

DR. SUSAN LOVE RESEARCH FOUNDATION

2010/2011 ANNUAL REPORT

DEAR FRIENDS:

On behalf of everyone at the Dr. Susan Love Research Foundation, we thank you for your generous contributions this past year. Despite the ongoing economic climate, the support of our friends, like you, remains unwavering. Our revenues increased by 8% during this fiscal year 2010–2011 as compared to the previous fiscal year. Thanks to you, we are able to continue to focus on our primary goal: finding the cause of breast cancer and preventing it once and for all.

We also want to thank you for your commitment in helping us get the message out that awareness is NOT enough. We've now had 25 years of breast cancer awareness—and we still don't understand the cause or ways to prevent this disease. And the cure is NOT enough either. Not if it means surgery, chemotherapy, radiation, hormone therapy, and targeted therapy—all of which have side effects and cause long-term collateral damage to our bodies!

We are well aware that our goal—finding the cause and prevention of breast cancer—is a daunting task. But with your help we can do it; we have to do it. We don't have to pass breast cancer on to another generation. We can end it!

We are often told: It is too hard to find the cause, it's too complicated, cancer will always be with us, the best we can do is to make it a chronic disease. To those who think that's the best we can do, all we can say is, your best is not good enough. In 2011, more than 280,000 women were diagnosed with breast cancer. And with all of the early detection and varied treatments we have available today, we still lost about 40,000 women—the same number of women we lost to breast cancer in 2005.

We can find the cause. We need to find the cause. We are more convinced than ever that the road that will get us there will require us to look at the areas of research that have been neglected by the grant givers, scientists, and universities because they seem too "out there" or "too risky." But as we've seen time and time again, it's big risk projects that have the potential for big rewards.

We are doing the kind of innovative work that no other organization is doing. And it is an example of the disruptive thinking that is critical if we are going to break through the status quo and end this disease.

If you agree, then we hope you will continue to support our work.

Susan Love, MD

President

Naz Sykes

Executive Director

OUR MISSION

The mission of the Dr. Susan Love Research Foundation (DSLRF), a 501 (c) 3 non-profit organization, is to eradicate breast cancer and improve the quality of women's health through innovative research, education and advocacy.

We will meet this challenge by being fast, flexible, and project-based. We will identify needs and determine how these needs can be quickly met, not by emulating existing nonprofit organizations, but by designing a new model specific to the tasks at hand. We will find the most effective route to breast cancer eradication, whether it is in the not-for-profit arena, the for-profit arena, or both. We will approach problems by collaborating and coordinating with other organizations. We will facilitate solutions to be adopted by others.

The goal of the Dr. Susan Love Research Foundation is to identify the barriers to research and to then create new solutions. With your help, we will achieve our goals—and move breast cancer beyond a cure by understanding the cause and eradicating it once and for all.

OUR BOARD of DIRECTORS

The Dr. Susan Love Research Foundation's Board of Directors advise, assist and aid in our efforts to be in the forefront of breast cancer research.

Meribeth J. Brand SECRETARY

Helene Brown

Karen Duvall, MD

William J. Greene, Jr.

Natalie Hagan

Susan Love, MD

Kate McLean

CHAIR

Nina Merrill

TREASURER

Melissa Wayne

A YEAR IN REVIEW

Throughout the past fiscal year, (June 2010–July 2011), we have continued to focus on our major programs, which include clinical, epidemiological, and translational research, as well as the Army of Women.

Here are some of our accomplishments over the past year:

The Development of a Breast Fluid Test to Identify Women at Risk for Breast Cancer

This study was designed to develop a simple, inexpensive, accessible, and accurate self-test for breast cancer risk. Current methods for breast cancer screening such as mammography require expensive equipment and medical expertise not available to many women, especially those in developing countries. In addition, many women who develop breast cancer have none of the known risk factors associated with the disease. To improve prevention and treatment of this disease, we need new tests that can accurately determine breast cancer risk and are available to women across the globe. Our test is based on the use of a simple Band-Aid®-like adhesive called a nipple cap and a device similar in concept to a pregnancy test. To perform the test, the woman places the nipple cap over her nipple and massages her breast to allow fluid from inside the breast ducts, called nipple aspirate fluid (NAF), to be absorbed onto the nipple cap. Then, the nipple cap is removed and the fluid is tested for the presence of certain proteins that indicate an increased risk of developing breast cancer. With this home test, women who test positive would be instructed to seek further evaluation and testing by medical professionals. The goal of our study was to demonstrate that this type of test is feasible. The study was conducted in Shanghai, China, where 1002 women already scheduled for mammograms participated, with the assistance of a nurse. NAF was collected and tested for the presence of three proteins that have been implicated in breast cancer risk and progression: epidermal growth factor, C-reactive protein, and basic fibroblast growth factor, and some positive samples were identified. This study established proof of concept that a simple and inexpensive test could be developed and performed by women in a global setting. Based on these exciting results, we have initiated the next phase of this project to further refine the test and develop a kit to send to a woman's home.

Intraductal Therapy of DCIS: A Presurgery Study

This study was designed to test the safety and feasibility of a new approach, called intraductal therapy, for the treatment of noninvasive breast cancer. The vast majority of breast cancers begin in the cells that line the milk ducts. Noninvasive breast cancer, or ductal carcinoma in situ (DCIS), is a condition in which cancer cells are present in the ducts but have not yet invaded the surrounding breast tissue. About one-third of DCIS cases progress to invasive cancer. Because it is not known which cases of DCIS will progress, most DCIS is treated with a combination of surgery (lumpectomy or mastectomy) and anticancer drugs, which cause a variety of undesired physical and emotional effects. Another approach for treatment of DCIS would be to deliver drugs directly into the ducts, where the cancer cells reside. This could eliminate the need for surgery and reduce the side effects of drug treatment. In our study, the common chemotherapy drug Doxil® was administered into the ducts containing DCIS in thirteen women who were already scheduled for mastectomy. The drug was given approximately 4–6 weeks before their surgery, and the treatment was well tolerated in all of the study participants. This study demonstrated the safety and feasibility of this approach and supports the exciting possibility of using intraductal therapy to treat DCIS. We are currently planning a new study to test other anticancer drugs for intraductal administration.

6th International Symposium on the Intraductal Approach to Breast Cancer

More than 100 clinicians, epidemiologists, pathologists, basic scientists, translational investigators, and breast cancer advocates from 11 countries attended this year's conference, "The Normal Human Breast: Building Our Understanding from Mice to Women." The conference began with a pre-symposium workshop. This daylong program, "Crossing the Chasm from Animal Models to Women: Everything You Need to Know," was focused on helping researchers move their research from animal models to humans. It addressed topics ranging from resources for tissue and recruitment to the role advocates can play in translational research and opportunities for funding. The Symposium, which began the next day, was organized around three central topics: the biology of the breast, the physiology of the normal breast, and clinical applications of the intraductal approach. During the conference, attendees also had the opportunity to observe live demonstrations of nipple aspirate fluid collection, ductal lavage, and ductoscopy. A Public Panel allowed the community to hear highlights of the Symposium as well as learn more about how the intraductal approach is bringing us closer to ending breast cancer.



Board members Helene Brown and Kate McLean at the Intraductal Symposium.



Experts respond to questions at the Symposium's Public Panel. From left to right: Susan Love, MD, Seema Khan, MD, Shelly Feldman, MD, Sandy Walsh and Ellen Mahoney, MD.

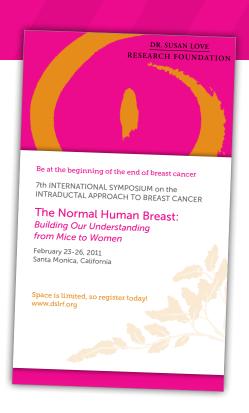


2011 Pilot Grant Recipients (from left to right) Edward Sauter, MD, Tara Locher, and Ferdinando Mannello, Dsc, PhD, along with Karen Duvall, MD, board member.



Awarded Pilot Grants Totalling \$90,000

At the 6th International Symposium on the Intraductal Approach to Breast Cancer, held in February 2011, the Dr. Susan Love Research Foundation awarded \$90,000 in pilot grants to support six multidisciplinary consortiums that formed and developed their ideas during the conference. Each consortium will use its planning grant to solidify its ideas and obtain initial data, with the aim of submitting a full proposal to the Avon Foundation for Women for additional funding. Since 1998, DSLRF has awarded pilot grants totaling more than \$1,000,000 to jumpstart innovative research and to encourage scientists to pursue the intraductal approach.



PILOT GRANT RECIPIENTS

Inflammation Changes Over Time in Obese and Normal Weight Women: Insights into organ specific vs. systemic changes over time

Pl: Edward Sauter, MD, Associate Dean for Research and Professor of Surgery, The University of North Dakota School of Medicine & Health Sciences, Grand Forks; Ferdinando Mannello, Dsc, PhD, Associate Professor of Molecular Pathology, Chair of Biology and Clinical Research Unit, University "Carlo Bo," Urbino, Italy; Tara Locher, Advocate.

Studies have shown that inflammation is a process that is critical to the development and progression of breast cancer. It is also known that chronic inflammation is a hallmark of obesity, and that ovarian hormones influence the expression of proteins involved in multiple pathways. To advance our understanding of the anatomy and physiology of the breast, this consortium will explore the hypothesis that inflammation marker expression is higher in the breast than in the circulation; higher in obese women than non-obese women; and varies more through the menstrual cycle of premenopausal women than over a 30-day period in postmenopausal women. This will be done by analyzing blood samples along with NAF that has been collected every three days from the same breast ducts (one from each breast) throughout one menstrual cycle, or for 30 days, from 40 healthy women, half premenopausal and half postmenopausal, and half obese and half not obese.

Do NAF Yielders Differ From Non-NAF Yielders in Ways that Affect Breast **Cancer Risk?**

Pl: Seema Khan, MD, Professor of Surgery-Surgical Oncology, Northwestern University Feinberg School of Medicine, Chicago, IL; Robert Chatterton, PhD, Professor, Northwestern University Feinberg School of Medicine; Vered Stearns, MD, Assistant Professor of Oncology, Johns Hopkins School of Medicine, Baltimore, MD; Sara Sukumar, PhD, Co-Director of the Breast Cancer Program in the Department of Oncology and Professor of Oncology and Pathology, Johns Hopkins School of Medicine.

It is still not known why some women yield NAF while others do not. This consortium will explore the secretory phenotype and investigate whether and how breast tumors that develop in NAF yielders differ from those that occur in non-yielders. They will begin by creating matched sets of NAF yielders and non-yielders who have been diagnosed with breast cancer by using data and tissue previously collected for a case-control study of NAF steroids at Northwestern University. Then, they will investigate whether there is a relationship between the ABCC genotype and NAF production; identify SNPs of prolactin and oxytocin that affect milk production; and compare tumor sub-types, methylation profiles, and microRNA expression in NAF yielders and non-yielders. The consortium will use its findings to select more specific targets to study in a larger cohort.

Investigating the Anatomy of the Breast and Premalignant Disease Through the Ductoscope

AWARD AMOUNT: \$15.000

PI: Paul van Diest, MD, PhD, Adjunct Professor of Oncology, Sidney Kimmel Comprehensive Cancer Center, Johns Hopkins School of Medicine; Alexandre Douplik, PhD, Head of Medical Engineering Photonics Group, Friedrich-Alexander Erlangen-Nuremberg University, Germany; Susan Love, MD, Dr. Susan Love Research Foundation, Santa Monica, Calif.; Sherry Goldman, RN, Advocate.

Key questions about the anatomy of the ductal system have yet to be answered. It is still not known, for example, what the structures behind the nipple really are, if the breast duct is clonal, what autoflourescence represents pathologically, and whether the area of premalignancy is a patch, a segment, or a duct. This consortium will advance our understanding of these critical questions by using mastectomy specimens to identify the best way to distinguish the structures behind the nipple; and test three different techniques to biopsy the wall of the duct through ductoscopy in women. This data will establish the foundation for a larger grant that will sample and analyze areas of autoflourescence and a normal area in 100 healthy women, 100 high-risk women, and 100 women with breast cancer.

3-D Lymphatic Anatomy of the Mammary Lobe

AWARD AMOUNT: \$20,000

Pl: Elizabeth Peralta, MD, Department of Surgery, Southern Illinois University School of Medicine; Kerri-Ann Norton, Fellow, Computational Biology and Molecular Biophysics, Rutgers University, New Brunswick, New Jersey; James Going, PhD, Senior Lecturer, Institute of Cancer Sciences, University of Glasgow, Scotland; Betty Andrews, Patient Advocate, Marietta, Georgia.

Only 30% of ductal carcinoma in situ (DCIS) cases will progress to invasive disease, but there is currently no way to differentiate these from the ones that will not progress. This consortium will use physiography, the spatial study of complex physical phenomena, to study how precursor lesions progress to invasion and to determine whether lymph-angiogenesis both precedes invasion and is increased around not only DCIS but also the precursor lesions. This will be done with fresh mastectomy specimens that have been sliced into 3mm sections and utilize lymphatic vessel immunohistochemistry, 2-photon microscopy, and stereoscopic imaging techniques. The consortium will also investigate whether 3D reconstructions of the lymphatic system of precursor lesions from pathology specimens can be modeled mathematically, which would provide additional information about the pathogenesis of DCIS recurrence and/or progression.

HPV Types/Subtypes in Papilloma and Breast Cancer

AWARD AMOUNT: \$20.000

Pl: Sheldon Feldman, MD, Chief of Breast Surgery. Columbia University College of Physicians and Surgeons, New York; Atilla Soran, MD, MPH, Professor of Surgery, Magee Women's Hospital, University of Pittsburgh Medical Center, Penn.; Fatih Levent Balci, MD, General Surgeon, Numune Training and Research Hospital, Ankara, Turkey; Omer Berder, Department of General Surgery, Okmeydani Training and Research Hospital, Istanbul, Turkey.

Since HPV was first identified in 1949 more than 100 different types of HPV have been characterized. HPV is known to cause cervical, anal, and vaginal cancers as well as oral cancers in the tongue, throat, and tonsils. High risk HPV types 16, 18, and 33 have also been seen in a subset of human breast cancers. HPV causes cancer after the HPV virus DNA becomes integrated into the host cell (it can take 10-30 years for the cancer to develop after the integration occurs). Laboratory studies have found that HPV 16 and HPV 18 oncogenes can change normal human breast cells into cancer cells in vitro. It also is known that the HPV E6 protein helps degrade p53 while the HPV E7 protein binds to pRb, both of which play a role in cancer development. Inactivation of pRb has been shown to lead to the upregulation of the p16 protein, and that upregulation is seen in HPV-positive tumors. Laboratory studies also have shown that the E6/E7 proteins of HPV type 16 can convert breast cell lines into cancer cells. This is accompanied by an upregulation of Id 1, which is an important regulator of breast metastasis. This consortium believes that previous researchers have had mixed results finding HPV in breast tissue because they did not use techniques that could recognize HPV after it has integrated into the cell. They intend to overcome this problem by looking for signs of DNA integration by measuring HPV-16 E2/E6 ratio. If HPV is found in breast tumors, this work could lead to the development of a novel approach—ID-1 antisense retroviruses—to treat breast cancer.

The Cell Seekers AWARD AMOUNT: \$10,000

Pl: Thea Tlsty, PhD, Professor, Department of Pathology and Leader, Cell Cycling and Signaling Program, Helen Diller Family Comprehensive Cancer Center, University of California, San Francisco; Pepper Schedin, PhD, Professor Medical Oncology, University of Colorado School of Medicine, Boulder; Tibor Tot, PhD, Professor, Department of Pathology, Central Hospital, Falun, Sweden; James Going, PhD, Senior Lecturer, Institute of Cancer Sciences, University of Glasgow, Scotland; Neal Goldstein, MD, Director of Surgical Pathology, Clarient Laboratory, Aliso Viejo, Calif.; Hal Berman, MD, PhD, Assistant Professor, University of Toronto, Campbell Family Institute for Breast Cancer, Ontario, Canada; Deborah Collyar, Advocate.

Dr. Thea Tlsty's laboratory has identified rare human cells with extensive plasticity. This consortium will explore where these cells reside in the ductal structure; whether these cells are differentially distributed in small and large lobes; and if these cells are found in greater abundance in irradiated tissue or involuting tissue. To investigate these questions, consortium members will visualize and quantify these cells in situ in the context of the anatomy of the normal and diseased mammary gland.



The Expansion of the Army of Women Program to 360,000 Volunteers

Women have taken

personal action and raised millions of dollars that have advanced treatment and early detection, but researchers still do not know what causes the disease. The Army of Women empowers women with a new opportunity—a simple but revolutionary call for one million women of all ages and ethnicities to join the "Army" and consider serving as research volunteers to help scientists understand the causes of breast cancer—and how to end it once and for all. All women not currently undergoing breast cancer treatment, including breast cancer survivors and those who never had the disease, are eligible to register. Universities and research labs throughout the country may submit their studies for consideration to the Army of Women, and all research will undergo a thorough medical and ethical review. Some research may require women to complete a questionnaire, while others may require blood or saliva samples, or other simple steps (the research studies are not clinical trials and do not involve drugs or medical procedures). The Army of Women will serve as a virtual "matchmaker," sending an email alert to women volunteers outlining the needs of each study, and women who meet the criteria have the option to take part. Since its inception in 2008, the Army of Women has recruited over 360,000 volunteers and launched 54 studies. We have an active "Foot Soldier" program of more than 1,200 volunteers who are on the ground, recruiting new members and raising awareness for the Dr. Susan Love Research Foundation.



In 2010/2011 alone, we launched more than 12 studies and recruited more than 30,000 new members.

Here are some of the studies we helped researchers launch through the Army of Women:

Quality of Life in Breast Cancer Patients and Survivors

This study at the University of Illinois at Urbana-Champaign is measuring factors that affect quality of life in women who have been diagnosed with breast cancer. Study participation involved completing questionnaires and wearing a motion sensor for seven consecutive days. The researchers were looking to enroll at least 250 volunteers. The Call to Action for this study was sent to Army of Women members on July 14, 2010. The researchers were able to close enrollment on July 15, 2010, after the Army of Women provided them with 2,526 women who were interested in enrolling in the study.

Urine Biomarkers Study

This study at Niagara University is analyzing urine samples from women with breast cancer and from women who have never been diagnosed with any kind of cancer to look for biomarkers that may be a sign of cancerous breast tissue. The researchers will also compare the biomarkers found in the urine from women with different stages of breast cancer to find out if they can identify the stage of breast cancer based on the types and levels of the biomarkers. Study participation involved completing questionnaires and providing a urine sample at a Quest Diagnostics location. The researchers were looking to enroll at least 200 women who have never been diagnosed with any kind of cancer and at least 1,000 women with breast cancer. The Call to Action for this study was sent



to Army of Women members on June 8, 2011. The researchers were able to close enrollment less than 8 hours later, after the Army of Women provided them with 2,075 women who were interested in enrolling in the study.

Jewish Women's Breast and Ovarian Cancer Genetic Study

This study at New York University School of Medicine is studying DNA from Ashkenazi Jewish women for two reasons: to try to identify new genes that might reduce breast and ovarian cancer risk in women who have a BRCA1 or BRCA2 mutation; and to try to identify genes, other than BRCA1 and BRCA2, that increase breast and ovarian cancer risk in Ashkenazi Jewish women. Study participation involved completing a questionnaire and providing a saliva sample via a mailed kit. The researchers were looking to enroll at least 2000 volunteers. The Call to Action for this study was sent to Army of Women members on November 10, 2010. The researchers were able to close enrollment on June 9, 2011, after the Army of Women provided them with 4,620 women who were interested in enrolling in the study.

The 4th Annual Love Walk Generated More Than \$40,000 for Pilot Grant Funding

We organized the annual Love Walk/Run in Pacific Palisades, which generated more than \$40,000 for the Foundation's pilot grant program. Started in 2008 by a local volunteer who wanted to support the Dr. Susan Love Research Foundation, the event has raised more than \$100,000 over the past four years, thanks to our local sponsors and walkers.

We want to thank the 2011 Love Walk sponsors, which included City National Bank, Merrill Lynch, HUB International, Career Builder, On Assignment, Prudential Realty, and Rose Greene Financial Services.





RESEARCH RESULTS

We are very proud that we completed and published the results of our study "The Physiology of the Normal Breast: An Exploratory Study" in the December 2011 issue of the *Journal of Physiology and Biochemistry*. The aim of this study was to identify the differences between the lactating breast, which makes milk, and the "resting" breast, which doesn't.

Background

The physiology of the nonlactating human breast is not well understood. Due to concerns about exposing infants to drugs and toxic chemicals through breast milk, much research has been conducted on the lactating breast.

However, similar studies have rarely been conducted on the physiology of the resting (nonlacting) breast. Yet, the physiology of the nonlactating human breast is likely to play a key role in factors that contribute to breast cancer and other breast conditions.

Virtually all breast cancer begins in the breast ducts, which are lined with a small amount of fluid called ductal fluid. It is not understood to what extent carcinogens can get into the ductal fluid and how they might cause the cells in the duct to become cancer cells. We believe that learning more about breast physiology, including the composition of breast ductal fluid, will help us better understand both the normal breast and how breast cancer develops.

Studies of the lactating breast have identified how caffeine, drugs, or other compounds are transported into breast milk, but it is not known whether similar transport processes are at work in the nonlactating breast.

Ductal lavage is a medical procedure that can be used to obtain ductal fluid. The procedure, which can be done in a doctor's office, involves inserting a small catheter into the ductal openings in the nipple and washing out cells and ductal fluid from inside the duct.

Study Summary

Our study used ductal lavage to explore whether certain drugs get into the ductal fluid of nonlactating women and if so, to determine if the concentration of the drugs in the fluid is similar to that observed in the breast milk of lactating women. The two compounds studied, caffeine and cimetidine (Tagamet*), were selected because they have both been studied in breast milk. They were also selected because

they are known to enter milk in different ways: caffeine passively diffuses into breast milk whereas cimetidine is actively transported and concentrated in breast milk.

There were 14 nonlactating women enrolled in this study. After ingesting caffeine and cimetidine, each woman had her blood drawn and had a ductal lavage procedure five times over a 12 hour time period. This allowed us to measure changes in concentrations of the caffeine and the cimetidine in the fluid and in the blood. In addition, we compared the concentrations of the drugs in the fluid to their concentrations in breast milk, which have been reported in previous studies.

Results

With both caffeine and cimetidine, we found that there were much lower levels of the drugs in the ductal lavage fluid than in either the blood or in breast milk. This was in striking contrast to the much higher levels of cimetidine found in breast milk than in the blood.

Conclusion

We believe that these results support our hypothesis that mechanisms of molecular transport in the breast differ depending on whether or not lactation is occurring. This is important because understanding how compounds such as drugs and carcinogens get into the nonlactating breast could help us determine how breast cancer starts.

In addition to enhancing our understanding of the physiology of the nonlactating breast, these results have ramifications for the exploration of environmental risk factors for breast cancer. Many studies focus on looking for environmental toxins in breast milk to determine their link to breast cancer. Our study suggests that what is found in breast milk does not necessarily reflect what is happening in the nonlactating breast, and that it might be more informative to examine ductal fluid in nonlactating women than breast milk. Our study also underscores the need for more research on the physiology of the resting, nonlactating breast.

DSLRF is changing the conversation about breast cancer and focusing on the cause and prevention through the airways, print and social media.



We also educate women about breast cancer and the conflicting information they receive every day from the media.







Breast cancer answers, advice from expert Dr. Susan Love



By Lie Sente, USA TODAY

Low, who just published a TM-page IIIh editor, mounty sheemed questioning a live greater Founteed with repolar and USA TOOM reporter Lighted lands have seen all by highlights of that other lives are sold in the lighting of that other lives the full fluorities than

O. Never have had a mammagram, sever will unwest find a lump. I have done a lot of research on markinggrams, and I have my own theory about the complettle radiation is exposed window to, after years and years of constant mammagrams. Never find any cyste solber, fin E4, still here the same opinion. What is year opinion on this? — Care Swane

A You are right fractions label excision is bet, flut the large you get their immension term in a portion to the younger thread funder (C) is not seenable to the radiation than the other thread. If you satisfied manningsems at ago 30 and field their levery year, you would cause mine serious flut you cure. Between 40 and 50, it is a water. And after 50, you cure more cancers than you cause.

Q: is there a culture that does not have or get breast cancer? If yes, why? Do you believe our false processed tood in its non-natural form in a contributor not only to breast, but all concers? — Sue Jesus Ocessay.

flore are good. Aduption has also been shown to be useful. Some of the poin is from assuming, but some of six from news are and shall understand state.

Q I agree with you about all the decisions that have to be made regarding surgery. These decisions are no de not decise at your options, reluding no recent oction. The positio surgeon I conculted only does that also dec

Clifescript

health / body / f

HOSPITALS DOCTORS HEALTH PLANS NURSING HOMES

Confused About Screenings? Breast Health Exp

By Susan M. Love, M.D., Reprinted from Dr. Susan Love's Breast Book, courtesy of Da Capo Lif Published October 04, 2010

Should you have a mammogram? What about an MRI? Which will detect and protect y cancer? We asked Dr. Susan Love, author and leading cancer researcher, for answers, I from her groundbreaking, newly updated book, Dr. Susan Love's Breast Book, she revea accurate screening methods, dangers of overtreatment and how often you really need to

One of the most consistent messages in breast cancer discussions has been that early detect and doable.

Most of us in the field have believed that cancers grow at a certain steady rate and at a certa out" into the rest of the body. Thus, we concluded, if we could just find the cancers before the could prevent people dying from breast cancer. In fact, the somewhat contradictory message "early detection is the best prevention." While this is good as a sound bite, it is bad as science.

For one thing, early detection by definition means finding cancers that are already present. The

Prevention means stopping them from happening in the first place. Further, in many cancers breast cancer, "early detection" doesn't always work. This becomes obvious when we think about of the fact that it takes both a mutated cell and a promoting local neighbor adverted to a second to a size.

Looking for Cancer Triggers

LOOKING IOF Cancer Triggers
Focusing on finding mutated cells is one approach, but this ignores the fact that the neighboring cells in the stroma, have a large role to play in the process of the cancer. So rather than putting a efforts into the search for early detection of the disease itself, we may need to shift our primary fe early detection of the conditions that prompt cancers — to study the whole "neighborhood" of var in the breast.

Is the concept of early detection totally fanciful? Not really. There are some cancers that we can dearly. What's misleading is the idea that every cancer has the potential to be found early with the techniques we have available at present.

Screening is still our current best tool for changing the breast cancer mortality rate. We need to take advantage of it while working hard to find something better. As we learn more and more about what creates breast cancer, we come closer to finding methods of both prevention and genuinely early

Thinking Pink Hasn't Helped Find Causes of Breast Cancer

With all the money spent on research, breast cancer experts are disappointed with fack of answers

Sy DIROLAN KOTZ

It's that time of the year again, when women are told to con pink and think about preast cancer. And, yes, we're thinking about it. An illogical but attention-grabbing Facebook breast carcer awareness campaign to get women to post 7 like it on the Socr/like it on the couch" status updates—where they like to put their purse, not have sex went viral this week. And thanks to the Susan G. Komen Foundation pink ribbon campaign, which first launched 25 years ago, we are much more aware now about the importance of early detection via mammograms and regular breast exams. (U.S. News is participating in a fundraising campaign for the foundation.) Yet many of those who are



deeply engaged in research to find a breast cancer care aren't happy with the way things are going. 'I really don't feel deeply engaged in research to find a breast cancer care aren't kappy with the way things are going. "I really don't teel like celebrating," wrote tran visco on Monday in this truthington Post bloc; she's president of the National Breast Cancer Coalition, a nonordize organization that advocates for more research. "Twenty-five years ago, in the United States, 110 woman died of breast cancer every day," she continued in her blog. Townsty-five years and billions of private and public research dollars later, that number is 110. Every day. Not much progress. is a?" (She's right, but that doesn't take population growth into account. The death rate from breast cancer is about 15 percent below what it was in

urgeon Susan Love expressed these same negative sendiments to me. She recently published the 20th-anniversary edition of her best-selling Dr. Susan Love's Breast Book, it's much thicker than it used to be, due to builked-up chapters with new information on the science of breast cancer and the wider assortment of treatments. But, she to is me, the chapters on causes and prevention of the disease haven't changed that much over the past two decades. There's frustration out there that we don't know more," she says. "We're wearing pink, walking and running to table money for research, God knows we're aware, and get we still don't really have a clue what causes this disease."

Sure, researchers now know that two inherized breast cancer gene mutations, BRCA1 and BRCA2, account for a small percentage of breast cancers. And lifestyle factors like age at first childbirth, body weight, amount of exercise, and alcohol intake play some role in determining a woman's risk. But 70 to 80 percent of those diagnosed with breast cancer, says Love, do everything right and have no gene mutations. I asked Love for her assessment of various hot-button issues pertaining to breast cancer.

mography. Women age 50 and over should be screened every year or two, Love says, since studies have consistently shown that screening on those over 50 reduces breast cancer deaths by 20 percent. Women ages 40 to 50 should discuss the risks and benefits of screening with their doctors, since the latest research shows more modest reduction in death risk and greater likelihood of false-positive results leading to biopsies of schoormalities that turn out not to be cancerous. All women, though, should realize that manmograms benefits have been oversold, says Love. The X-ray can find some, but cartainly not all, tumors in the earliest stage, before they've had a chance to spread.

[Marrimography Screening: Clearing Up Some of the Confusion]

Environmental chemicals. A host of chemicals in pollutants, posticides, and plastics have been blamed for triggering breast tumors, at least in cell Cultures or animal studies. But researchers still don't know enough about the effects of these chemicals to tall us which ones to avoid altogether. While it's wise to be caucious and minimize exposure when possible, say by eating organic produce, Love says we also have to remember that crease breast tumors in mice," she coints out, "but Jacanese breast cancer survivors with the highest

Evaluating Screening Tests

FUTURE GOALS

Planning to make a model that will help us predict which environmental factors that appear carcinogenic in rats and mice actually get into the human breast.



Launching the Health of Women Study (HOW) with the goal of conducting the first ever, completely online longitudinal cohort study of healthy women and breast cancer survivors in order to understand new risk factors for the disease with the goal of preventing breast cancer once and for all.



Growing the Army of Women, with the goal of reaching one million members strong.



Launching the second phase of the Home Test for breast cancer risk detection.



Planning a study to create a mechanism in which surgeons can map the breast ducts in women with DCIS and an imaging tool that will allow treatment to be given locally.

2010/2011 FINANCIALS

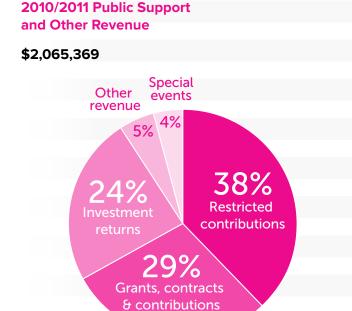
Through the generosity of our supporters, DSLRF continues to do the kind of work that no other breast cancer organization is able to accomplish. We are focused on moving breast cancer beyond a cure, and thanks to supporters like you, we are one step closer to accomplishing our goal.

As in the past years, 84% of your donations were invested in programs, which includes all of our research programs and the Army of Women.

DSLRF's net assets as of June 30, 2011, were greater than \$4.7 million, ensuring a secure expansion and continued investment in our mission.

ASSETS

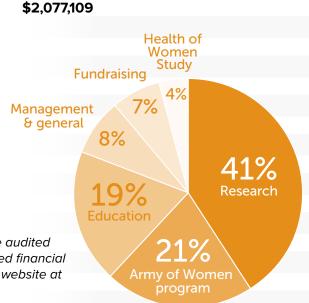
Cash and cash equivalents	\$810,930
Accounts receivable	\$6,543
Contributions and grants receivable	\$206,317
Interest receivable	\$3,616
Prepaid expenses	\$53,801
Investments	\$3,604,640
Patents, net	\$18,304
Property, equipment and web site, net	\$170,851
Security deposit	\$21,261
Total Assets	\$4,896,263



LIABILITIES

Total Liabilities	\$183,092
NET ASSETS	
Unrestricted	\$2,289,417
Restricted	\$2,423,754
Total Net Assets	\$4,713,171
Total Liabilities and Net Assets	\$4,896,263

These financial statements were abstracted from the Dr. Susan Love Research Foundation's June 30, 2011 financial statements which were audited by Hensiek & Caron Certified Public Accountants. A copy of the audited financial statements is available on the Dr. Susan Love Research Foundation's website at www.dslrf.org and can be provided from our office upon request.



2010/2011 Expenses

DONATIONS RECEIVED FROM JULY 1, 2010 TO JUNE 30, 2011

\$500,000 TO \$999,999

Anonymous

Avon Foundation for Women

\$250,000 TO \$499,999

Sharon Disney Lund Foundation

\$100,000 TO \$249,999

Genomic Health, Inc.

\$50,000 TO \$99,999

Beckman Research Institute of the City of Hope University of California, Los

Angeles

\$25,000 TO \$49,999

California Breast Cancer Research Program

Phillips-Van Heusen Foundation

\$10,000 TO \$24,999

Dako North America Inc.

Estate of Antoinette DeCosimo

Alice Gillaroo

Daniel Meisel

Lifetime Networks

Noble and Lorraine Hancock Fund Penelope Foley

Small Army for Causes

\$5,000 TO \$9,999

Annonymous

City National Bank

Gilda's Club Desert Cities

Bowen H. and Janice Arthur McCoy Charitable Foundation

Merrill Lynch

The Hospital of Central

Connecticut

Kenneth Kamins

Woman Today, Inc.

Lori Stone

Melissa Wayne

\$1,000 TO \$4,999

Accessory Exchange

Alison Allan

American Cancer Society

Margaret Barbour

George Barrie IV Charitable

Foundation

bCause Foundation

Francis Beidler Foundation

Boscia

Jill Goodson Bishop

Meribeth Brand

Rudi Brutoco

Career Builder

The Clarence B. & Joan F. Coleman Charitable Trust

Jo Ann Ganz

Rose Greene Financial

Services

Garfield Foundation

Natalie Hagan

Anne Hartnett

HUB International

Bowen McCoy

Kate McLean

Nina Merrill

On Assignment

Sandy Rand

Norman Ridley

Ralph Root

Lisa St. John

Stanford University

University of California San

Francisco

Universal Music Group

Vanguard Charitable

Endowment Program Rajiv

& Caroline Shah Charitable

Foundation

Vivere Philanthropic

Foundation

Betty Weisberger

Sandra Westfall

Yogitoes



DR. SUSAN LOVE RESEARCH FOUNDATION

2811 Wilshire Blvd., Suite 500 Santa Monica, California 90403

1-866-569-0388

www.dslrf.org