000, age-adjusted to the 2000 U.S. Standard Population. Border counties are the 32 Texas counties as defined by the Office of Border Health, Texas Department of Health.

Figure 10. Cervical Cancer Mortality Rates Compared by Texas-Mexico Border and Non-Border Counties, Texas, 1992-2001



Rates are average annual rates per 100,000, age-adjusted to the 2000 U.S. Standard Population. Border counties are the 32 counties as defined by the Office of Border Health, Texas Department of Health.

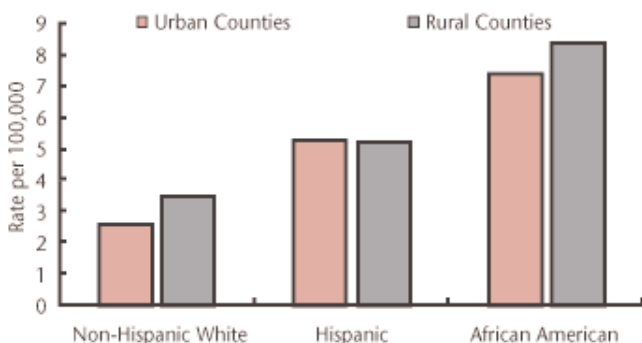
## Cervical Cancer in Urban and Rural Counties, 1995–1999

From 1995–1999, Hispanic women living in Texas urban and rural counties experienced similar cervical cancer incidence rates (17.7 per 100,000 and 17.6 per 100,000, respectively) (Figure 12). However, rural county non-Hispanic white females had a 32 percent higher cervical cancer incidence rate (12.4 per 100,000) than urban county females (9.4 per 100,000). For African Americans, the cervical cancer incidence rate in rural county females (22.8 per 100,000) was 45 percent higher than the cervical cancer incidence rate in urban county African American females (15.7 per 100,000).

From 1992–2001, rural county non-Hispanic whites had higher mortality rates (3.5 per 100,000) than urban county non-Hispanic whites (2.6 per 100,000) and rural county African American women also had a higher rate (8.4 per 100,000) compared to their urban counterparts (7.4 per 100,000) (Figure 13). Hispanics in rural and urban counties had similar cervical cancer mortality rates (5.2 per 100,000 and 5.3 per 100,000, respectively).

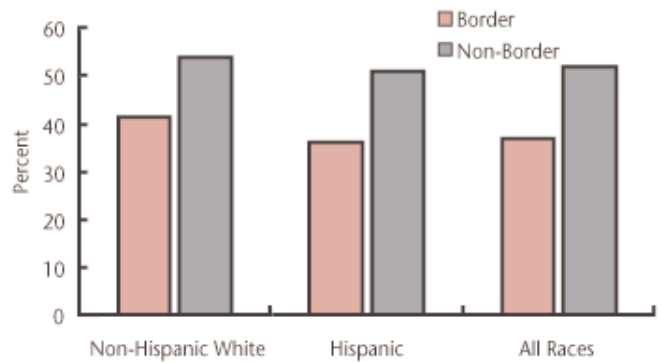
While there is little difference when comparing urban and rural women as a whole in regards to stage of disease at diagnosis, differences were observed when separate race/ethnic groups were examined. Non-Hispanic whites in rural areas had a lower percentage of cervical cancer diagnosed at the early stage (48.8%) than urban non-Hispanic whites (55.3%) (Figure 14). However, the opposite was true for Hispanics and African Americans. Hispanics had a higher percentage of cervical cancer diagnosed at the early stage in rural areas (50.4%) than urban (45.4%). For African Americans, 49.2 percent of cervical cancers were diagnosed at the early stage in rural areas as opposed to 43.2 percent in urban areas. However, caution also must be used when evaluating differences in cervical cancer stage at diagnosis due to the large number of cases with unknown stage in both rural and urban counties (17.6% and 15.8%, respectively).

Figure 13. Cervical Cancer Mortality Rates Compared by Urban and Rural Counties, Texas, 1992-2001



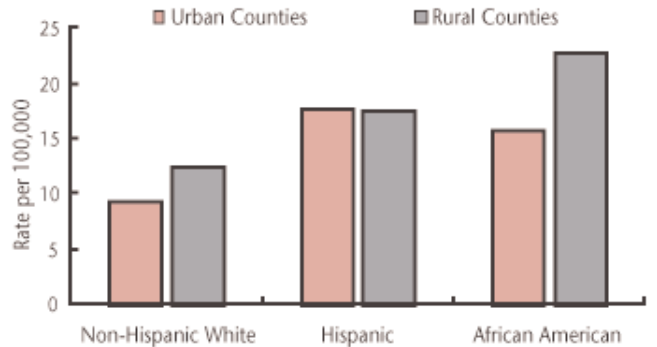
Rates are average annual rates per 100,000, age-adjusted to the 2000 U.S. Standard Population. Urban/rural designations by the U.S. Office of Management and Budget, 1993.

Figure 11. Percent Distribution of Early Cervical Cancer Stage at Diagnosis by Race/Ethnicity, Texas-Mexico Border and Non-Border Counties, Texas, 1995-1999



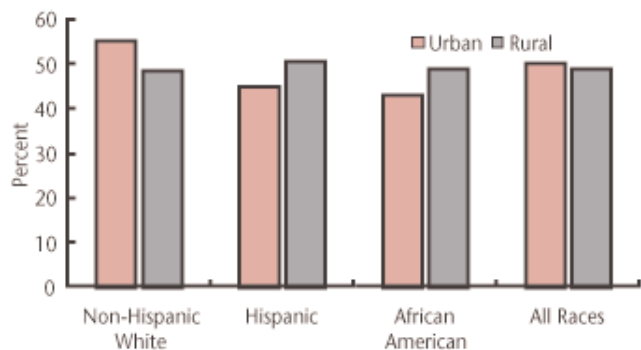
Note: Early excludes in situ cases. Late = regional and distant stages. Percent of localized cervical cancer cases within each race/ethnic group.

Figure 12. Cervical Cancer Incidence Rates Compared by Urban and Rural Counties Texas, 1995-1999



Rates are average annual rates per 100,000, age-adjusted to the 2000 U.S. Standard Population. Urban/rural designations by the U.S. Office of Management and Budget, 1993.

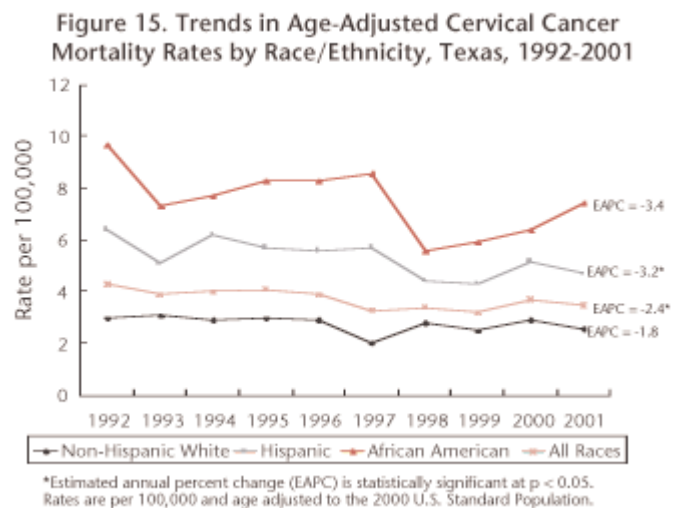
Figure 14. Percent Distribution of Early Cervical Cancer Stage at Diagnosis by Race/Ethnicity, Urban and Rural Counties, Texas, 1995-1999



Note: Early excludes in situ cases. Percent of localized cervical cancer cases within each race/ethnic group.

## Cervical Cancer Mortality Trends in Texas by Race/Ethnicity, 1992–2001

Figure 15 presents trends in cervical cancer mortality rates by race/ethnicity over the ten-year period of 1992–2001. Since 1992, cervical cancer mortality rates decreased for all race/ethnic groups, ranging from -1.8 percent per year for non-Hispanic whites to -3.4 percent per year for African Americans. However, no clear trend is apparent and only all races combined (-2.4%) and Hispanic females (-3.2%) were statistically significant. Mortality rates for African American women were still the highest for all years. This finding suggests that despite increased cervical cancer screening efforts not all women appear to be benefiting to the same extent.



## Risk Factors

While the causes of cervical cancer are not yet completely understood, researchers have identified several risk factors that are consistently associated with the disease. A risk factor is something that puts a person at an increased risk of developing the disease. Some risk factors can be controlled (smoking, diet), and some cannot (age, race). Through studies of women all over the world, researchers have identified the following risk factors for cervical cancer:<sup>9,10,11,12</sup>

**Human Papillomavirus (HPV):** Infection with HPV has been identified as the most important risk factor for cervical cancer. Some sexually transmitted HPVs may promote the growth of abnormal cells in the cervix.

**Human Immunodeficiency Virus (HIV):** Many studies have shown that women whose immune systems are weakened are more likely to develop cervical cancer.

**Sexual Activity:** Women who begin having sexual intercourse before the age of 18 are at an increased risk, as well as women who have had many sexual partners (or have sex with men who have had many partners). This is due in part to the increased risk of contracting a sexually transmitted virus, such as HPV or HIV.

**Smoking:** Tobacco smoke contains chemicals absorbed in the blood that may damage the cellular structure of the cervix and make cancer more likely to develop. Some studies have shown that women who smoke are about twice as likely as non-smokers to get cervical cancer. The risk appears to increase with how often a woman smokes and with the number of years she has smoked.

**Diet:** Poor nutrition has been identified as a risk factor. A poor diet weakens the immune system and increases the risk for infections and cancer. Diets low in fruits and vegetables have been associated with an increased risk of cervical cancer and several other cancers.

**Low Socioeconomic Status:** Low socioeconomic status is a risk factor for cervical cancer. Women with low incomes may not receive adequate health care, including pelvic exams and Pap tests. Proper nutrition may also be a factor.

**Age:** Cervical cancer differs from most cancers that tend to occur more often as people get older. While the average age for being diagnosed with cervical cancer is 50–55 years, young women in their teens and early twenties are often affected. It is important that women begin regular Pap tests no more than three years after they begin intercourse, and no later than 21 years of age. Appropriate screening should then be continued throughout life.

**Family History:** As with some other cancers, research has shown that women whose mother or sister has been diagnosed with cervical cancer are more likely to develop the disease themselves.

**Race/Ethnicity:** Cervical cancer occurs more often in Hispanics and African Americans than in non-Hispanic whites.

It is important to remember that having one of the above risk factors, or even several, does not mean that a person will get cervical cancer. Risk factors do, however, increase the chance of developing the disease. Rarely do women without any of the above risk factors develop cervical cancer.

In addition, it is important when considering these risk factors to focus on those that can be changed or avoided (such as smoking and sexual behaviors), rather than those that cannot (such as age and family history). However, understanding risk factors that cannot be changed is still important, as this can help determine appropriate cervical cancer screening for the individual.

## Summary

In summary, cervical cancer remains a serious threat to the lives of Texas women. Cervical cancer incidence and mortality vary by age, race/ethnicity, and geographic region. Texas Hispanic women experienced the highest cervical cancer incidence while Texas African American women experienced the highest cervical cancer mortality. Hispanic cervical cancer incidence was almost two times higher than non-Hispanic white females, while African American cervical cancer mortality was almost three times as high as non-Hispanic white females and 42 percent higher than Hispanic women. African American women 75 years of age and older had the highest cervical cancer incidence rates of all Texas women and experienced the highest rates of cervical cancer death in every age group. Hispanic and African American women also had a higher percentage of cases diagnosed at the late stage. This report indicates that Hispanic and especially African American women bare a disproportionate amount of the cervical cancer burden in Texas. Such differences in their cervical cancer experience from non-Hispanic whites suggest disparities in screening and early diagnosis, timely and appropriate treatment, culturally sensitive preventive health care, and possibly even overall health.

Regional differences in cervical cancer incidence and mortality also occurred across the state. Hispanic women living along the Texas-Mexico Border had higher cervical cancer incidence and mortality than Hispanic women who lived in non-Border counties. More Hispanic and non-Hispanic white Border women were also diagnosed at a late stage of disease compared to their non-Border counterparts. Non-Hispanic white and African American women who lived in rural counties experienced higher cervical cancer incidence and mortality than urban Non-Hispanic whites and African Americans, and fewer rural women reported having had a pap screen in the last three years.

Although cervical cancer is considered one of the most preventable cancers, much work remains to reduce the impact of this disease on the residents of our State.

## Technical Notes

### Sources of Data

The Texas Cancer Registry (TCR) collects incident reports of neoplasms occurring among state residents, including certain benign tumors and borderline malignancies. The incidence rates in this report are for primary malignant neoplasms.

The TCR is a population-based reporting system. Texas hospitals and cancer treatment centers are the primary sources of case reporting. Additionally, information is sought for Texas residents who are diagnosed and treated at facilities outside of Texas. The incidence data used in this report are primarily abstracted from medical records and pathology reports.

The completeness of the 1995–1999 data was evaluated by applying California's age, sex, and race/ethnic-specific cancer incidence rates to the Texas population in order to generate expected numbers of cases. California rates were used because of more complete California Cancer Registry case ascertainment and similarity between Texas and California populations. Based on these calculations, the 1995–1999 data presented here are estimated to be 100 percent complete. The incidence file used was extracted on March 5, 2003.

Cancer mortality data were extracted from electronic files provided by the Texas Department of Health, Bureau of Vital Statistics. These files contained demographic and cause of death information for all deaths occurring among Texas residents.

## Confidentiality

Maintaining the confidentiality of persons whose cancers are reported to the TCR is mandated by law and is the highest priority of the Registry in all aspects of operations. The data presented in this report are not intended to identify individuals who have been diagnosed with cancer.

## Primary Site Codes

Primary site and histologic type were coded for each cancer incident case using the International Classification of Diseases for Oncology (ICD-O, version 2).<sup>13</sup> The ICD-O codes corresponding to the cervical cancer site category in this report are C530–C539 (excluding morphologic types 9050: 9055, 9140, 9590: 9989).

For 1992–1998 cancer mortality data, the cervical site presented in this report corresponds to site grouping 180 for the 9th Revision of the International Classification of Diseases (ICD-9).<sup>14</sup> For 1999–2001 cancer mortality data, the cervical cancer site presented corresponds to site grouping C53 from the 10th Revision of the International Classification of Diseases (ICD-10).<sup>15</sup>

## Data Management

Data on incident cancers are reported to the Texas Cancer Registry in accordance with the Texas Cancer Incidence Reporting Act (Chapter 82, Health and Safety Code). Standard data items are requested on the Confidential Cancer Incidence Reporting Form or in electronic format. These data are entered into a cancer incident database after being checked for completeness and quality. Multiple reports for the same individual are consolidated to assure the most complete and correct information possible.

## Race and Ethnicity of Cancer Cases

The race/ethnic groups used in this report for incidence data include the following mutually exclusive categories: non-Hispanic white, African American, and Hispanic. The Hispanic designation can therefore be of any race, but from 1995–1999, 98.9 percent of cancers in Hispanics were of the white race. The race and ethnicity of each cancer patient was taken from the medical records and classified according to the categories defined in the North American Association of Central Cancer Registries (NAACCR) coding manual.<sup>16</sup>

The race/ethnic groups used in this report for 1992–1998 mortality data include the following mutually exclusive categories: non-Hispanic white, African American, and Hispanic. However, for 1999–2001 mortality data, Hispanic African Americans are included with Hispanics, rather than with African Americans as in previous years of mortality data. From 1999–2001, 99.5 percent of cancer deaths in Hispanics were of the white race.

The classification of Hispanics is based on the death certificate's Hispanic origin question, which is answered by the informant. The informant may be next of kin, a friend, funeral director, attending physician, medical examiner, justice of the peace, or other source. This method is consistent with the classification schema used by other state programs.

Persons in race/ethnic subgroups other than non-Hispanic white, African American, or Hispanic (i.e., American Indians, Asians, etc.), as well persons of unknown race are not included in any of the race/ethnic-specific incidence and mortality rates, but are included in the total for all races. Persons of other race/ethnic subgroups and unknown race make up only 2.4 percent of the total number of cervical cancer cases from 1995–1999 and 1.6 percent of the total number of cervical cancer deaths from 1992–2001.

## Population Data

Estimates of the population used for the calculation of rates were obtained from the Texas Department of Health, Center for Health Statistics. For 1995–1999, the largest group is the non-Hispanic white population with 57.5 percent of the state population. Texas Hispanics comprise 28.4 percent of the total population, African Americans represent 11.6 percent of the total population, and there were 2.5 percent Other Races. For 1992–2001, these percentages changed slightly to non-Hispanic white (57.0%), Hispanic (28.6%), African American (11.6%), and Other Races (2.6%).

## Cancer Incidence Data Quality

Numerous quality assurance procedures are applied to the data based on the SEER Program procedures and NAACCR standards. The quality control procedures include both internal and external processes to insure the reliability, completeness, consistency, and comparability of TCR data. The internal process included a review of the hard copy abstract for multiple primaries, duplicate records, and valid codes for all fields.

Both hard copy and computerized data were scrutinized for identification of: 1) possible duplicates of existing records, 2) unacceptable codes for any field, or inter-field inconsistencies, and 3) invalid or unusual site/sex, age/site, age/morphology or site/morphology combinations. Inconsistencies in date of birth, race, ethnicity, sex, county of residence, date of diagnosis, site, and histologic type were rectified. Multiple primaries for an individual were identified among the various reports during the editing process. Information on the same primary from duplicate reports was consolidated and checked for consistency and legitimate codes.

External procedures included hospital training, on-site case-finding studies, re-abstracting studies, and death clearance. Cancer death certificate files were matched against reported incident cases for an additional check of reporting completeness.

To identify any cancer cases not reported to the TCR, information on all death certificates with the underlying cause of death due to malignant neoplasm was obtained from the Bureau of Vital Statistics, Texas Department of Health. Institutions listed on the death certificates as place of death were queried for additional cancer case information. Missed cases not identified from any institution were added to the cancer database. Cases for which the only available information is the death certificate, classified as "death certificate only" cases, were included in this report. The date of death was considered to be the date of diagnosis for these cases. From 1995–1999, 1.9 percent of cervical cancer cases were death certificate only cases.

The percentage of cases microscopically confirmed measures the quality of the diagnostic information on which the assignment of primary site is based. A case is microscopically confirmed if the diagnosis is based on autopsy, histology, cytology, or hematology findings. Of the total 1995–1999 cervical cancer cases, 96.0 percent were microscopically confirmed.

**Table 7. United States  
2000 Standard Million Population by Age**

| Age      | Population |
|----------|------------|
| All Ages | 1,000,000  |
| 00-04    | 69,135     |
| 05-09    | 72,533     |
| 10-14    | 73,032     |
| 15-19    | 72,169     |
| 20-24    | 66,476     |
| 25-29    | 64,529     |
| 30-34    | 71,044     |
| 35-39    | 80,762     |
| 40-44    | 81,851     |
| 45-49    | 72,118     |
| 50-54    | 62,716     |
| 55-59    | 48,454     |
| 60-64    | 38,793     |
| 65-69    | 34,264     |
| 70-74    | 31,773     |
| 75-79    | 26,999     |
| 80-84    | 17,842     |

Source: U.S. Bureau of the Census, Census of Population, 2000.

site groups recognized by the SEER program. Information regarding availability and use of this software can be found on the SEER web site: <http://www-seer.ims.nci.nih.gov/-scientificsystems>.

### Trend Analysis

The Estimated Annual Percent Change (EAPC) represents the average percent increase or decrease in cancer rates per year over a specified period of time. The EAPC is calculated by fitting a linear regression to the natural logarithm of the annual rates, using calendar year as a predictor variable (formula:  $\ln(r) = m(\text{year}) + b$ ). From the slope of the regression line,  $m$ , EAPC is calculated as:  $\text{EAPC} = 100 \times (e^m - 1)$ .

Testing the hypothesis that the EAPC is equal to zero is equivalent to testing the hypothesis that the slope of the line in the regression is equal to zero. Statistical significance was set at  $\alpha = 0.05$ , thus a trend in rates was considered statistically significant if there was less than a five percent chance that the difference was the result of random variation. The EAPC assumes that the cancer rate is changing at a constant rate over the interval examined.<sup>18</sup>

Asterisks indicate that the change is statistically significant at the  $p < 0.05$  level. Trends should be interpreted with caution because of the relatively short time period for which data are available.

### Data Analysis

In this report, average annual incidence and mortality rates were age-adjusted using the direct method. Age adjustment eliminates the effects of differences in the age structure between populations and allows direct comparison of incidence and mortality rates for these populations. Direct standardization weights the age-specific rates for a given sex, race/ethnicity or geographic area by the age distribution of the standard population. The 2000 United States standard million population was used as the standard for all calculations (Table 7).<sup>17</sup>

The incidence and mortality rates and frequencies used in this report were calculated using SEER\*Stat software (version 4.2). This software was developed by SEER to analyze population-based cancer registry data, and provides the age-adjusted incidence and mortality rates for the standard set of cancer sites and



## References

1. What is Cervical Cancer? American Cancer Society. Retrieved June 3, 2003 from the World Wide Web. [http://www.cancer.org/docroot/CRI/content/CRI\\_2\\_4\\_1X\\_What\\_is\\_cervical\\_cancer\\_8.asp?sitearea](http://www.cancer.org/docroot/CRI/content/CRI_2_4_1X_What_is_cervical_cancer_8.asp?sitearea)
2. Kwong SL, Perkins CI, Morris CR, Cohen R, Allen M, Wright WE. Cancer in California: 1988–1999. Sacramento, CA: California Department of Health Services, Cancer Surveillance Section, December 2001.
3. Ries, LAG, Eisner MP, Kosary CL, Hankey BF, Miller BA, Clegg L, Mariotto A, Fay MP, Feuer EJ, Edwards BK (eds). SEER Cancer Statistics Review, 1975–2000, National Cancer Institute. Bethesda, MD, [http://seer.cancer.gov/csr/1975\\_2000](http://seer.cancer.gov/csr/1975_2000), 2003.
4. Surveillance, Epidemiology, and End Results (SEER) Program ([www.seer.cancer.gov](http://www.seer.cancer.gov)) Public-Use Data (1973–2000), National Cancer Institute, DCCPS, Surveillance Research Program, Cancer Statistics Branch, released April 2003, based on the November 2002 submission.
5. Invasive cervical cancer among Hispanic and non-Hispanic women—United States, 1992–1999. *MMWR*. 2002; 51(47): 1067–70.
6. Texas Behavioral Risk Factor Surveillance System Survey, 2002. Prepared by: Community Assessment Team, Center for Health Statistics, Texas Department of Health.
7. Coughlin SS, Uhler RJ, Richards T, and Wilson KM. Breast and cervical cancer screening practices among Hispanic and non-Hispanic women residing near the United States-Mexico border, 1999–2000. *Family and Community Health*. 2003; 26(i2): 130–139.
8. Coughlin SS, Thompson TD, Hall HI, Logan P, and Uhler RJ. Breast and cervical carcinoma screening practices among women in rural and nonrural areas of the United States, 1998–1999. *Cancer*. 2002; 94(11): 2801–2812.
9. What are the Risk Factors for Cervical Cancer? American Cancer Society. Retrieved June 3, 2003 from the World Wide Web. [http://www.cancer.org/docroot/CRI/content/CRI\\_2\\_4\\_2X\\_What\\_are\\_the\\_risk\\_factors\\_for\\_cervical\\_cancer\\_8.asp?sitearea=&level=](http://www.cancer.org/docroot/CRI/content/CRI_2_4_2X_What_are_the_risk_factors_for_cervical_cancer_8.asp?sitearea=&level=)
10. Schiffman M, Brinton LA, Devesa SS, Fraumeni JF. Cervical Cancer In: Schottenfeld D and Fraumeni JF (eds). *Cancer Epidemiology and Prevention (Second Edition)*; New York: Oxford University Press, 1996:1090–1116.
11. Introduction to Cervical Cancer. Cancer Life Center. Retrieved July 30, 2003 from the World Wide Web. <http://oncli.com/engine.cfm?domain=cancerlifecenter.com>
12. Cervical Cancer Genetic Causes. National Cancer Institute. Retrieved July 30, 2003 from the World Wide Web. <http://www.nci.nih.gov/cancerinfo/prevention-genetics-causes/cervical>
13. Percy C, Van Holten V, and Muir C (eds). *International Classification of Disease for Oncology, Second Edition*. Geneva: World Health Organization, 1990.
14. World Health Organization. *Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death. Ninth Revision, vol. 1*. Geneva: WHO, 1977.
15. World Health Organization. *Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death. Tenth Revision, vol. 1*. Geneva: WHO, 1992.
16. Seiffert JE (ed). NAACR (North American Association of Central Cancer Registries, March 20, 1998. (*Standards for Cancer Registries, vol. 2*).

17. Anderson, Robert N., Harry M. Rosenberg. Age Standardization of Death Rates: Implementation of the Year 2000 Standard. *National Vital Statistics Reports*, v. 47, no. 3, October 7, 1998 (USDHHS, CDC, NCHS).
18. Rothman KJ. *Modern Epidemiology*. Boston, MA: Little, Brown, and Company, 1986:144-145.

# IV. Talk Back Against Cancer Surveys

## IV. Talk Back Against Cancer Surveys

For complete data see pages 58-59

Since 1995, the Chronic Disease Prevention and Control Research Center at Baylor College of Medicine has conducted Talk Back Against Cancer surveys to examine the changing practices, attitudes, and oncology education needs of physicians in Texas. These surveys are funded by the Texas Cancer Council through the Texas Medical Association's Physician Oncology Education Program (POEP). The program provides not only current data but also longitudinal comparison of physician knowledge, attitudes, and practices over time by sampling from among all physicians in the state.

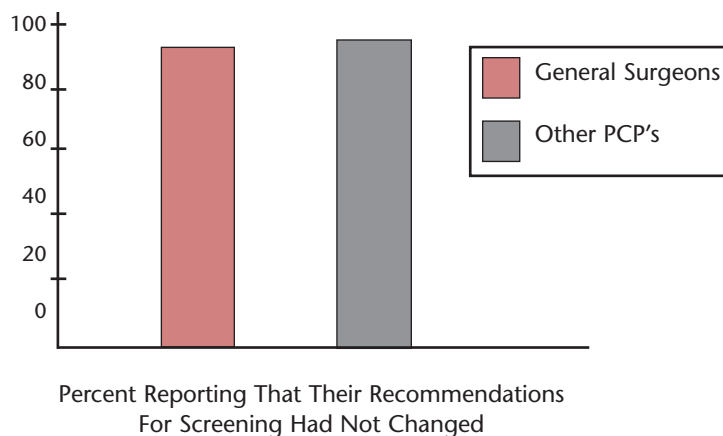
The project employs a series of single focus, point-in-time surveys and follow-up, longitudinal surveys. Each point-in-time survey is mailed to a random sample of physicians. Each follow-up, longitudinal survey of previous respondents is sent to a new independent sample of physicians for cross validation of results. The POEP uses the survey results to guide the development of educational materials and programs. In addition, these results are shared with policy makers and directors of continuing medical education programs across the state.

### 2003 Breast Cancer Talkback Survey Results

Review of data from a breast cancer screening survey in 2003 revealed few statistically significant longitudinal changes in physician attitudes and practices from those previously reported over the life of this project. However, comparison of the attitudes and practices reported by primary care physicians with those reported by specialists in either breast or cervical cancer revealed greater differences than those observed over time.

In response to a 1997 survey, primary care physicians had ranked patient's family history, age and medical history as the three most important factors determining recommendations for routine mammography screening of asymptomatic female patients. Data collected in 1995, 1996, and 2003 indicated that the majority of primary care physicians follow more the aggressive guidelines for baseline and age specific mammography screening and clinical breast examination recommended by the American Cancer Society and others. In 2003, 9 out of 10 respondents reported that their practice had not been affected by recent controversies over the value of mammography screening. Only 1 out of 2 indicated that they were aware of the 2002 changes in the U.S. Preventive Services Task Force recommendations.

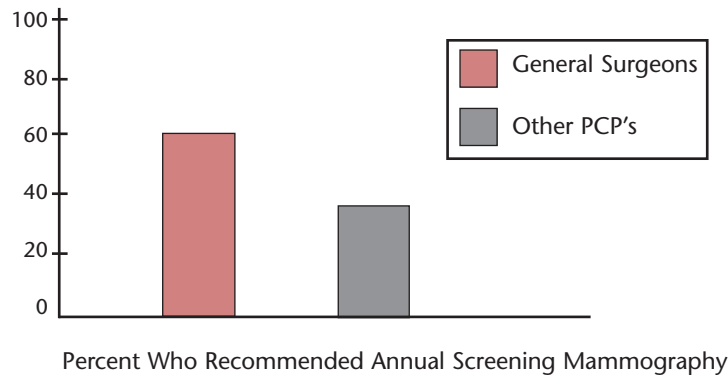
Table 1. 2003 Survey Question: Over the past two years the media has questioned the value of screening mammography as a result of a paper published in the Lancet. How has your practice been affected? *No significant difference between groups found.*



Almost all of the physicians surveyed in 2003 indicated that they recommend breast self-examination and clinical examination when mammography is performed. However, the majority felt that mammography was more effective than either breast self-examination or clinical examination in early detection of breast cancer. Nine out of ten respondents indicated that they make different screening recommendations for patients at increased risk for breast cancer based upon strong family history, genetic mutation, history of lobular carcinoma *in situ* or prior history of chest wall radiation. The most important barriers to their patients following through with mammography screening were cost, lack of insurance, pain of mammography and fear of cancer diagnosis.

The 2003 data discovered significant differences between attitudes and practices reported by general surgeons versus primary care specialists (i.e., family practice, general practice, internal medicine, obstetrics, gynecology specialists). While 59 percent of the general surgeons recommended annual mammograms for women ages 40-49, only 42 percent of other primary care specialists recommended annual mammography screening for the same patient group. Data revealed that general surgeons were less concerned than other primary care physicians about radiation risk associated with mammography screening and about the barriers to patient compliance posed by pain of mammography, embarrassment and socio-cultural issues.

Table 2. 2003 Survey Question: What frequency of routine screening mammography do you recommend for women ages 40-49? *Significant difference between groups found. (p = .019)*



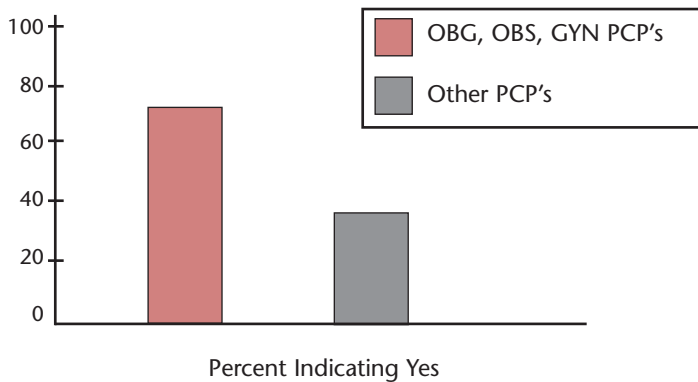
In 1996 and 2001, genetic testing data for breast cancer susceptibility discovered longitudinal changes in both attitudes and practices reported by primary care physicians. In 2001, fewer respondents indicated that they had no need for genetics services for cancer genetic evaluation while more respondents indicated they had discussed genetic screening for breast cancer risk with their patients and referred patients for genetic evaluation. Although cost of genetic testing was the most frequently cited barrier to using genetic testing for cancer susceptibility in both 1996 and 2001, cost was reported as a greater barrier to physician's use to genetic testing in 2001. Other barriers to adopting greater use of genetic testing noted by the majority of respondents in both 1996 and 2001 included limited availability of testing, lack of guidelines for patients with positive results, and concern about the impact of testing on patients' insurability. More than 6 out of 10 respondents in both years indicated that they would like to see more continuing education programs and materials on genetic testing for breast cancer susceptibility.

### 2002 Cervical Cancer Talkback Survey Results

The 2002 Talk Back Against Cancer survey data on cervical cancer screening issues compared information provided by obstetrics and gynecology specialists with information provided by other primary care specialists (i.e. family practice, general practice, internal medicine, and general surgery). Earlier survey results from 1997 found that primary care physicians ranked patients' medical history, age and family history as the three most crucial factors influencing their recommendations for routine cervical cancer screening (i.e. pelvic exam, pap smear). While the majority of physicians in both specialty groups recommended Pap smear screening for all women age 18-79, all women post hysterectomy for dysplasia, and all women with a previous abnormal Pap smear, their recommendations for all women age 80 and beyond differed significantly. Seventy-five percent of the obstetrics and gynecology specialists recommended screening for these older women as opposed to only 39 percent of other primary care specialists.

While no physicians in the obstetrics and gynecology specialists sample reported that they refer patients to other specialists for Pap smear screening, only 72 percent of physicians in the other primary care specialty sample reported that they do their own screening. The majority of primary care physicians in both specialty groups agreed that the greatest barrier to Pap smear screening for the physician was non-compliance by the patient. Close to half of the physicians in both groups reported that cost to the patient, criteria determined by insurance carriers, and lack of understanding of the purpose of the test by the patient were also barriers to Pap smear screening for the physician. When asked about barriers to Pap smear screening for the patient most respondents cited these same factors. One out of two physicians in both specialty groups cited socio-cultural issues and fear of diagnosis as additional barriers

Table 3. 2002 Survey Question: Do you consider all women age 80 and beyond appropriate for Pap smear screening? *Significant difference between groups found. (p = .000)*

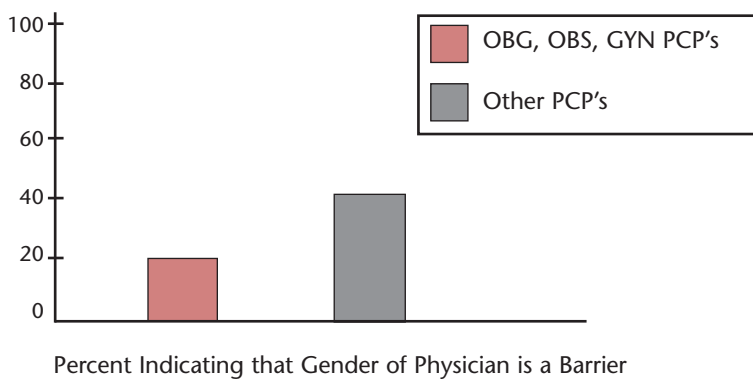


referred for colposcopy. While 43 percent of respondents in the other primary care specialist sample indicated a need for additional training in the management of abnormal Pap smears, only 13 percent of obstetrics and gynecology specialists expressed such a need.

### Implications of Breast and Cervical Cancer Data

While respondents to both surveys reported strong support for aggressive breast and cervical cancer screening, their high level of concern over reimbursement issues coincides with some current Medicare and managed care realities. For example, Medicare will not pay for annual screening Pap smears in patients. The patient must be complaining of a specific symptom for this to be reimbursed. In post-menopausal patients, primary care physicians frequently provide care for co-morbid conditions (HTN, diabetes, etc). The reimbursement for an "added on" Pap smear is less than that for a separate well woman exam. Disparities between the screening services and care provided to a woman who visits a specialist in either breast or cervical cancer verses a less specialized primary care provider can result for other reasons as well. For example, colposcopy can be performed in a cost-effective manner only in a clinic with a high volume of patients requiring this service. Such screening resources will never be available in all clinics. Population groups at higher risk of breast or cervical cancer who have easy access to only general primary care clinics settings are at a particular disadvantage.

Table 4. 2002 Survey Question: What do you perceive are the barriers to Pap smear screening for the patient? *Significant difference between groups found. (p = .003)*



While some of the disparities in physician practices and attitudes between various primary care specialties identified by these surveys can only be addressed through changes in reimbursement policies, others are amenable to focused continuing medical education (CME) and patient education efforts. These educational efforts should address not only changes in medical science but socio-cultural and psychosocial barriers to patient compliance as well.

for the patient. While only 22 percent of physicians in the obstetrics and gynecology specialist sample cited the physician's gender as a barrier for the patient, 45 percent of physicians in the other primary care specialist sample reported that this was a barrier for the patient.

While 99 percent of respondents in the obstetrics and gynecology specialist sample reported that they manage their own abnormal Pap smears, only 33 percent of respondents in the other primary care specialist sample reported doing so. Of physicians who manage their own abnormal Pap smears, 99 percent of obstetrics and gynecology specialists reported managing those indicating high-grade squamous intraepithelial neoplasia (HGSIL) with colposcopy done in their office while 88 percent of other primary care specialists reported that they

While 99 percent of respondents in the obstetrics and gynecology specialist sample reported that they manage their own abnormal Pap smears, only 33 percent of respondents in the other primary care specialist sample reported doing so. Of physicians who manage their own abnormal Pap smears, 99 percent of obstetrics and gynecology specialists reported managing those indicating high-grade squamous intraepithelial neoplasia (HGSIL) with colposcopy done in their office while 88 percent of other primary care specialists reported that they

## TMA/POEP TalkBack Survey 19 Results (Breast Cancer Screening Issues)



This survey was mailed to two samples of 350 Texas physicians. One sample was randomly selected from general surgeons and surgical oncologists involved in direct patient care. The other sample was selected from other primary care specialists (GP, FP, IM, GYN, OBG) involved in direct patient care. The survey was conducted during the spring of 2003.

Twenty percent of the surgeon sample and seventeen percent of the other primary care specialty sample responded. The difference in the response rates for the two samples was not significant. Results for each sample are reported separately for comparison with the numbers for the surgeon sample enclosed in parentheses. Where differences between the two samples were significant (i.e.  $p < .05$ ) the  $p$  values are reported in italics.

- Over the past 2 years the media has questioned the value of screening mammography as a result of a paper published in the *Lancet*. How has your practice been affected? (check all that apply)
  - 0% ( 2%) I am less likely to recommend mammography screening
  - 93% (89%) My recommendations for screening have not changed
  - 5% (11%) My patients have had many questions regarding this controversy
  - 42% (39%) My patients are generally unaware of the controversy and accept mammography screening
  - 5% ( 5%) I find the continued controversy over mammography screening confusing
  - 0% ( 2%) I am recommending screening breast ultrasound instead of mammography
  - 5% ( 2%) I am unaware of any new controversies in mammography screening
- Are you aware of the changes in the U.S. Preventive Services Task Force recommendations for breast screening announced in the spring of 2002?
  - 51% (48%) Yes
  - 49% (52%) No
- What frequency of routine screening mammography do you recommend for women ages 40-49? ( $p = .019$ )
  - 0% ( 0%) None
  - 42% (59%) Annual
  - 28% (22%) Every 2 years
  - 28% (11%) Every 1-2
  - 2% ( 9%) Other
- What frequency of routine screening mammography do you recommend for women ages 50 years and older?
  - 0% ( 0%) None
  - 93% (94%) Annual
  - 4% ( 3%) Every 2 years
  - 4% ( 2%) Every 1-2 years
  - 0% ( 2%) Other
- Do you discontinue mammography screening among women 70 years and older?
  - 7% ( 5%) Yes
  - 11% (15%) Yes, but only if the patient's life expectancy is less than 5 years
  - 65% (71%) No, continue same practice after age 70
  - 18% ( 9%) No, but interval increased to 2-3 years
- Do you recommend breast self-examination as part of breast screening?
  - 95% (97%) Yes
  - 5% ( 3%) No
- Do you recommend clinical examination as part of breast screening if mammography is regularly performed?
  - 98% (97%) Yes
  - 2% ( 0%) No
  - 0% ( 3%) Only if the patient refuses mammography screening
- Of the three elements of breast screening (clinical exam, breast self-exam and mammography), which do you think is most effective in early detection of breast cancer?
  - 20% ( 5%) Breast self exam (BSE)
  - 2% ( 5%) Clinical breast exam (CBE)
  - 65% (75%) Mammography
  - 13% (15%) They are equal in effectiveness
- Do you make different screening recommendations for patients at increased risk for breast cancer based on strong family history, known genetic mutation, history of lobular carcinoma in situ or prior history of chest wall radiation?
  - 15% (10%) No, would follow standard guidelines
  - 51% (50%) Yes, would institute annual mammography screening and CBE at age 25-30 years
  - 2% ( 2%) Yes, would perform breast MRI instead of mammography in women at increased risk under the age of 40
  - 9% (20%) Yes, would perform screening breast ultrasound instead of mammography in women at increased risk under the age of 40
  - 23% (18%) Yes, would refer patient to a comprehensive breast center for formal risk assessment and screening
- Do you have concerns about the risk associated with mammography screening? (Rate each item on a scale of 1 to 5 where 1 indicates lowest risk and 5 indicates highest risk.)
  - $x = 2.42$  (2.18) False positives resulting in biopsy
  - $x = 1.75$  (1.26) Radiation risk ( $p = .001$ )
  - $x = 2.07$  (1.91) Over diagnosis and over treatment of ductal carcinoma in situ
  - $x = 2.93$  (2.67) False negatives
- What do you consider barriers to your patient following through with mammography screening (check all that apply)
  - 65% (62%) Cost
  - 58% (68%) Lack of insurance
  - 14% ( 8%) Mistrust of mammography based on adverse lay media
  - 14% (11%) Lack of convenient mammography facility
  - 72% (49%) Pain of mammography ( $p = .007$ )
  - 23% (30%) Lack of understanding of rationale for test
  - 35% (29%) Underestimation of personal risk among older women
  - 21% ( 8%) Embarrassment ( $p = .028$ )
  - 33% (18%) Socio-cultural issues ( $p = .043$ )
  - 25% (21%) Lack of time
  - 60% (50%) Fear of cancer diagnosis

# TMA/POEP Survey 17 Results



Survey 17 was mailed to two randomly selected samples in March, 2002. The samples consisted of 350 obstetrics and gynecology specialists (OBG, OBS, GYN) and 350 primary care specialists from other primary care specialties whose practices usually includes women (FP, GP, IM, GS). Sixteen physicians who either could not be reached by mail, did not see women in a primary care practice, or had retired were dropped from the samples. Physicians in the obstetrics and gynecology sample responded in significantly greater numbers (29%) than did physicians in the other primary care specialty sample (17%) ( $p=0.00$ ).

[ ] = obstetrics and gynecology sample percentages or mean percentages  
( ) = other primary care specialty sample percentages or mean percentages  
(p values are included were the differences between the groups were significant)

- 1. Do you see women in your practice?**  
[100] (58) % of my patients are women ( $p=0.000$ )
- 2. Who do you consider appropriate for Pap smear screening? (check all that apply)**  
[37] (30) only women who are sexually active  
[99] (86) all women age 18-39 ( $p=0.001$ )  
[94] (91) all women age 40-49  
[94] (91) all women 50-64  
[91] (83) all women age 65-79  
[75] (39) all women age 80 and beyond ( $p=0.000$ )  
[92] (67) all women post hysterectomy for dysplasia ( $p=0.000$ )  
[92] (81) all women with a previous abnormal Pap ( $p=0.035$ )
- 3. Do you screen or refer those patients you consider appropriate for Pap smear screening? ( $p=0.000$ )**  
[ 0] ( 2) I see no patients appropriate for screening  
[99] (72) I screen  
[ 0] (22) I refer women to: [ 0] ( 8) nurse practitioners  
[ 0] (83) OB/GYN  
[ 0] ( 8) other  
[ 1] ( 3) I neither screen nor refer
- 4. What do you perceive are the barriers to Pap smear screening for the physician? (check all that apply)**  
[40] (47) cost to the patient  
[51] (40) criteria determined by insurance carrier  
[15] (26) patient's age  
[29] (35) socio-cultural issues  
[10] (21) gender of physician  
[42] (38) lack of understanding of the purpose of test by the patient  
[ 7] (31) no patient request for screening ( $p=0.000$ )  
[70] (66) non-compliance by the patient  
[ 8] ( 0) lack of adequate training in procedure ( $p=0.027$ )  
[13] (28) lack of adequate reimbursement to the physician ( $p=0.022$ )  
[ 3] ( 7) other
- 5. What do you perceive are the barriers to Pap smear screening for the patient? (check all that apply?)**  
[69] (69) cost to the patient  
[58] (35) criteria determined by insurance carrier ( $p=0.004$ )  
[22] (29) patient's age  
[49] (48) socio-cultural issues  
[22] (45) gender of physician ( $p=0.003$ )  
[73] (48) lack of understanding of the purpose of test by the patient ( $p=0.002$ )  
[31] (33) lack of physician recommendation for screening  
[50] (55) fear of diagnosis  
[ 4] ( 7) other
- 6. Do you manage your own abnormal Pap smears? ( $p=0.000$ )**  
[ 1] (67) no, I refer all to: [ 0] ( 0) nurse practitioners  
[ 0] (92) OB/GYN  
[100] ( 8) other  
[99] (33) yes, I manage the following types of abnormal Pap smear:
  - atypical squamous cells of undetermined significance (ASCUS) ( $p=0.019$ )  
[100] (94) yes, I manage ASCUS  
[ 0] ( 6) no, I refer ASCUS to: [ 0] ( 0) nurse practitioners  
[ 0] (100) OB/GYN  
[ 0] ( 0) other
  - low grade squamous intraepithelial lesion (LGSIL) ( $p=0.000$ )  
[100] (16) yes, I manage LGSIL  
[ 0] (84) no, I refer LGSIL to: [ 0] ( 0) nurse practitioners  
[ 0] (100) OB/GYN  
[ 0] ( 0) other
  - high grade squamous intraepithelial neoplasia (HGSIL) ( $p=0.000$ )  
[99] ( 5) yes, I manage HGSIL  
[ 1] (95) no, I refer HGSIL to: [ 0] ( 0) nurse practitioners  
[100] (100) OB/GYN  
[ 0] ( 0) other
- 7. If you do manage your own abnormal Pap smears how do you manage those indicating high-grade squamous intraepithelial neoplasia (HGSIL)? (check all that apply)**  
[ 0] ( 0) repeat Pap smear in one year  
[ 0] ( 0) repeat Pap smear in 6 months  
[ 7] (13) repeat Pap smear in 3 months  
[99] (13) colposcopy done in my office ( $p=0.000$ )  
[ 1] (88) refer for colposcopy ( $p=0.000$ )  
[ 2] ( 0) offer patient hysterectomy if done with childbearing  
[ 1] (88) I do not manage Pap smears indicating HGSIL ( $p=0.000$ )
- 8. In which of the following areas do you feel the need for additional training? (check all that apply)**  
[ 7] ( 9) procedures for conducting Pap smear screening  
[13] (43) management of abnormal Pap smears ( $p=0.000$ )  
[14] (23) the Bethesda 2001 system  
[13] (18) socio-cultural issues with Pap smear screening  
[ 3] ( 2) other
- 9. Approximately what percentage of your patients comes from each of the following groups?**  
[51] (49) % Whites [16] (14) % African Americans  
[29] (33) % Hispanics [ 4] ( 4) % Asians  
[<1] (<1) % Native Hawaiians and other Pacific Islanders  
[<1] (<1) % American Indians and Alaska Native



# V. 1998 Estimated Breast Cancer Costs in Texas

# V. 1998 Estimated Breast Cancer Costs in Texas

|   |                 |
|---|-----------------|
| Hospitalizations and Facility Costs             | \$91.3 million  |
| Inpatient physician services                    | \$19.7 million  |
| Emergency Services                              | \$827,000       |
| Hospice care                                    | \$6.8 million   |
| Cancer Screening: Mammograms*                   | \$206.2 million |
| Total Direct Cost                               | \$325 million   |
| Estimated people disabled due to breast cancer: | 12,000          |
| Cost of lost productivity:                      | \$486 million   |

\*It was estimated that 1,945,139 women received mammograms at an average cost of \$106

| <b>Age Group</b>   | <b>Number of Deaths</b> | <b>Breast Cancer</b> |
|--|-------------------------|----------------------|
| 25-29  | 9                       | 9                    |
| 30-44  | 248                     | 248                  |
| 45-59  | 677                     | 677                  |
| 60-74  | 767                     | 767                  |
| 75+  | 786                     | 786                  |
| <b>Total</b>   |                         | <b>2,487</b>         |
| <b>Years of Life Lost</b>                                      |                         |                      |
| 0-14   | 0                       | 0                    |
| 15-29  | 500                     | 500                  |
| 30-44  | 10,300                  | 10,300               |
| 45-59  | 19,800                  | 19,800               |
| 60-74  | 13,200                  | 13,200               |
| 75+  | 4,800                   | 4,800                |
| <b>Total</b>   |                         | <b>45,800</b>        |
| <b>Costs of Lost Productivity Due to Mortality (x \$1,000)</b> |                         |                      |
| 0-14   | 0                       | 0                    |
| 15-29  | 7,855                   | 7,855                |
| 30-44  | 159,603                 | 159,603              |
| 45-59  | 215,355                 | 215,355              |
| 60-74  | 50,974                  | 50,974               |
| 75+  | 3,950                   | 3,950                |
| <b>Total</b>   |                         | <b>\$437,737</b>     |

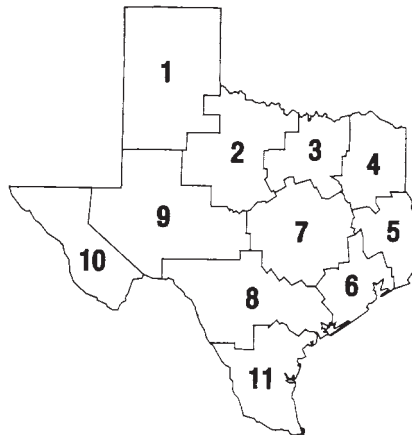
Summary of estimated Total Cost of Breast Cancer in Texas, 1998

|                      | <b>Direct Costs<br/>(x \$1,000)</b> | <b>Morbidity<br/>(x \$1,000)</b> | <b>Mortality<br/>(x \$1,000)</b> | <b>Total<br/>(x \$1,000)</b> |
|----------------------|-------------------------------------|----------------------------------|----------------------------------|------------------------------|
| <b>Breast Cancer</b> | \$324,855                           | \$486,444                        | \$437,737                        | \$1,249,036                  |

Costs by Region

Source: Texas Department of Health. Texas Comprehensive Cancer Control Program. The Economic Impact of Cancer in Texas. (TDH Publication No. 44-11140) Texas: 2001

| <b>PHR</b>       | <b>Deaths</b> | <b>Years of Life Lost</b> | <b>Costs</b> |
|------------------|---------------|---------------------------|--------------|
| <b>Region 1</b>  | 105           | 1,800                     | \$14,838,000 |
| <b>Region 2</b>  | 101           | 1,700                     | 13,046,000   |
| <b>Region 3</b>  | 582           | 11,700                    | 109,742,000  |
| <b>Region 4</b>  | 170           | 2,900                     | 3,780,000    |
| <b>Region 5</b>  | 107           | 2,000                     | 17,433,000   |
| <b>Region 6</b>  | 563           | 11,600                    | 108,132,000  |
| <b>Region 7</b>  | 257           | 5,100                     | 47,039,000   |
| <b>Region 8</b>  | 276           | 5,300                     | 48,120,000   |
| <b>Region 9</b>  | 91            | 1,700                     | 15,162,000   |
| <b>Region 10</b> | 85            | 1,600                     | 13,266,000   |
| <b>Region 11</b> | 150           | 3,000                     | 72,178,000   |



# VI. American Cancer Society Objectives

# VI. American Cancer Society Objectives

## **Nationwide Objectives by 2015:**

**Incidence Objective:** Reduce the incidence rate of breast cancer by 6-24% by 2015

**Mortality Objective:** Reduce the breast cancer mortality rate by 20-58% by 2015

**Mammography Screening Objective:** Increase to 80-90% the proportion of women aged 40 and older who follow American Cancer Society detection guidelines for breast cancer by 2008

## **Texas Division Outcomes for Breast Cancer Detection by 2005:**

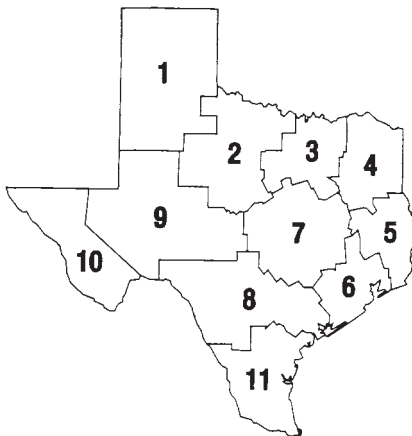
- Increase (to 75%) the number of women who have mammograms in accordance with ACS guidelines with emphasis on poor, underserved and older women.
- Increased and ready access to care for women who have positive breast cancer screening results.
- Increased number of health professionals who recommend breast cancer screening according to ACS guidelines.
- Improved data is available for screening rates, incidence, staging and mortality from the Texas Cancer Registry.
- Increased public and professional awareness of biologic risk factors, risk assessment and chemoprevention of breast cancer.
- Women and family members participate in informed decision making about breast cancer treatment.

# VII. Number of Texas Breast & Cervical Cancer Physician Specialists & Primary Care Physicians

# VII. Number of Texas Breast & Cervical Cancer Physician Specialists & Primary Care Physicians

by Public Health Region and Ratio to Female Population  
Aged Forty Plus

| PHR  | Gyne-<br>cologists<br>(GYN) | Obstetrics &<br>Gynecology<br>(OBG) | Therapeutic<br>Radiologists | Onco-<br>logists | Total<br>Number<br>Specialists | Female<br>Population<br>Age Forty+ | Ratio<br>Specialists<br>to PHR<br>Population<br>Forty+ | Total Number<br>Primary Care<br>Physicians<br>(FP, GP, IM) | Ratio Primary<br>Care Physicians<br>to PHR<br>Population<br>Forty+ |
|--|-----------------------------|-------------------------------------|-----------------------------|------------------|--------------------------------|------------------------------------|--|--|--|
| 1  | 2                           | 63                                  | 4                           | 23               | 92                             | 174,058                            | 1:1892   | <b>423</b>   | 1:411  |
| 2  | 2                           | 38                                  | 5                           | 9                | 54                             | 133,004                            | 1:2463   | <b>287</b>   | 1:463  |
| 3  | 45                          | 574                                 | 29                          | 124              | 772                            | 1,158,472                          | 1:1501   | <b>2539</b>  | 1:456  |
| 4  | 9                           | 86                                  | 4                           | 25               | 124                            | 254,704                            | 1:2054   | <b>521</b>   | 1:489  |
| 5  | 1                           | 48                                  | 3                           | 12               | 64                             | 178,827                            | 1:2794   | <b>350</b>   | 1:511  |
| 6  | 28                          | 471                                 | 44                          | 182              | 725                            | 1,015,917                          | 1:1401   | <b>2383</b>  | 1:426  |
| 7  | 12                          | 202                                 | 11                          | 51               | 276                            | 478,110                            | 1:1732   | <b>1139</b>  | 1:420  |
| 8  | 15                          | 182                                 | 16                          | 36               | 249                            | 488,508                            | 1:1962   | <b>1085</b>  | 1:450  |
| 9  | 4                           | 40                                  | 3                           | 9                | 56                             | 119,991                            | 1:2143   | <b>242</b>   | 1:496  |
| 10   | 2                           | 51                                  | 5                           | 12               | 70                             | 148,997                            | 1:2129   | <b>226</b>   | 1:659  |
| 11   | 4                           | 133                                 | 4                           | 24               | 165                            | 352,855                            | 1:2139   | <b>691</b>   | 1:511  |
| <b>State<br/>Total</b>   | <b>124</b>                  | <b>1888</b>                         | <b>128</b>                  | <b>507</b>       | <b>2647</b>                    | <b>4,503,443</b>                   | <b>1:1701</b>  | <b>9,886</b>   | <b>1:456</b>   |
| <b>Ratio to<br/>State<br/>Female<br/>Population<br/>Forty+</b> | <b>1:36,318</b>             | <b>1:2385</b>                       | <b>1:35,183</b>             | <b>1:8883</b>    | <b>1:1701</b>                  |                                    |  | <b>1:456</b>   |  |



Source: Texas Cancer Data Center, 2003 (Based on licensed Texas physicians in full time practice and direct patient care listed by the Texas State Board of Medical Examiners, May 2001 and population projections for 2003 by the Texas State Data Center, 2001.)



# TEXAS CANCER COUNCIL

James D. Dannenbaum, Chairperson

Donald C. Spencer, M.D., Vice Chairperson

F. Diane Barber, R.N., M.S., ANP-BC, AOCN

Karen Bonner

Audreyjane Castro

A. Clare Buie Chaney, Ph.D., L.P.C.

Carolyn D. Harvey, R.N., Ph.D.

Rubye H. Henderson, M.Ed.

Karen B. Heusinkveld, R.N., Dr.P.H.

Larry Herrera, M.D.

Sue Sandlin

Courtney M. Townsend, Jr., M.D.

J. Taylor Wharton, M.D.

Ex Officio Member:  
Chairman of Texas Board of Health's Designee  
Debra Stabeno

