Compassionate Care, Expertly Delivered

2018 Breast Cancer Report
Search for the Sweet Spot
Researchers aim to uncover how long women with certain breast cancers need to take medication after surgery.

When Does Chemo Help?
New study helps calculate the likely benefit of chemotherapy for some women with breast cancer.

When Cancer Fights Back
Investigational drug shows promise in combating breast cancer when other treatments fail.

Cancer Care Gets Personal
Researchers look for ways to target cancers that fight back after chemotherapy.

‘It Saved My Life’
UT Southwestern’s mobile mammography unit makes this important screening more convenient for women.

The Cancer/Cardiac Connection
Making sure people with cancer keep their hearts healthy.

Serving the Underserved
BSPAN program optimizes access to high-quality breast screening and patient navigation for women in rural, underserved regions across North Texas.
Serving Our Community

From prevention and outreach to research and treatment, discover the myriad ways we’re working to help in the fight against breast cancer.

Last year, 762 people with breast cancer, many diagnosed elsewhere, sought treatment from UT Southwestern and Simmons Comprehensive Cancer Center. An additional 171 patients with breast malignancies consulted our doctors in 2017 for second opinions.

About 18,000 women had screening mammography at our University Hospitals Breast Imaging Services located in Simmons clinics, at Moncrief Cancer Institute in Fort Worth, or in the UTSW or Moncrief mobile mammography units. We diagnosed breast cancer in about 100 of these women.

As North Texas’ only NCI-designated Comprehensive Cancer Center, Simmons Cancer Center’s mission to the community is manifold. We deploy highly specialized oncologists and staff, state-of-the-art technology, and vast experience to provide compassionate cancer care, expertly delivered – while striving to spare patients from treatments they don’t need. Also within our walls, scientists conduct bench-to-bedside research that is discovering and opening doors for new therapies.

Our mission includes vigorous outreach to promote cancer prevention and early detection services. This work is furthered by our innovative Breast Screening and Patient Navigation (BSPAN) program, which, in its most recent program year, provided services to more than 5,500 women, most under- or uninsured, in 35 rural counties. The program detected 73 invasive cancers, almost three-quarters of which were early-stage, plus more than 300 that were pre-invasive cancers.

This report, Breast Cancer 2018, features just a sampling of how Simmons Cancer Center serves the public. Highlights include:

- Insights on duration of trastuzumab therapy in HER2-positive cancers, and on which patients with hormone receptor-positive, HER2-negative tumors are most likely to benefit from chemotherapy (pages 6-7)
- Development of a novel drug for when current anti-estrogen treatments fail (page 10)
- Efforts to better understand PARP enzymes and the full range of patients whom PARP-targeted therapy, currently approved for patients with BRCA-positive breast cancer, might help (page 12)
- The story of a patient who credits our mobile mammography unit with saving her life (page 16)
- How a cardio-oncologist protects cancer patients’ health (page 22)
- BSPAN’s community-based delivery of mammography and diagnostic services (page 26)

While expertise and compassion are vital to our patient-centric mission, one additional element – our supreme commitment, to both patient care and scientific investigation – makes such Simmons success stories possible.

Carlos L. Arteaga, M.D.
Director
Harold C. Simmons Comprehensive Cancer Center

Referrals & Questions

Patients can be referred by a medical professional or may refer themselves to Harold C. Simmons Comprehensive Cancer Center’s Breast Cancer Program.

Making a referral is easy – just contact UT Southwestern Simmons Cancer Center’s Patient and Physician Referral Services.

We accept referrals both for patient care and second-opinion consultations. Call Patient and Physician Referral Services from 8 a.m. to 5 p.m. Monday through Friday at:

<table>
<thead>
<tr>
<th>City</th>
<th>Number</th>
</tr>
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<tbody>
<tr>
<td>Dallas</td>
<td>214-646-8300</td>
</tr>
<tr>
<td>Fort Worth</td>
<td>817-882-2700</td>
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Referrals can also be made online at: utswmed.org/physician-referrals.

Questions

General cancer-related questions – about topics including clinical trials, diagnosis, early detection, prevention, treatment, supportive care, and more – can be directed to the Simmons Cancer Center’s Cancer Answer Line.

Call the Answer Line from 8 a.m. to 5 p.m. Monday through Friday at:

1-888-980-6050

Questions also may be submitted via email at: canceranswerline@utsouthwestern.edu.
Mission
To ease the burden of cancer at UTSW Simmons’ catchment area through exceptional patient care, transdisciplinary research, discovery, community engagement and education, partnership, and collaboration.

Vision
To become one of the nation’s premier cancer centers we will extend the outstanding discovery capabilities at UT Southwestern and beyond to human cancers and develop innovative programs for cancer treatment and prevention and we will inspire and train the next generation of cancer scientists and clinicians.

Precepts
NCI-designated comprehensive cancer centers are the principal deliverers of medical advances to patients and families, and the chief educators of health care professionals and the public.

To become the exceptional destination in our catchment area for patients with a new diagnosis of cancer seeking first-time care.

Delivery of outstanding clinical cancer care requires a disease oriented multidisciplinary approach that includes access to innovative clinical trials.

Clinical trials provide cancer patients with access to the most promising cancer treatments, and a program offering access to innovative trials will attract patients.

A successful cancer care service line is dependent on a robust surgical volume that supports referral to medical and radiation oncologists.

Patients and third-party payers will increasingly rely on outcome measures and other quality data for selection of cancer care providers.

An outstanding cancer center must give attention to the full continuum of cancer care, including concerns relevant to survivors and those with life-ending illnesses.

Cancer prevention strategies that take advantage of our understanding of genetic and environmental risk factors will become increasingly important as we move from a reactive to a preemptive model for cancer care.

A prominent continuing medical education program that attracts both local and national participation will enhance patient referrals, enhance local and national recognition by peers, and help to disseminate accomplishments.

A top-tier cancer center inspires and trains the next generation of physicians, physician scientists, and nurses and thereby populates its own program with outstanding recruits and contributes to the growth of others.

The Simmons Cancer Center can be a magnet for development of biotechnology in the Dallas region.
Searching for the Sweet Spot

Researchers aim to uncover how long women with certain breast cancers need to take medication after surgery.

Some women with breast cancer are treated with a drug called trastuzumab (Herceptin) after their surgery. Trastuzumab blocks the function of the HER2 receptor and activates the immune system and is prescribed for women who have HER2 positive breast cancer.

This type of cancer typically grows faster and is more likely to spread than other types of breast cancer.

Researchers in the United States and throughout the world have raised the question of how long women should take trastuzumab to maximize its benefits and minimize its side effects, which can include heart problems.

The typical time frame is one year, and earlier studies didn’t find any benefit from stretching that time frame to two years. Now, a team of British researchers has found that a six-month course of treatment might be just as effective as a yearlong course at treating breast cancer, and might have a lower risk of cardiac complications.

PEACE OF MIND

Sometimes, women taking trastuzumab show worrisome signs of heart dysfunction, so they can’t continue taking the drug. In those cases, stopping the medication might be the best option.

Barbara Haley, M.D., who holds the Charles Cameron Sprague, M.D., Chair in Clinical Oncology at UT Southwestern’s Simmons Comprehensive Cancer Center, doesn’t recommend that other women cut their treatment regimens short. “I think that’s a little premature,” she says. “There are still questions. But it should offer some consolation to women who are unable to complete a year of therapy.” While the study shows that there’s a subset of women for whom the lesser therapy is equivalent, defining who needs more therapy is still unresolved.

“The standard of care here in the United States hasn’t changed based on the results of the British research,” says Dr. Haley. “Longer follow-up and a closer look at the data is needed. We need to determine which women benefit from the full 12 months of therapy. Like the British trial, there have been other previous studies of shorter duration Herceptin compared to 12 months of treatment, and those studies had negative results. The British study needs longer follow-up for disease-free and overall survival before practice guidelines change.”

The study, performed by the National Institutes of Health Research’s Cambridge Biomedical Research Centre, evaluated 4,088 patients at 152 sites in the United Kingdom. Eighty-five percent of them also had chemotherapy as part of their treatment.
Five years after treatment with trastuzumab, cancer-free survival rates were nearly identical – 89.4 percent in the six-month group compared to 89.8 percent in the 12-month group.

Only 4 percent of the women who had a six-month course of treatment with trastuzumab had heart-related issues and needed to stop treatment, compared to 8 percent in the 12-month group.

When Does Chemo Help?

New study helps calculate the likely benefit of chemotherapy for some women with breast cancer

For many women with breast cancer, chemotherapy is an effective, lifesaving treatment. But some women undergo chemotherapy “just in case” – the research hasn’t been clear on whether chemotherapy would benefit them or not. Thanks to a new study, that’s changing.

A genetic test, Oncotype Dx, has been around for years and is widely used in the United States. It helps predict the benefits of chemotherapy in a specific group of women – those who have hormone receptor-positive, HER2-negative, early-stage breast cancer. That might sound like a lot of conditions to meet, but the fact is that about half of breast cancer cases fall into this group.

The Oncotype Dx test takes genetic material from a patient’s cancer that was extracted when the primary tumor was removed and profiles a set of 16 malignant genes. After evaluating the genes, the test returns a score that indicates how likely the cancer is to recur somewhere else in the body and how likely chemotherapy is to be effective.

“Everybody’s cancer is different,” explains Barbara Haley, M.D., who holds the Charles Cameron Sprague, M.D., Chair in Clinical Oncology at UT Southwestern’s Simmons Comprehensive Cancer Center. The test returns scores in three ranges:

- 0 to 18 — low risk
- 18 to 31 — intermediate risk
- 31 to 100 — high risk

“Initially with the original Oncotype interpretation report, patients with scores from 31 up are given chemotherapy, and those below 18 are accepted as low risk and just treated hormonally. But the big question is that 18 to 31 subgroup. That’s a broad range,” says Dr. Haley, noting also that it led to questions regarding subsets of patients in that intermediate range who could obtain benefit form chemotherapy and how to identify them.

NARROWING THE GRAY AREA

A federally funded, phase three clinical trial called TAILORx (Trial Assigning Individualized Options for tReatment) targeted the group of women who fell into that intermediate-risk range to evaluate which of them might benefit from chemotherapy. It enrolled more than 10,000 women nationwide, including participants enrolled at UT Southwestern.

The study excluded women whose breast cancer had spread to the lymph nodes, and set up new ranges:

- 0 to 10 — low risk
- 11 to 25 — intermediate risk
- 26 to 100 — high risk

About two years ago it was clear that women with scores of 0 to 10 would not see benefits from chemotherapy and should receive hormonal treatment alone. Instead, “we were waiting a long time for results for women in the 11-to-25 group,” Dr. Haley says. “Now we know that for women in that subgroup, the benefit of chemotherapy is negligible.” For women who score above 25, chemotherapy might reduce the risk of recurrence.

The results mean that about 70 percent of women who fall into the intermediate-risk category might be able to be treated with hormone therapy alone and won’t receive additional benefits from chemotherapy.

AGE IS A FACTOR

The researchers analyzed the results further, separating out women age 50 and under and women over age 50. For those over 50, there were no changes to the results. For those 50 and under, however, there were some benefits to chemotherapy for those who scored 16 to 25. Women in this category can talk to their doctors about the benefits and risks of chemotherapy.

It’s important for people to remember that these results don’t apply to all cases of breast cancer. Chemotherapy is still a recommended course of treatment for many women. Studies like this build more confidence, and as the research gets more sophisticated clinicians can be more selective about who should be treated with chemotherapy.

Doctors can review each woman’s case and talk through the pros and cons of various treatment options. Every person is different. While one woman might choose to undergo chemotherapy for a small risk reduction, another might say it’s not worth it. It’s a decision patients need to make with their doctors, and this research can help them make a more informed choice.
Research
“This research ... could have significant implications for patient care. It’s a step toward precision medicine for cancer treatment.”
When Cancer Fights Back

Investigational drug shows promise in combating breast cancer when other treatments fail

Breast cancer can stay in remission for many years, thanks to effective drugs like tamoxifen. But sometimes breast cancer reappears. A new drug under study at UT Southwestern holds promise for people who are facing recurrent breast cancer. The drug might be able to step in when tamoxifen and other drugs like it stop working.

Here’s what happens. For about 80 percent of people with breast cancer, the cancer is estrogen-sensitive. That means the cancer needs estrogen – a hormone produced by the ovaries, fat, and skin – to grow.

Doctors typically prescribe hormone therapies such as tamoxifen that deprive the cancer cells of estrogen. These medications work by attaching to a protein on the cancer cells that is called the estrogen receptor. With the medication blocking this protein, the estrogen can’t enable the cancer cells to grow, so the cells can’t use the estrogen to drive growth.

“We know that the best way to target cancer cells is to get rid of the estrogen,” says Ganesh V. Raj, M.D., Ph.D., Co-Leader of the Experimental Therapeutics Scientific
fundamentally different from other existing drugs,” explains Dr. Raj. “Its unique mechanism overcomes the limitations of current therapies. The way [this new drug] works is that it blocks the estrogen receptor in a different way.”

When the estrogen binds to the estrogen receptor it starts a series of events that ultimately fuel the cancer’s growth. The new drug, called ERX-11, blocks the estrogen receptor even when bound to estrogen, from interacting with other molecules in this series of events. So even if the estrogen is able to take bind to the estrogen receptor, the cancer cells still can’t use it for fuel. They can’t multiply.

This research grew out of studies of prostate cancer, which is fueled by androgens – a class of hormones that includes testosterone. Researchers were studying the androgen receptor, but they faced some challenges. “To better understand how our drugs were working, we switched to the estrogen receptor, since much more was known about it. That’s how we were able to get further ahead with this drug,” Dr. Raj says.

POSITIVE SIGNS IN THE LAB
ERX-11 has been successfully tested in mice and in cancer cells in the laboratory with no signs of toxicity. Researchers hope to move into clinical trials next year. Dr. Raj points out that this drug also has the potential to treat other hormone-sensitive cancers, including endometrial and ovarian cancers. And, it’s a drug that would be more convenient for patients than other treatments, since they could take it by mouth, rather than IV.

Other UT Southwestern researchers who are participating in the research are Shihong Ma, Ph.D., Senior Research Associate; Rui Li, Ph.D., Senior Research Associate; Xihui Liu, M.D., Ph.D., Instructor in Urology; Shino Murakami, Graduate Student Researcher; Wan-Ru Lee, Ph.D., Research Scientist; Vijay Gonugunta, Ph.D., Research Scientist; and Douglas Strand, Ph.D., Assistant Professor in Urology.

TAKING A DIFFERENT APPROACH
Cancer researchers at UT Southwestern have discovered a new, first-in-class drug that may be able to step in when tamoxifen and other hormone therapies fail. “It’s fundamentally different from other existing drugs,” explains Dr. Raj. “Its unique mechanism overcomes the limitations of current therapies. The way [this new drug] works is that it blocks the estrogen receptor in a different way.”

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Find the Right Clinical Trial
Participating in research is one of the most powerful things you can do to be part of tomorrow’s health care breakthroughs. Search our database of study opportunities at clinicaltrials.utswmed.org.
Chemotherapy is often one of the weapons doctors turn to as they fight breast cancer. Chemotherapy works in part by damaging the DNA in cancer cells – because when this happens, cancer cells sometimes die or can’t multiply and spread.

But the damage isn’t always permanent. Sometimes the cancer cells fight back. There’s an enzyme, called poly ADP-ribose polymerase (PARP), that can repair this DNA damage.

“DNA is always dividing,” explains Carlos L. Arteaga, M.D., Director of the Simmons Comprehensive Cancer Center at UT Southwestern Medical Center. “When it divides, some errors can occur, so evolution has devised mechanisms to repair those defects.” PARP is one of those key mechanisms.

Drugs that prevent PARP from repairing this DNA damage are currently Food and Drug Administration-approved for women with BRCA mutations or BRCA loss who have advanced breast cancer, as well as for women with ovarian cancer. PARPs are excellent drug targets because BRCA is also important for DNA repair. Thus, tumors with BRCA mutations have to depend much more on PARP to repair DNA damage, making them more sensitive to drugs that block PARP function.

SEARCHING FOR BROADER APPLICATIONS

Researchers are now looking for ways to stop PARP from repairing the DNA damage induced by chemotherapy in a wider range of people with breast cancer, not just those with BRCA mutation. At UT Southwestern Medical Center, researchers are tracking how different types of breast cancers respond to PARP. Learning how they respond can inform how they can be stopped.

A Leader in Breast Cancer Genetics

For years, the world of breast cancer genetics was dominated by BRCA1/BRCA2 genes. While those genes still account for 40 to 50 percent of hereditary breast cancer, many new genes causative of significant breast cancer risk have been available for testing through next-generation sequencing since 2013 and routinely have mutations identified in the UTSW cancer genetics program. Approximately 80 percent of patients tested through the programs undergo panel testing, which is testing of many genes. ATM/CHEK2/PALB2 are the three most common “new” breast cancer genes identified that can approach BRCA mutation breast cancer risks (up to 58 percent dependent on family history and gene).

Patients with mutations in these genes not only have significantly elevated breast cancer risk, but also elevated risk for pancreatic, prostate, colon, and other cancers dependent on the gene. There are now more than 25 genes that have been associated with increased breast cancer risk. Board-certified genetic counselors discuss the most current cancer risk estimates and recommendations for any gene mutation detected, and work with the multidisciplinary team to tailor an appropriate medical management plan. For a referral, call 214-645-2563 or email CancerGenetics@UTSouthwestern.edu.

Research has determined that human cells use about 12,000 proteins for metabolism and to respond to stress. A sensitive mass spectrometry measuring system developed by UT Southwestern researchers can identify about 200 of these proteins that have chemical tags that signal DNA repair. Understanding how they work could create new treatment opportunities for breast cancer.
The researchers have uncovered major differences between breast tissue cells that contain working versions of the BRCA genes and breast cancer cells that do not have working BRCA genes.

Ultimately, by knowing how cancers respond to PARP, doctors might someday be able to target specific drugs to block PARP from repairing DNA damage. This research is still in early stages, but it could have significant implications for patient care. It’s a step toward precision medicine for cancer treatment.

LEARNING MORE ABOUT HOW CANCER GROWS
PARP’s role in repairing DNA is clear. PARP also signals other changes in cells, and those changes are not well understood yet. Studies have found that in addition to DNA repair, PARP plays important roles in other cellular processes that might be important for cancer initiation and growth.

Knowing more about the roles of PARP beyond DNA repair is important to understanding the viability of other types of cancer cells, Dr. Arteaga explains. “There could be other cancers, that do not have BRCA mutations, that are sensitive to PARP inhibitors,” he says.

“Down the road there could be indications for use of PARP inhibitors outside of BRCA-mutant tumors. We need to learn more about the biology of PARP. We could expand the use of PARP inhibitors to patients where there’s no indication of use today,” he points out.

LONGER LIVES FOR PEOPLE WITH CANCER
These types of research projects can ultimately improve outcomes for people with breast cancer and other types of cancer. “This is one more example of the progress we’re making in breast cancer. It explains further why breast cancer mortality continues to go down every year. We at the Simmons Cancer Center of UTSW believe strongly that integration of laboratory-based basic discovery with translational research and clinical investigation and care are critical for progress against cancer,” Dr. Arteaga says.

Two genes – BRCA1 and BRCA2 – repair the DNA damage that happens as a result of cell divisions and, as such, normally prevent cancer initiation and slow cancer growth. In some people these genes are mutated or absent, and that’s responsible for about 5 to 10 percent of all cases of breast cancer. About 1 in 500 (0.2 percent) women in the U.S. has a mutation in one of these genes.

People with a personal or family history that puts them at risk for BRCA mutations may want to consider genetic counseling, in which a counselor can determine the individual’s need for testing and which type of test is best. Finding out that the gene is not responsible for cancer history can put some people and their families at ease. And people who find out that their breast cancer risk is high due to mutation in BRCA or other genes can put a plan in place to reduce their cancer risk, adopt early cancer screening, and watch for early signs of cancer.
“We know screening mammography reduces mortality from breast cancer by about 35 percent. You have a greater chance of not dying if the cancer is found via screening.”
Prevention & Screening
“I have an excellent prognosis because of the early detection,” says Heather Ashby, who credits UT Southwestern’s mobile mammography unit with helping her get a lifesaving screening.
There is always a reason to postpone a mammogram. Things are busy at work, and getting time off can be challenging. Kids and grandkids need you. Various commitments fill your calendar.

But no matter how busy a woman is, once she hits a certain age, her mammogram is an important appointment to keep. Mammograms use low-energy X-rays to screen for the presence of breast cancer. The sooner breast cancer can be found, the more options a woman might have for treatment – and with better chances of survival.

Since 2006, UT Southwestern’s Mobile Mammography Unit has been working to make this potentially lifesaving breast cancer screening more convenient for women.

**MAMMOGRAMS MADE EASIER**

Heather Ashby is a busy working woman who says UT Southwestern’s Mobile Mammography Unit saved her life. In fact, she almost skipped her mammogram. After all, her previous mammograms had all been normal, and she didn’t have a family history of breast cancer.

But Mrs. Ashby’s employer regularly arranges to have the mobile unit come to her work location. So, as she had done for several years prior, she made her appointment. A few days later – just two days before she planned to leave for a vacation to Greece – she learned the mammogram had detected an abnormality.

The next day, she contacted the Harold C. Simmons Comprehensive Cancer Center at UT Southwestern for further testing, and after returning from her tour of Greece, she had a lumpectomy.

“I have an excellent prognosis because of the early detection,” Mrs. Ashby says. “Truly, the mobile mammography unit saved my life.”

Phil Evans, M.D., a diagnostic radiologist and Director of UT Southwestern’s Center for Breast Care, is guided by a philosophy of patient-centered care, embracing the idea that every patient has different needs. And while a mammogram is the gold standard for breast cancer screening among women, every woman’s work and life commitments vary.

“The advantage of mobile mammography is that the service is brought to the woman,” says Dr. Evans, a Clinical Professor of Radiology. “The mobile unit offers the opportunity for working women to have a potentially lifesaving screening in a relatively short amount of time, rather than having to leave work and drive to a facility.”

The mobile unit contains the same mammography unit and quality of screening that’s in the UT Southwestern Center for Breast Care, an American College of Radiology Breast Imaging Center of Excellence.

**Hear More from Heather Ashby**

Visit utsouthwestern.edu/newsroom/video/mobile-mammography.html to watch an interview with Mrs. Ashby.
“The exam results are provided by the same UT Southwestern physicians who read mammograms conducted at the (Cancer) Center,” Dr. Evans adds. “They are all highly trained diagnostic radiologists, specializing in breast imaging only. This adds to the patient-centered care that women get.”

And the cost considerations are the same, too.

“If your insurance pays for a screening at a facility, it will also pay for a mobile unit,” Dr. Evans says. “It’s a good deal because it comes to you. The screening is done in a quick, efficient manner, and you get your results rather quickly as well.”

**BENEFITS OF SCREENING**

Some women may have anxiety associated with getting a mammogram. But for many women, the breast compression is only mildly uncomfortable, not painful. And the vast majority of women get a healthy, normal report afterward.

“The chance of any given woman having breast cancer is relatively small,” Dr. Evans notes. “Mammography is extremely cost effective as a screening tool. Since 1990, when it became used more in the population, the breast cancer death rate has dropped by 40 percent. That’s a huge improvement in population health.”

Women with a high-risk family history for breast, ovarian, colon and uterine cancer who qualify for hereditary cancer risk assessment are now routinely identified at their annual mammography appointment. The breast and cancer genetics programs are united in the effort to flag these concerning family history cases via the newly established UT Southwestern mammography patient navigator. Effective April 2018, the navigator receives reports on patients with family history that meets national criteria for referral to genetic counseling or testing. She contacts

### Mobile Mammography Unit Features

- A waiting area and changing rooms
- Exams performed by licensed UT Southwestern mammography technologists
- Modern digital mammography technology
- Mammograms that are reviewed by UT Southwestern breast-imaging radiologists

**4 Common Mammogram Misconceptions**

Women generally don’t jump out of bed excited to get their mammograms — a lot of women have anxiety and dread over the screening and find reasons to procrastinate. Here are a few of the common reasons we hear, and some food for thought.

**REASON 1** I don’t have risk factors, so I’m fine.

Every woman has some risk of breast cancer — just because she’s a woman. And with every decade she ages, a woman’s risk further increases. (Most guidelines recommend screening every year or two for women at average risk beginning sometime between ages 40 and 50.) So, even if you don’t have a genetic risk, are at a healthy weight, and exercise regularly, there is still some risk. A screening mammogram is the best way to catch any signs of cancer early.

**REASON 2** It will hurt.

No one can predict your personal experience. You might feel some pain, but many women say the experience is just uncomfortable. And regardless of the level of that discomfort, the whole screening is over in less than 15 minutes.

**REASON 3** I don’t have time.

You’re busy. But this is your health and your life, so making the time for this important exam is essential. If you work for a large company, consider asking your HR department about bringing a mobile mammography unit on-site to help busy women ensure they get this screening.

**REASON 4** I’m afraid I might get bad news.

With any medical test, the fear of learning the worst is real. But the truth is that most women learn that their mammogram was normal. In fact, the chance that a woman will never have breast cancer is 7 in 8, or 87.6 percent. And in the event you are in the minority, you have a far better chance of surviving if it’s detected early.
the patient to clarify the family history, educate on importance of cancer genetic counseling, and schedule a genetic counseling appointment. The navigator also receives data on the patient’s lifetime breast cancer risk estimate based on the reported family history of breast cancer. In qualified higher-risk cases, she will introduce the possibility of an increased breast cancer regimen and referral for consultations to achieve maximum risk-reduction. The mammography navigator position is unique in North Texas and helps the breast program achieve truly comprehensive patient care.

That’s because when cancer is identified earlier, it can be treated earlier. Left untreated, a tumor in the breast can grow and even spread to other parts of the body, requiring more complex treatment.

“We know screening mammography reduces mortality from breast cancer by about 35 percent,” Dr. Evans says. “That means you have a greater chance of not dying if the cancer is found via screening.”

He adds that only about 60 percent of at-risk U.S. women get mammograms on a regular basis and notes that increasing that number to 80 percent or more could have an impact on women’s lives.

SCHEDULING THE MOBILE UNIT

To help ensure women don’t skip their mammograms, UT Southwestern’s mobile breast center coordinator reaches out to corporations, schools, government offices, and other large employers. Together, an employer and UT Southwestern agree on a date (or multiple dates) for the unit to visit and begin accepting appointments. The mobile unit can accommodate up to about 40 appointments a day.

“Most employers are very happy for their female employees to have the test to make sure their health is good,” Dr. Evans adds. “It takes only about 10 to 15 minutes away from work.”

Shannon Radford, Wellness Director at Presbyterian Village, where Mrs. Ashby works, says managers recognize how hard it can be for working women and others to make time for screening. Since initially scheduling the unit for the company’s employees, organizers have expanded opportunities for residents as well. “When the unit is on campus and staring at you, it’s almost like, ‘I have to do this. It’s right here. Why would I not just make an appointment?’”

At the end of each day, the unit transmits the breast images to UT Southwestern. If the results are normal, women receive a letter in the mail. If an abnormality is found, UT Southwestern calls the woman to schedule follow-up appointments.

To date, 591 patients have been screened for breast cancer at the unit, and Mrs. Ashby is grateful for her own mobile unit experience.

“I was arrogant in thinking that breast cancer wouldn’t touch me and that I could maybe miss this appointment and get it done later,” she says. “I will forever be telling people how important it is to get your mammogram every year. Women need to know that. Our mothers need to know that. Our daughters need to know that.”

Mammograms can save lives. Help make sure women don’t miss out on this important screening by bringing UT Southwestern’s Mobile Mammography Unit to your worksite. We schedule at least eight weeks in advance. Call 214-645-2518 to get started.
Cardio-Oncology
“Evaluating heart health soon after a cancer diagnosis can help doctors build the safest treatment plan.”
When cancer strikes, there is potential for heart damage. Specialists in cardio-oncology can help minimize this damage. “We want to protect the heart as much as possible during and after cancer treatment,” says Vlad Gabriel Zaha, M.D., Ph.D., a cardio-oncologist at UT Southwestern’s Simmons Comprehensive Cancer Center, and one of the few such specialists in the Dallas area.
Cancer can harm the heart in three ways:

- Some common types of cancer treatments, such as radiation, chemotherapy, and immunotherapy, can lead to heart problems.
- Biochemicals produced by some cancer cells can trigger heart damage.
- Cancer can develop directly in the heart.

Dr. Zaha points out that many people are living with cancer that’s in remission or with very slow progression. So, it’s important to pay attention to other health risk factors. Evaluating heart health soon after a cancer diagnosis can help doctors build the safest treatment plan and watch for problems during and after treatment.

Cardio-oncologists help people understand how they can help keep their hearts healthy and what symptoms might need immediate attention. Dr. Zaha notes that some heart-related side effects of cancer treatment can be serious if not caught early, while others will likely pass with time. Also, some side effects occur during the treatment period, while others might develop years after the cancer has been treated.

In addition, large studies have found that certain cancers are associated with more cardiovascular risk, and that, conversely, cardiovascular disease is associated with some cancers. “The risk of cardiovascular disease and the risk of cancer are intersecting in a complex way,” Dr. Zaha says.

**SPOTTING HEART PROBLEMS EARLY**

A UT Southwestern clinical trial funded by the Cancer Prevention and Research Institute of Texas (CPRIT) aims to spot early changes in heart function in certain patients with cancer.

The study is focusing on the chemotherapy drug doxorubicin (Adriamycin), an important weapon in the fight against breast cancer, around for more than 50 years, and still used to treat many patients when more targeted alternatives are not available. While the drug is effective, in an estimated 5 to 10 percent of people, it can lead to heart problems.

Doctors don’t know which people will develop these problems until symptoms start to occur. “The disease is not very easy to identify early on,” Dr. Zaha says. “If we could identify it early, that would open the possibility for preventing the progression of heart disease.” Patients requiring such a treatment are encouraged to discuss their diagnostic study eligibility with the clinical team or contact the CTox study research team directly at 214-645-6269.

Researchers aim to enroll up to 100 pre- and post-menopausal women in the study over the next four years, monitoring them for early signs that their chemotherapy treatments might be harming their hearts.

They’ll be watching for biochemical changes that occur in the heart. These changes indicate damage, but the cardiovascular system compensates for them at first. Without any symptoms driving people to seek care, the heart damage can progress unnoticed. For the study, a substance is administered via IV. Then, researchers examine how MRI is able to detect these biochemical changes before symptoms set in. “It’s fundamentally a more advanced way to investigate the function of cells in the body,” Dr. Zaha says.

By knowing each patient’s potential for heart damage, doctors may be able to develop a personalized approach that could maximize both a patient’s cancer treatment and their heart health. For example, some people might show clear markers for heart problems with relatively low levels of chemotherapy. So, other types of chemotherapy might be better choices for them. Other patients might not show any signs of heart issues, so they could be treated with increased levels of chemotherapy if that was what was needed to improve their cancer outcomes.

In addition to breast cancer, this type of chemotherapy drug is used to fight other cancers, including some lymphomas and sarcomas. So, identifying early changes in the heart could ultimately also help improve treatment for people with those diseases.
“The program was designed to work with community providers to decrease the financial and geographical hurdles that keep women from getting mammograms and timely diagnostic services.”
Mammograms are essential to finding breast cancer in its earliest possible stage, giving women the best chance for survival. But for many women in North Texas, there are various obstacles to getting this screening.

Researchers at UT Southwestern Medical Center have found that many North Texas counties lack the public health infrastructure necessary to provide breast cancer prevention services and have few opportunities for local providers to serve under- and uninsured women.

The Moncrief Cancer Institute at UT Southwestern has been working to remedy these challenges, while utilizing the research expertise available at UT Southwestern’s Simmons Comprehensive Cancer Center.

**WHAT IS BSPAN?**

Launched in 2009, the Breast Screening and Patient Navigation (BSPAN) program was designed to work with community providers and other local organizations to decrease the financial and geographical hurdles that keep women from getting mammograms and timely diagnostic services. The first iteration of BSPAN targeted Tarrant County, with support from Susan G. Komen affiliates. The team at Moncrief Cancer Institute, led by Director Keith E. Argenbright, M.D., asked the question: How can we bring screenings and patient navigation services to underinsured women in Tarrant County?

The program utilized oncology certified nurses and clinical navigators to initially provide nurse-driven assistance via telephone to identify a woman’s need for mammography and

**Connecting Local Providers and Patients**

The BSPAN program has provided prevention and early detection services to women who otherwise may not have received care. For example, Simon J. Craddock Lee, Ph.D, M.P.H., Associate Professor of Clinical Sciences and his team’s research shows that nearly 40 percent of BSPAN patients had not had a previous mammogram in five years. (It’s typically recommended that women between the ages of 40 and 50 who are at average risk for breast cancer start getting mammograms every one to two years.) Furthermore, 89 percent of women served through the program were uninsured. In addition, 73 percent were racial and ethnic minorities, and 86 percent reported incomes less than 200 percent of the
assess her eligibility for no-cost mammography screening and follow-up services. Then, the navigation team guided the women to a participating BSPAN mammography provider for screening and diagnostic follow-up, as necessary. A mobile mammography unit was also commissioned to supplement the BSPAN clinical partners.

EXPANDING THE PROGRAM

Dr. Argenbright saw an opportunity for Moncrief to become a Texas Breast & Cervical Cancer Services (BCCS) provider and increase regional access to these state and federal funds by reimbursing local providers for screening services.

BCCS is the Texas state affiliate of the National Breast and Cervical Cancer Early Detection Program federal-state partnership, managed by the U.S. Centers for Disease Control and Prevention, which was legislated to provide screening and early detection services for low-income and underinsured women, explains Simon J. Caddock Lee, Ph.D, M.P.H., Associate Professor of Clinical Sciences.

Few individual providers in rural communities have the capacity to compete for BCCS contracts. And in 2010, Dr. Argenbright led one of the first prevention program awards from the Cancer Prevention and Research Institute of Texas (CPRIT) to leverage Moncrief’s BCCS contract and expand BSPAN services into five counties adjacent to Tarrant County.

In 2012, Dr. Lee worked with Dr. Argenbright’s team to compete for additional CPRIT funds to serve an additional 12 rural and underserved counties in BSPAN2. The team realized that as the BSPAN service area grew to include more widespread and remote regions, the mobile mammography strategy would become less effective. Instead, BSPAN would need to augment the network of brick-and-mortar mammography providers, then test how the BSPAN delivery model could partner with community organizations to help reach more underserved women. BSPAN successfully competed to renew CPRIT funding again in 2015 (BSPAN3) and is awaiting word on a renewal for BSPAN4.

The results are impressive: Over eight years, $4.87 million in CPRIT funds have leveraged an additional $5.46 million from BCCS and $10.46 million from other philanthropic sources to advance breast cancer prevention across North Texas.

Dr. Lee and his team estimate that BSPAN4 could reach more than 2.9 million screen-eligible women with messages and opportunities for comprehensive breast cancer screening and that more than 16,000 patients will benefit from oncology-certified clinical navigation, clinical screening, and follow-up services.

MAKING AN IMPACT

From June 2015 through July 2017, BSPAN3 provided 21,314 clinical services to 11,442 unique women, including:

- 11,210 screening mammograms
- 3,053 clinical breast exams
- 3,335 diagnostic mammograms
- 2,957 ultrasounds
- 719 biopsies
- 40 MRIs

In those two years, the program found 321 cancers and precursor lesions — 87 percent of which were early-stage. By comparison, the state average is 60 percent.

“Through implementation and evaluation research, we have been able both to improve local access and care for underserved women and published our findings to help advance the science of cancer care delivery across Texas and the country.”

One big question Dr. Lee has set out to answer is: When you scale up a program, can you maintain quality?

The time between an abnormal screening mammogram and when that case is resolved is a key indicator of clinical quality. “Over time, our analyses show that the number of days from abnormal screening result to diagnostic resolution actually decreased as the BSPAN program served more women across more counties,” Dr. Lee says.

BSPAN is now in more than 35 rural and underserved North Texas counties. Building on the success of the BSPAN model, UT Southwestern and Moncrief Cancer Institute have leveraged the network of community partners to initiate additional programs in cervical, colorectal, and lung cancer screening as well as cancer survivorship.

“Once you have a working model that targets the needs of your community,” Dr. Lee says, “you can ask, If you can increase access to breast cancer screening, what other kinds of cancer programs could we offer using the same model?”

“Research That Matters

“Our BSPAN program is a good example of the linkage between UT Southwestern as a clinical care provider and research we do in the Population Science and Cancer Control research program to improve cancer care delivery and to identify the best way to deliver evidence-based services to vulnerable communities,” Dr. Lee explains.

federal poverty level. BSPAN makes the BCCS reimbursement possible for local providers who otherwise would not have access to these funds and then connects under- and uninsured women to these providers for care.

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Breast Cancer Leadership

As part of our disease-oriented team, each doctor contributes to patient care.

**Medical Oncology**
- Carlos Arteaga, M.D.
- Eugene Frenkel, M.D.
- Thomas Froehlich, M.D.
- Barbara Haley, M.D.
- Dawn Klemow-Reed, M.D.
- Hsiao-Ching (Jenny) Li, M.D.
- Navid Sadeghi, M.D.
- Samira Syed, M.D.
- Nisha Unni, M.D.

**Surgical Oncology**
- Deborah Farr, M.D.
- James Huth, M.D.
- A. Marilyn Leitch, M.D.
- Rachel Wooldridge, M.D.

**Radiation Oncology**
- Prasanna Alluri, M.D., Ph.D.
- Nathan Kim, M.D., Ph.D.
- Asal Rahimi, M.D.
- Ann Spangler, M.D.
Radiology
Basak Dogan, M.D.
W. Phil Evans, M.D.
Sally Goudreau, M.D.
Emily Knippa, M.D.
Ann Mootz, M.D.
Stephen Seiler, M.D.

Plastic Surgery
Bardia Amirlak, M.D.
Jonathan Cheng, M.D.
Nicholas Haddock, M.D.
Shai Rozen, M.D.
Sumeet Teotia, M.D.

Genetic Counseling
Theodora Ross, M.D., Ph.D.

Rehabilitation
Kim Barker, M.D.
**BY THE NUMBERS**

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<tr>
<th>3.1 million</th>
<th>14,854</th>
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<td>Breast cancer survivors in the United States.</td>
<td>Estimated number of new cases of breast cancer annually in women in Texas. Additionally, 2,721 Texas women are expected to die from the disease each year.</td>
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<th>39%</th>
<th>71%</th>
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<td>Decrease in the number of deaths caused by breast cancer between 1989 and 2015. This decrease is likely due to earlier diagnoses – thanks to awareness and screening – and better treatments.</td>
<td>Women in Texas age 40 or older who had a mammogram in the past two years. That’s slightly below the U.S. average of 73.7%.</td>
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<th>90%</th>
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<td>Five-year survival rate for women diagnosed with breast cancer between 2007 and 2013. For women whose cancer hasn’t spread beyond the primary site, that number jumps to 98.7%.</td>
<td>Lifetime risk of breast cancer for men. The American Cancer Society estimates that 2,550 men in the U.S. will be diagnosed in 2018 with breast cancer and 480 will die from the disease.</td>
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