



Breast Cancer Prevention Strategies

What strategies can public health educators, policy makers and women themselves use to prevent breast cancer?

Unfortunately, we do not know how to prevent breast cancer; however, reviews of breast cancer literature have identified several factors that may reduce one's risk of developing breast cancer. In our fall and spring 2008 newsletters, we focused on reducing exposures to ionizing radiation and promoting and lengthening the duration of breast feeding. In this issue, exposure to active and passive secondhand smoke is highlighted.

PREVENTION STRATEGY #3

Avoid exposure to active and passive/secondhand smoke

Secondhand smoke (SHS) is a known cause of disease among nonsmokers, contributing to heart disease, asthma, respiratory infections, sudden infant death syndrome and lung cancer. Recent studies have provided increasing evidence that exposure to SHS may be associated with an increased risk of breast cancer.

SHS is defined as a mixture of sidestream smoke from the end of a burning cigarette and exhaled smoke. More than 50 chemicals known to be toxic or carcinogenic have been identified in secondhand smoke, including formaldehyde, benzene, vinyl chloride, arsenic, ammonia, polycyclic aromatic hydrocarbons and hydrogen cyanide (*US Public Health Service Office of the Surgeon General, 2006*). Among the 50 chemicals are approximately 20 substances listed as mammary carcinogens by the International Agency for Research on Cancer. Numerous rodent and human studies have shown that toxicants from SHS reach mammary tissue and are found in breast fluids (*Petrakis, 1978 & 1980*).

Despite considerable research, the relationship of active and passive/secondhand smoke to breast cancer incidence continues to be a topic of debate. In contrast to earlier studies, most recent and better-designed studies on **active smokers** have found a statistically significant association between active smoking and breast cancer that increased with both intensity and duration of smoking (*Terry, 2002*). In a large study of California Teachers, the association was limited to women who began smoking before age 20 and who had smoked for at least five years before their first full-term pregnancy (*Reynolds, 2004*). Several other studies also suggest that women who begin smoking as adolescents (*Band, 2002; Marcus, 2000; Egan, 2002; and Gram, 2005*) or before (or during) a first pregnancy (*Innes, 2001*) face increased risk of breast cancer. A study published in October 2002 in *Lancet* showed that women who started smoking within 5 years of menarche (the first time that a girl or young woman menstruates) were 70% more likely to develop breast cancer than non-smokers. Other studies have reported

inside

- 4 • Community Education
- 7 • Public Policy
- 8 • Supporting our Mission
- 9 • 2008 Contributors
- 12 • Upcoming Events



zero breast cancer

Mission Statement

Our mission is to find the causes of breast cancer through community participation in the research process. We focus on identifying environmental factors and the role they play in the development of breast cancer at all stages of life.

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Francine Levien
(1931 – 2001)

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ZBC Welcomes New Staff Member!

The Board of Directors and staff at Zero Breast Cancer extend a warm welcome to the new Community Outreach and Education Coordinator, **Buffy Martin Tarbox**.



Buffy has spent nearly fifteen years working on behalf of public health. Prior to joining Zero Breast Cancer, she served as the Government Relations Director for the American Cancer Society and the Nevada Cancer Institute. A graduate of the University of Nevada, Reno, Buffy and her husband Orpheos make their home in San Francisco.

Breast Cancer Prevention Strategies

... continued from page 1

that smoking only increases the risk of breast cancer in pre-menopausal women (*Hanaoka, 2005; Cal/EPA Air Resource Board, 2005; and Lee, 2006*) or in women with a family history of breast cancer (*Couch, 2001*).

Researchers continue to disagree on whether or not there is strong enough scientific evidence to link passive/secondhand smoke with breast cancer. The Surgeon General's 2006 report, *The Health Consequences of Involuntary Exposure to Tobacco Smoke*, stated the evidence to date was "suggestive but not sufficient." This was contradicted by a 2005 Cal/EPA report, *Proposed Identification of Environmental Tobacco Smoke as a Toxic Air Contaminant*, which claimed a link between exposure to SHS and breast cancer. The authors published in February 2007 *Preventive Medicine* and reported that women regularly exposed to SHS increase their relative risk of developing breast cancer by age 50 between 68% and 120%. Researchers at Japan's National Cancer Center recently reported the results of a study involving 21,000 women ages 40-59. They found that risk of breast cancer was elevated in premenopausal women who were exposed to passive/secondhand smoke (*Hanaoka, 2005*).

The key controversial issue: why is the risk of breast cancer not significantly higher in active smokers compared to women exposed to passive/secondhand smoke? The Cal/EPA authors offer several possible explanations: a) active smoking may partially lessen the effects of carcinogen exposure on the breast in smokers by reducing their estrogen levels; b) inhaled fresh sidestream smoke is also about 4 times more toxic than mainstream smoke (*Schick, 2005*); and c) women may be especially susceptible to passive/secondhand smoke during key "windows of exposure" during puberty, pregnancy and breastfeeding.

Scientific evidence on the links between active and passive/secondhand smoke will continue to accumulate, but we don't need all the answers before taking personal and policy action. Here are a few suggestions of ways to limit exposure to active and passive/secondhand smoke:

1. If you are a smoker, the single best way to protect yourself and your family is to quit smoking.
2. Protect yourself and your family by making your home and vehicles smoke-free.
3. Educate your daughters and granddaughters about the importance of avoiding active and passive/secondhand smoke, particularly during puberty, pregnancy and breastfeeding.
4. Avoid occupations such as waitressing which are associated with high exposure to SHS. This applies to states in which smoking is still allowed indoors.
5. Teens and young women should avoid dating smokers.

Exposures to active and passive/second hand smoke, if causally related to breast cancer, offers one of the few available ways to prevent this disease.

Message from the Executive Director

Janice Marie Barlow

In a speech overturning his predecessor's policies toward embryonic stem cell research, President Obama included a broad declaration that science, not political ideology, would guide his administration. He vowed to restore *scientific integrity*. "The public must be able to trust science and the scientific process informing public policy decisions. Political officials should not suppress or alter scientific findings and conclusions.... [and] selection of scientists and technology professionals for positions in the executive branch should be based on ... knowledge, credentials, experience and integrity."

While these policies will help restore a balance lost over the past eight years, the reality is that we will never be able to divorce science from politics entirely. Science is deeply political. Science intersects with the political process at countless nodes, beginning with establishing priorities for funding and ending with making science-based public policy decisions. Science-based public policy decisions require sound scientific facts but they are not objective in the sense that they are free of values. On the contrary, decisions require the consideration of different types of information (physical risk and economic analysis), the balancing of different types of interests (risk to the individual versus risk to the population; the risk of acting versus the risk of not acting) and consideration of specific contexts. Science provides some, but not all, components involved in the decision making process. At some point policy makers have to make a decision even in the face of considerable uncertainty, including scientific uncertainty.

Perhaps the process would be better served if we could focus our collective efforts on truly democratizing science. Democratizing science is defined as:

- ▶ creating institutions and practices that fully incorporate the principles of accessibility, transparency and accountability.
- ▶ insisting that in addition to being rigorous, science is relevant and participatory.
- ▶ considering the societal outcomes of the research equally important as the scientific outputs.

Democratizing science requires that the public be involved in setting research priorities and science policy. These activities often have more to do with values than expert knowledge and should reflect societal priorities. Public input provides inclusion of knowledge from outside the scientific enterprise and improves the understanding of the context in which decisions are made. In a properly functioning democratic society, a well-informed public is in the best position to define the broad public interest.

When I think about the democratization of science, I think of it as an evolutionary movement that leads towards greater public engagement in the scientific process. Engaging community participation in breast cancer research has been Zero Breast Cancer's mission for the past twelve years. With your ongoing support, we will continue to bring the community's voice to the research table and disseminate research results so the findings can be used to inform personal decision making and public policy.

Tobacco Laws and Marin's Report Card

A commentary by Buffy Martin Tarbox

1998 was a banner year for public health in California when a state-wide smoking ban in enclosed public places took effect. Ten years later California became the first state in the nation to pass legislation banning smoking in a vehicle where minors under the age of 18 are present. The law, which took effect January 1, 2008, also includes a ban on smoking with 25 feet of a playground or tot lot sandbox area.

Unfortunately, parts of Marin have fallen behind when it comes to sweeping protection from secondhand smoke. Once considered a model of tobacco control ordinances, the American Lung Association released its 2008 *State of Tobacco Control Local Grades* and most Marin communities received grades of D's and F's.

The poor grades are a result of many Marin communities not updating their smoking ordinances for 16 years. More specifically, only Novato has taken measures to protect residents from secondhand smoke exposure in multi-unit housing complexes. Novato was the only city in Marin County to receive a B grade in the category of Overall Tobacco Control. Eight of the twelve communities graded by the American Lung Association received an F for their lack of smoke-free outdoor air laws and reducing sales of tobacco products.

The U.S. Surgeon General declares there is no safe level of exposure to secondhand smoke and the Environmental Protection Agency of California states secondhand smoke is a toxic air contaminant.

Marin County and cities were previously considered leaders in clean indoor air ordinances and adopted indoor workplace smoking controls well before the state ban went into effect in 1998. But that's not the case anymore.

It's time for our local elected officials to re-evaluate the findings of the research regarding secondhand smoke and create new laws protecting all Marin residents.

Marin's report card can be viewed at www.smokefreemarin.com

Adolescent Education Program Commended Locally and Nationally

Susan Schwartz, Education Director

Zero Breast Cancer is pleased to share these recent developments with our readers, donors and community supporters who have contributed to the accomplishments of our adolescent education program:

Zero Breast Cancer's adolescent education program has gained recognition in the national media. In a special health and wellness edition (February 2009) of the *U.S. News & World Report*, journalist Katherine Hobson explores indicators for communicating about breast cancer risk with teen girls, including the potential for promoting healthy lifestyle behaviors beginning in adolescence that may have breast cancer risk-reduction benefits later on. The article, titled "Preventing Breast Cancer 101: A growing number of programs teach young girls the real risks and how to lower them", identifies innovative programs and medical experts that are leading efforts to educate adolescents and younger women about known and suspected risk factors for breast cancer, presenting factual information to motivate this age group to adopt lifelong healthy lifestyles. Zero Breast Cancer is quoted for introducing precautionary messages about avoiding environmental exposures as part of the *Breast Cancer and Environment – Peer Education Tool Kit*, developed through ZBC's groundbreaking pilot project with Sir Francis Drake High School in Marin County in 2006 (http://www.zerobreastcancer.org/education/zbc_ap_coverpage.html). Ms. Hobson's report cites additional breast cancer preventive measures that are relevant to adolescent girls: engaging in regular exercise/physical activity, maintaining a lean body weight, and avoiding excessive alcohol use. "Preventing Breast Cancer 101" is available on the *U.S. News & World Report* website: <http://health.usnews.com/articles/health/childrens-health/2008/11/11/preventing-breast-cancer-101.html>

ZBC's bilingual Latina brochure, "*Breast Cancer Tips for Latina Teens, Young Women and Families*", produced through ZBC's Latina Adolescent Outreach Project, debuted on the December 15th "*Encuentro Latino*" show, the first all-Spanish language television program produced in Marin County, airing on Novato Public Access Television/ Channel 26. ZBC staff appeared with key Marin agencies that serve the Latino community. Angelica Quirarte, ZBC's youth advocate for the Latina Adolescent Outreach Project, described in Spanish ZBC's Latina brochure and invited the viewing audience to attend ZBC's February community education forum for younger women. Susan Schwartz, ZBC Education Program Director, Angelica Quirarte, and Latina high school students and their teachers collaborated with ZBC to create the bilingual brochure with information resources for Latina teens and women. To view ZBC's new bilingual Latina brochure, visit: http://www.zerobreastcancer.org/education/zbc_latinabrochespnl.pdf

The Problem With Flame Retardants

By Eve Harris

When a friend recently recounted how she struggled to find the right mattress for her preschool daughter, I was half listening. Fire safety? Toxic chemicals? She said it would be shipped from Southern California and although she was discreet about the price, I later learned that in California a legal mattress free of toxic flame retardants could cost quite a lot. Here are some of the other things I learned:

Which toxins are in mattresses?

The chemicals under the most scrutiny are man-made, polybrominated diphenyl ethers, known collectively as PBDEs. Three different commercial formulations, known as tetra-, penta- and decaBDE were used in consumer products in the US beginning in the 1970s. PBDEs are not chemically bound to the products they are used in and thus are prone to leaching into the environment, where they persist. Like other persistent organic toxins, they have an affinity for fats. (*EPA factsheet1*)

People encounter PBDEs in building materials, carpets, textiles, electronics, flooring, mattresses, foam furniture, and high temperature plastics like those used for TVs and computers. The most abundant type is decaBDE, which is ubiquitous in buildings and vehicles of all types.

What's the Danger?

California is the only state with a *furniture* flammability standard. To meet that standard, pentaBDE was added to furniture foam for more than 20 years. Citing environmental concerns, California banned penta and octa-PBDEs in 2003 – the first state to prohibit their use – but decaPBDE was not prohibited. The state maintains stringent flammability requirements for furniture and mattresses. (*Blum, 2008*)

The Environmental Protection Agency (EPA) has categorized decaBDE as a possible human carcinogen and more than 100 peer-reviewed publications characterize PBDEs as toxic to neural, reproductive and thyroid function in animal studies. Studies published in 2008 indicate they can cause endocrine disruption in vitro, including one study that used a human breast cancer cell line. (*Mercado-Feliciano, 2008*)

No federal standards or guidelines have been set for PBDEs. The EPA acknowledges no "treatment" is currently available to remediate them from the environment. (*EPA factsheet*) The European Union prohibited use of pentaBDE and octaBDE in 2003. (*EU directive 2003/11/EC*)

For the complete article, which includes information about Northern California exposures and PBDEs in the home, as well as a list of citations, see our website at zerobreastcancer.org.

Breast Cancer Forum for Younger Women Offers Prevention Information and Strategies

**This article has been abbreviated for print space. Please visit www.zerobreastcancer.org to read the full-length article and video proceedings.*

When young women develop breast cancer, it's usually more aggressive and more difficult to identify. While the incidence rates of breast cancer in women under the age of 40 is low compared to older women, the prognosis and survival rates are likely to be worse. Awareness of risk and access to preventive care is essential for younger women.

Risk assessment, diagnostic technologies, hereditary risks, screening guidelines, prevention measures and lifestyle changes were among the topics discussed at the groundbreaking **Breast Cancer Prevention Community Education Forum for Younger Women** held on Saturday, February 7, 2009, at Carr Auditorium, San Francisco General Hospital. Zero Breast Cancer sponsored the forum with the UCSF/SFGH Avon Comprehensive Breast Care Program. Some 130 people, including college students and other young women, breast cancer advocates and clinicians attended the day-long event funded by the Avon Foundation and the Marin County Board of Supervisors.

Janelle Wang, co-host of ABC-7 TV's *The View from the Bay*, emceed the day.



Honorary Spokesperson
Janelle Wang

Risk Assessment

In the forum's medical overview, Judith Luce, MD, reported that statistics from 1988 to 2002 reflect a decrease in mortality rates for all women with breast cancer, yet incidence remains steady for young women diagnosed with the disease. In California, some 5.5% of all women with breast cancer are under the age of 40 and 4% of all breast cancer deaths occur in women under 40, Luce said. "That's a small percentage, but a large number of women."

Dr. Luce, a Clinical Professor of Medicine at UCSF and Director of Oncology Services at SFGH, noted that practitioners have gained some information on the occurrence of breast cancer in women under 40. They have learned that:

- ▶ Inheritance of the BRCA1 and 2 gene mutation is responsible for about one-quarter of the cases;
- ▶ Hormones, usually in the form of *older* high dose contraceptives, increase the risk by 20% to 25%;
- ▶ Exercise both reduces the risk of developing breast cancer and results in better outcome for pre-menopausal women who do have the disease;
- ▶ Beginning menstruation at a younger age increases risk and having babies before age 30 and breastfeeding decreases risk;
- ▶ Education and income are factors associated with developing and surviving breast cancer.

Medical Treatments

In her presentation "Medical Treatments and Younger Women with Breast Cancer," Luce noted that lumpectomy and mastectomy had a similar survival rate to each other. In many cases, she suggested, chemotherapy is more effective for younger women than older women. Studies show that most high risk younger women who decide to have a mastectomy for preventive reasons are satisfied with this decision.



Presenters: Dr. Judith Luce
and Dr. Lori Strachowski

Diagnostic Technologies

Speaking on "Imaging Young High Risk Women: the Pros, the Cons, the Options", Lori Strachowski, MD, Associate Clinical Professor - UCSF, stated that mammography remains the "gold standard" screening tool for breast cancer. While current protocols suggest that mammography screening should not begin until a woman is 40 years old, there are exceptions for screening younger women who have a family history of breast cancer, who carry the BRCA gene mutation, or who have had prior radiation exposure. While the age of 40 is relatively arbitrary, this recommendation is based on multiple factors including higher breast density in younger women making cancers harder to find and greater susceptibility of young women's breasts to the potential negative effects of radiation.

According to Dr. Strachowski, Medical Director of the Avon Comprehensive Breast Care Center at San Francisco General Hospital, approximately 85% of breast cancers are detected on mammography. However, in women with extremely dense breast tissue, this number may decrease to only 30% to 40%. Digital mammography is a relatively new technology which performs slightly better in women who are pre-menopausal, under the age of 50, and have dense breasts.

Two additional techniques, ultrasound and breast MRI (Magnetic Resonance Imaging) which use sound and magnetic waves respectively, also play a role in breast imaging. These techniques are typically used as problem-solving tools; however, they may be used in conjunction with mammography for screening younger, high risk women, said Strachowski.

Clinical Breast Exams

The Clinical Breast Exam (CBE) is the most common method of detection for breast cancer for women under age 40. For this reason, said Nancy Dunn, MS, RNC, it is essential that this technique be done in an organized and thorough manner. Dunn described the High Quality Clinical Breast Exam, a standardized technique she is teaching clinicians to ensure breasts are

Continued on page 6

Breast Cancer Forum for Younger Women Offers Prevention Information and Strategies *continued from page 5*

properly examined. The discovery of a lump by CBE before a mammogram can direct a technician to produce more useful images. Dunn suggests that women should begin getting clinical breast exams at age 20 and schedule them annually or at least every three years.

Heredities and Genetic Risk

While most breast cancer is sporadic, about 5% to 10% is hereditary and another 15% to 20% results from a combination of family genes and environment, said Robin Lee, MS, CGC, a genetic counselor at UCSF/SFGH Cancer Risk Program. Hereditary breast cancer is caused in large part from the passing down, from either the maternal or paternal sides, of mutated BRCA1 and BRCA2 genes. Although these mutations are rare, women who carry them have a greatly increased risk for developing breast and ovarian cancer over their lifetime. Genetic testing for mutations in the BRCA1 and BRCA2 genes are available to high risk families, Ms. Lee noted in her presentation “Genetic Counseling and Testing for Hereditary Breast Cancer.” Lee believes there are real benefits of testing to high-risk women. “If we identify the gene, we can direct you to proper care. If you didn’t inherit it, that’s a huge, huge piece of information.” Many insurance companies will cover the testing if it is medically indicated, said Lee.

Risk Reduction for High Risk Women

In high risk women, lifestyle changes such as exercise, maintaining ideal weight, limiting alcohol intake and avoiding hormone replacement therapy may decrease their risk by 20%, said Mary Beattie, MD, MAS, Associate Professor of Medicine, Epidemiology and Biostatistics at UCSF and Director of Clinical Research, UCSF Cancer Risk Program, UCSF Women’s Health. A low fat diet, though not statistically significant, “probably won’t hurt,” Beattie commented in her presentation “Breast Cancer Prevention for Women at High Genetic Risk.” Some women at high genetic risk choose risk-reducing surgery including salpingo-oophorectomy (removal of the ovaries and fallopian tubes) or mastectomies with reconstructive surgery. The latter is 95% effective in preventing breast cancer, Dr. Beattie reported.

Access to Preventive Care

A panel of women’s health program leaders offered pointers for accessing private health insurance and/or public health programs in the Bay Area. Panelists included Laura Kleinman, MSW, Community Health Resource Center; Diane Carr, RN, NP, Director, SFDPH Breast and Cervical Cancer Services (San Francisco); Rina Bello, Gabriella Patser Program, Breast Cancer Connections; and Barbara Clifford, RN, CNM, MPH, Northern California Program Manager of the *Every Woman Counts* program.



Rina Bello of Breast Cancer Connections addresses the audience

Preventive Lifestyle Strategies

In her presentation on “Environmental and Lifestyle Strategies for Breast Cancer Risk Reduction,” Zero Breast Cancer Executive Director Janice Barlow noted that researchers are currently concerned with multiple gene-environment interactions that may ultimately affect breast cancer risk and outcomes. These include cultural, environmental and socio-economic factors.

Barlow suggested a number of health and lifestyle choices that may reduce some of these risks: minimizing exposure to radiation, limiting alcohol consumption and eating folate-rich foods, breastfeeding, avoiding exposure to secondhand smoke, avoiding hormone replacement therapy, maintaining body leanness, and engaging in moderate exercise. “The weight of evidence is pretty strong that these strategies have the potential to reduce your risk for breast cancer,” Barlow said.

California Assemblywoman Fiona Ma made a brief appearance to comment on her legislation banning *phthalates* in children’s toys and encouraged audience members to become politically involved in environmental health legislation.

AVON Comprehensive Breast Care Program

Speaking on behalf of the SFGH AVON Comprehensive Breast Care Program, Shermineh Jafarieh M.S. presented an overview of this community and hospital-based breast care and UCSF research program for the medically underserved. Forum participants then toured the SFGH Avon Comprehensive Breast Care Center.

Attendees

Staff and students from 40 diverse community and healthcare organizations that work on behalf of women currently or potentially affected by breast cancer partnered with the co-sponsors. Representatives from these agencies will reach



communities in nine Bay Area counties. Individual participants committed to take action and share the information with family and friends. Evaluation results indicate that the forum was highly effective.



Top photo: Members of the Women’s Cancer Resource Center attended the forum

Bottom photo: College students Colleen Kleier and Kayla Silva

Interview with California State Senator Mark Leno, March 6, 2009

Recently, Zero Breast Cancer staff member Buffy Martin Tarbox and Carol Patterson, consultant, sat down with California State Senator Mark Leno to discuss his work to ban a wide range of chlorinated and brominated fire retardant chemicals linked to cancer, reproductive and neurological problems.

Leno, elected to the California State Assembly in 2002, first introduced Assembly Bill 706 (AB 706) in 2007. (Senator Leno was elected to the State Senate in November 2008 and now represents parts of San Francisco, Sonoma and Marin Counties.) The intent of AB 706 was to bring California into alignment with the majority of U.S. and international laws that ban the use of the class of fire retardant chemicals known as polybrominated diphenyl ethers, or PBDEs. Over 100 peer-reviewed publications have characterized PBDEs as toxic with the ability to cause endocrine disruption in vitro, and the Environmental Protection Agency has listed these chemicals as a possible human carcinogen.

AB 706 was supported by numerous health care and environmental organizations and had the full support of fire fighters. The bill passed the Assembly; however, when AB 706 reached the State Senate, the chemical industry stepped up opposition to the proposed legislation. "California is a bonanza for manufacturers of these chemicals," said Senator Leno. "As a result, they began to run extremely graphic full-page color ads claiming AB 706 would result in increased rate of fire-related death of children in the home. Californians for Fire Safety, a front group funded by four non-California chemical companies, claimed that by removing toxic flame retardants, AB706 would turn the standard crib or sofa into "killer cribs" and "killer couches."

According to Leno, studies have shown that even with the inclusion of PBDE fire retardants, Californians do not have a lower risk of fire-related deaths. Rather, overall rates of fire-related deaths in the U.S. have declined over the years in general because of expanded use of sprinkler systems, the introduction of self-extinguishing cigarettes and other tactics. More importantly, when PBDEs burn, a toxic smoke filled with dioxins and furans - two highly carcinogenic compounds - are created, thus exposing fire fighters to even greater danger. Repeated exposures to those and other chemicals present us with a terrible reality of higher rates of cancer in firefighters. AB 706 is also known as the "Crystal Golden-Jefferson" bill, named after a firefighter for the Los Angeles County Fire Department who died from workplace-related non-Hodgkin lymphoma. Despite solid scientific evidence on the health hazards of PBDEs and proof that safer fire retardant alternatives are effective, the chemical industry spent over five million dollars on their campaign and unfortunately AB 706 was defeated in the Senate."

The fact that California is the only state where PBDEs are added to furniture foam to meet a flammability standard spurred Senator Leno into action. "Technical Bulletin 117 (current California law instituted in the 1970s) is a unique, one-of-a-



Carol Patterson, Senator Mark Leno and Buffy Martin Tarbox

kind fire safety standard that allows the pervasive use of these dangerous chemicals. Californians are not any safer from harm by allowing PBDEs to be included in our furniture, mattresses and other bedding products. In fact, Californians are incurring more harm by being exposed to unnecessary toxic chemicals."

Even though the bill was not passed into law, Senator Leno isn't giving up. He recently sent a letter to California Governor Arnold Schwarzenegger asking him to invoke the new authority granted to the Governor's office through the passage of the Green Chemistry Initiative. "The Governor now has the ability to ban particular chemicals by executive order. I requested that he suspend a 1970s-era rule called Technical Bulletin 117. This regulation mandates that foam in furniture sold in California be able to withstand at least 12 seconds exposure to the flame of a Bunsen burner without catching fire. No other state has this standard and in order to achieve it, manufacturers use PBDEs. Unfortunately, the Governor has chosen to not act on my requests to improve the health of Californians."

When asked about his interest in PBDEs, Senator Leno spoke of meeting Arlene Blum, PhD, a biophysical chemist. Her extensive research identifying the significant health hazards of this class of chemicals led to a federal ban on PBDEs in children's sleepwear. "Thirty years ago, these chemicals were removed from children's pajamas; however, the very same fire retardant that is illegal to use in a child's sleepwear continues to be used in the furniture upholstery foam sold in California. It's disappointing to see that these chemicals were simply removed from one product and put into another without much regard for the real health and safety of children. California regulations shouldn't result in kids sleeping on pillows or playing on furniture filled with toxic chemicals that could cause long-term damage to their health."

None of these setbacks have deterred Senator Leno who said he will still work on legislation to protect Californians from highly toxic fire retardants. "Californians have the world's highest levels of toxic flame retardants in their homes and in their bodies", said Senator Leno. "We must do what we can to eliminate these chemicals that do so much harm."

10th Annual Honor Thy Healer

Zero Breast Cancer's 10th annual *Honor Thy Healer* celebration is scheduled for Thursday, April 23, 2009. We are pleased to announce our 2009 honorees: Healing Professional,



Edward W. Banks, MD, is a Kaiser San Rafael Medical Center surgeon with a special interest in the treatment of breast cancer. This year's Shining Star is **The Safeway Foundation**, a major funder of breast cancer research. Since 2000, Safeway's annual October Breast Cancer Research and Awareness campaign has raised more than \$40 million for breast cancer research and prevention programs, including

\$18.6 million raised in 2008. **Kathie Dalessandri, MD**, a physician-scientist and breast cancer researcher working on ways to improve our ability to predict breast cancer risk in women is our Community Breast Cancer Research award recipient. **Karl Huie**, owner of **Pacific Heights Cleaners** of San Francisco and Sausalito, Marin County's first and only Certified Green dry cleaner is our Francine Levien Activist honoree. Karl has taken a leadership role in promoting the health of the community by providing a nontoxic alternative to the potentially harmful chemical solvents in dry cleaning. This year's Healing Partner honoree is **Walt Spicer**, Napa resident, supportive husband of a breast cancer survivor and Marin General Hospital volunteer. Walt was instrumental in establishing the Cancer Resource Recovery Center at the Marin Cancer Institute at Marin General.

We are pleased that **Cheryl Jennings**, a KGO 7 TV Emmy Award-winning newscaster and philanthropist will serve again as our **Honorary Chair**.

The evening begins with a reception at 6 pm, followed by dinner and the awards ceremony at 7 pm at the Mill Valley Community Center, 180 Camino Alto, in Mill Valley, California. Tickets are \$135 per person and may be purchased by calling (415) 507-1949 or online at www.zerobreastcancer.org/events.html#hth. Proceeds from the event support the research, education and community outreach programs of Zero Breast Cancer.



Donor Profile:
Shayna Dollinger

Giving back is a multi-generation activity in the Levine/Dollinger family. Brandeis Hillel Day School third grader Shayna Dollinger continues a tradition of charity inspired by her grandparents, her parents and her older sister. Zero Breast Cancer is the recipient of a generous donation from Shayna. Her grandparents give each of their grandchildren a certain amount of money every year that they can donate to a nonprofit organization of their choice. The children do their own research and make their own decision as to what organizations to support.

With a family history of breast cancer, Shayna has always been aware of breast cancer. Her mom has done the Avon Walk for Breast Cancer and the girls look forward to joining her when they're old enough to participate. Both Shayna and her sister are motivated to donate to Zero Breast Cancer because they want to eliminate breast cancer in their lifetime.

The Dollingers instilled their family tradition of philanthropy with their daughters at a very young age. Birthday gifts have always been an occasion to make a donation to an organization. They donate food, money, teddy bears – whatever they can do. Zero Breast Cancer salutes this generous family and this special young lady, Shayna Dollinger.

Planned Giving

We are pleased to announce that Zero Breast Cancer is one of eleven beneficiaries to share in the proceeds from the sale of a Kentfield home that was part of a planned gift. The majority of the recipients of this estate are Marin County nonprofits, so the money will stay here in the County and help many local organizations. We are grateful to the donor for her generosity and commitment to breast cancer research and to the executor for helping direct that generosity to Zero Breast Cancer.

Planned gifts give the donor the opportunity to make a more substantial gift to Zero Breast Cancer to coincide with long-term financial and estate planning goals. They can range from a simple bequest to assets such as property, securities and life income annuities. We would be happy to consult with you or your representative about including Zero Breast Cancer in your estate planning.

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(2009 Spring Newsletter: Page 5-6 – Full Article)

“Breast Cancer Forum for Younger Women Offers Information and Strategies for Prevention”

By Suzan Berns

When young women develop breast cancer, it's usually more aggressive and more difficult to identify. While the incidence rates of breast cancer in women under the age of 40 is low compared to older women, the prognosis and survival rates are likely to be worse and hence awareness of risk and access to preventive care is essential.

These points were emphasized among the topics presented, along with diagnostic technologies, hereditary risks, screening guidelines and prevention measures and lifestyle changes, at the groundbreaking *Breast Cancer Prevention Community Education Forum for Younger Women* on Saturday, Feb. 7, 2009 at Carr Auditorium at San Francisco General Hospital. Zero Breast Cancer sponsored the forum in partnership with the UCSF/SFGH Avon Comprehensive Breast Care Program.

Some 130 people including college students and other young women, breast cancer advocates and clinicians in the field attended the day-long event which was funded by the Avon Foundation and the Marin County Board of Supervisors. The event was the first of its kind directed specifically to women under 40 who comprise just a small percentage of women who develop the disease earlier in life.

Janelle Wang, co-host of ABC-7 TV's *The View From the Bay* and an advocate in the fight against breast cancer emceed the day. Medical experts from University of California San Francisco (UCSF) and San Francisco General Hospital (SFGH), plus other professionals who deal with women's health and breast cancer issues addressed the audience. California Assemblywoman Fiona Ma made a brief appearance to comment on her work to pass AB1108, legislation banning *phthalates* in children's toys and childcare products. Ms. Ma encouraged audience members to become politically involved and take action to ensure that preventative health legislation is passed.

Zero Breast Cancer Executive Director Janice Barlow welcomed participants to the forum and pointed out that because breast cancer is considered a disease of aging, it is not often a topic of discussion among young adults. While incidence is low, Ms. Barlow said, survival rates of those diagnosed when they are younger than age 40 is also lower.

In her presentation titled “Environmental and Lifestyle Strategies for Breast Cancer Risk Reduction,” Barlow noted that researchers used to look at either genetic or environmental influences to determine the cause of breast cancer. The new model, Barlow said, is to look at them together, along with ancestry. Multiple gene-environment interactions may ultimately affect breast cancer risk and outcomes. Social justice issues in communities that have a disproportionate number of toxic waste sites are now factored into breast cancer research with diverse racial and ethnic populations. Culture, where you live when the disease is diagnosed, where your mother lived when she was pregnant with you, what you eat, and your socio-economic status may all contribute to your lifetime susceptibility for developing breast cancer.

A number of lifestyle choices can reduce some of these risks. Barlow suggested keeping track of exposure to radiation; limiting alcohol consumption and eating folate-rich foods such as green leafy vegetables (that also may modify the effects of alcohol consumption); avoiding second-hand smoke which has chemicals that settle in the breast tissues; avoiding altogether or limiting hormone replacement therapy where possible; breastfeeding infants for up to a year; maintaining body leanness; and engaging in moderate exercise at least three to four hours a week.

“The weight of evidence is pretty strong that these strategies have the potential to reduce your risk for breast cancer,” Barlow said,

“We all know we’re special in California,” quipped Judith Luce, MD, in the forum’s medical overview, alluding to widely published statistics indicating the state has the highest rate of cancer in the nation. Even so, studies from 1988 to 2002 reflect a decrease in mortality rates for all women with breast cancer, yet incidence remains steady for young women diagnosed with the disease.

In California, some 5.5% of all women with breast cancer are under 40 and 4% of all breast cancer deaths occur in women under 40, Luce said. “That’s a small percentage, but a large number of women.”

Dr. Luce, a Clinical Professor of Medicine at UCSF and Director of Oncology Services at SFGH, noted that practitioners have gained some information on the occurrence of breast cancer in women under 40. They have learned that:

- Inheritance of the BRCA1 and 2 gene mutation is responsible for about one-quarter of the cases;
- Hormones, usually in the form of *older* high dose contraceptives, increase the risk by 20 to 25 percent;
- Exercise both reduces the risk of developing breast cancer and results in better outcome for premenopausal women who do have the disease;
- Beginning menstruation at a younger age increases risk and having babies before age 30 and breastfeeding decreases it;
- Education and income are factors associated with developing and surviving breast cancer.

Luce told the audience that there are some breast signs that need not be a source of excessive worry, but should be reported to a health provider: These include nipple discharge, which she said is most often normal; breast pain; and lumps that come and go. It’s when the lumps stay that you need to be concerned, she said.

In her presentation on “Medical Prevention Treatments and Younger Women,” Luce noted that lumpectomy and mastectomy had a similar survival rate to each other. In many cases, she suggested, chemotherapy is more effective for younger women than older women. Younger women have a greater chance of recurrence of breast cancer or long-term complications such as heart disease or leukemia from the treatment compared to older women. This is because younger women have many more years of risk ahead of them. For this reason, she said, about half of young women with breast cancer opt for a mastectomy. Studies show that most women who decide to have a mastectomy are happy with the decision.

Dr. Luce encouraged women considering chemotherapy for breast cancer who still wish to have children to discuss options for preservation of fertility before beginning treatment, including egg harvest for in vitro fertilization. Chemotherapy may induce menopause or shorten the reproductive lifespan, but it will not cause birth defects, she said.

To counter bone loss resulting from early menopause, Luce said to begin a regimen of calcium, vitamin D and weight bearing exercise. Chemoprevention with tamoxifen, though not widely used, has been found to work in staving off recurrence. In addition, tamoxifen protects bone density, but all women should take measures to

prevent pregnancy while using tamoxifen. No other drug prevention has proven useful, including soy and omega-3 fatty acids, which have potential hazards and no proven benefits, she stated.

In her talk on “Imaging Young High Risk Women: the Pros, the Cons, the Options”, Lori Strachowski, MD, Associate Clinical Professor, UCSF, stated that when it comes to screening for breast cancer, mammography remains the “gold standard.” While current protocols suggest that mammography screening should not begin until a woman is 40 years old, there are exceptions for screening younger women who have a family history of breast cancer, who carry the BRCA gene mutation, or who have had prior radiation exposure. While the age of 40 is relatively arbitrary, this recommendation is based on multiple factors including the risk of breast cancer, higher breast density in younger women making cancers harder to find, and greater susceptibility of young breasts to the potential negative effects of radiation.

According to Dr. Strachowski, who serves as Medical Director of the Avon Comprehensive Breast Care Center at San Francisco General Hospital, overall, approximately 85% of breast cancers are detected on mammography. However, in women with extremely dense breast tissue, this number may decrease to only 30% to 40%. Digital mammography, a relatively new technology which performs slightly better in women who are pre-menopausal, under the age of 50, and have dense breasts, is therefore preferred in this select group of women when it is an available option.

Two additional techniques, ultrasound and breast MRI (Magnetic Resonance Imaging) which use sound and magnetic waves respectively, also play a role in breast imaging, said Strachowski. These techniques are typically used as problem-solving tools; however, they may be used in conjunction with mammography for screening some young, high-risk women. Some of the advantages of these techniques include no radiation, no compression and fewer limitations due to breast density. While the addition of these techniques may find more cancers, more benign growths will be found as well, leading to unnecessary worry, needless biopsies and additional costs which account for some of the reasons they are not recommended for screening in the general population.

Strachowski stated that various professional organizations support slightly different recommendations, though most agree upon yearly mammography beginning at age 40 for average risk women in the general population. For higher risk women, yearly screening mammography may begin 10 years before the age a first degree relative was diagnosed with pre-menopausal breast cancer; however, not before age 30. For very high risk women who carry the BRCA1 or BRCA2 gene mutation, yearly screening may begin between ages 20 - 25 and 25-30 respectively with both mammography and MRI, alternating between the two techniques every six months. Noting that recommendations are general guidelines, Strachowski stressed the importance of women consulting with their physicians and genetics risk counselors to determine what is in their personal best interests.

In order for women to be better informed and have more control over their breast health, Strachowski explained that federal regulations dictate that all women receive a letter explaining the results of their screening mammogram in “laymen’s” terms. In addition, if a woman desires a second opinion or to transfer her care to another facility, she is also entitled to one free copy of her mammography images.

The Clinical Breast Exam (CBE) is the most common method of detection for breast cancer for women under age 40. After age 40 it is used in conjunction with mammograms. For this reason, said Nancy Dunn, MS, RNC, it is essential that this technique be done in an organized and thorough manner.

According to Ms. Dunn, President-Consultant, PRO-Health Inc. in Salem, Oregon, most breast lumps are found by fingers. Proper palpation can detect breast cancers as small as three millimeters, or about one-eighth inch in diameter, in their earliest stages. The discovery of a lump by CBE before a mammogram can direct a technician to produce more useful images.

Dunn described the High Quality Clinical Breast Exam, a standardized technique she and others are teaching clinicians to ensure breasts are properly examined.

“It’s not just what’s in your bra,” she said. In the High Quality CBE, the clinician palpates a pentagon-shaped area between the collar bone, breast bone and two fingers below where your bra ends, in vertical strips, she explained. The recipient should be lying on her side with her arm up, in a “Cleopatra” position to flatten breast tissue on the chest wall. Each breast should be examined for a minimum of three minutes.

Dunn suggests that women begin getting clinical breast exams at age 20 and schedule them annually or at least every three years. The best times are between day five and 10 of the menstrual cycle.

While most breast cancer is sporadic, about 5% to 10% is hereditary and another 15% to 20% results from a combination of family genes and environment, said Robin Lee, MS, CGC, a genetic counselor at UCSF/SFGH Cancer Risk Program. Hereditary breast cancer is caused in large part from the passing down, from either the maternal or paternal sides, of mutated BRCA1 and BRCA2 genes. These specific mutations are found in one in 800 in the general population, but in families with Ashkenazi Jewish heritage the incidence is one in 40. Although these mutations are rare, women who carry them have a greatly increased risk for developing breast and ovarian cancer over their lifetime, compared with women who do not carry the genetic mutation.

For individuals who carry a hereditary mutation, there is a 50% chance that they will pass the gene down to their offspring and a 50% chance that they will *not* pass the gene down. Genetic testing for mutations in the BRCA1 and BRCA2 genes are available to high risk families, Ms. Lee noted in her presentation “Genetic Counseling and Testing for Hereditary Breast Cancer.”

Lee believes there are real benefits of testing to high-risk women. “If we identify the gene, we can direct you to proper care. If you didn’t inherit it, that’s a huge, huge piece of information.” There is federal legislation that prohibits insurance companies from considering genetic information in determining coverage. In fact, many insurance companies will cover the testing if it is medically indicated, said Lee.

In high risk women, lifestyle changes, such as those noted earlier, may decrease their risk by 20%, said Mary Beattie, MD, MAS, Associate Professor of Medicine, Epidemiology and Biostatistics at UCSF and Director of Clinical Research, UCSF Cancer Risk Program, UCSF Women’s Health. A low fat diet, though not statistically significant, “probably won’t hurt,” Beattie commented.

Some women choose risk-reducing surgery including salpingo-oophorectomy (removal of the ovaries and fallopian tubes) or mastectomies with reconstructive surgery. The latter is 95% effective in preventing breast cancer, Dr. Beattie reported in her presentation “Breast Cancer Prevention for Women at High Genetic Risk.”

A panel of women’s health program leaders noted the importance of having insurance and offered pointers for accessing health insurance coverage and/or public health programs for breast cancer

screening services in the Bay Area. Panelists included Laura Kleinman, MSW, Community Health Resource Center; Diane Carr, RN, NP, Director, Breast and Cervical Cancer Services, San Francisco Department of Health; Rina Bello, Gabriella Patser Program: Breast Cancer Connections; and Barbara Clifford, RN, CNM, MPH, Program Manager of the California Cancer Detection Program *Every Woman Counts*.

Speaking on behalf of the AVON Comprehensive Breast Care Program at San Francisco General Hospital, Shermineh Jafarieh, MS, presented an overview of this community and hospital-based program that provides clinical breast evaluation and treatment services paired with culturally-sensitive outreach and navigation services to women who receive care at SFGH. The SFGH Avon program also partners with UCSF research groups to conduct studies to improve access and quality of breast care to the medically underserved. Following the forum, several attendees joined Drs. Strachowski and Luce for tours of the SFGH Avon Comprehensive Breast Care Center.

Thirty-five community and healthcare organizations that work on behalf of women currently or potentially affected by breast cancer partnered with the co-sponsors to promote this forum. Representatives from these agencies will reach communities in nine Bay Area counties as well as statewide breast care programs. Individual participants committed to take action and share the information learned with their family and friends.



(2009 Spring Newsletter: Page 4 – Full Article)

"The Problem with Flame Retardants"

By Eve Harris

When a friend recently recounted how she struggled to find the right mattress for her preschool daughter, I was half listening. Fire safety? Toxic chemicals? She said it would be shipped from Southern California and although she was discreet about the price, I later learned that in California a legal mattress free of toxic flame retardants could cost quite a lot. Here are some of the other things I learned:

Which toxins are in mattresses?

The chemicals under the most scrutiny are man-made, polybrominated diphenyl ethers, known collectively as PBDEs. Three different commercial formulations, known as tetra-, penta- and decaBDE were used in consumer products in the US beginning in the 1970s. PBDEs are not chemically bound to the products they are used in and thus are prone to leaching into the environment, where they persist. Like other persistent organic toxins, they have an affinity for fats. ([EPA factsheet¹](#))

People encounter PBDEs in building materials, carpets, textiles, electronics, flooring, mattresses, foam furniture, and high temperature plastics like those used for TVs and computers. The most abundant type is decaBDE, which is ubiquitous in buildings and vehicles of all types.

What's the Danger?

California is the only state with a *furniture* flammability standard. To meet that standard, pentaBDE was added to furniture foam for more than 20 years. Citing environmental concerns, California banned penta and octa-PBDEs in 2003 -- the first state to prohibit their use -- but decaPBDE was not prohibited. The state maintains stringent flammability requirements for furniture and mattresses. ([Blum, 2008](#))

The Environmental Protection Agency (EPA) has categorized decaBDE as a possible human carcinogen and more than 100 peer-reviewed publications characterize PBDEs as toxic to neural, reproductive and thyroid function in animal studies. Studies published in 2008 indicate they can cause endocrine disruption in vitro, including one study that used a human breast cancer cell line. ([Mercado-Feliciano, 2008](#))

No federal standards or guidelines have been set for PBDEs. The EPA acknowledges no "treatment" is currently available to remediate them from the environment. ([EPA factsheet](#)) The European Union prohibited use of pentaBDE and octaBDE in 2003. ([EU directive 2003/11/EC](#))

High and growing exposure in Northern California

In the fall of 2002, researchers from the Environmental Working Group collected 22 fish from six of the most commonly eaten species at 10 locations around San Francisco Bay. Every sample contained seven different PBDEs, and in levels much higher than in fish from Europe, Japan and other parts of the U.S. Compared to archived samples from 1997, levels had more than doubled in halibut and more than tripled in striped bass. ([EWG, 2002](#))

The California EPA looked at banked blood samples collected in the 1960s from San Francisco Bay Area women and found the level of PBDEs was below measurable. When the same researchers looked at levels from 1997-2002, they found PBDE levels in the blood of San Francisco Bay Area women were 3 - 10 times higher than Europeans'. "Increasing body burdens," they wrote, "pose a potential public health threat to future generations." ([Petreas, 2003](#))

A study of breast fatty tissue samples from 23 California women found average PBDEs at "the highest human levels reported to date." ([She, 2002](#)) And a California EPA researcher has observed that the levels found in breast milk are not only high, but persistent. ([Hooper, 2007](#))

Exposure Begins at Home

With the exception of breast milk, food is not considered to be the major source of human PBDE contamination. Rather, many researchers suspect that contaminated dust conveys PBDEs. Samples collected from household vacuum cleaner bags in Davis, California, were all highly contaminated. ([Hwang, 2008](#))

In 2006 staff from a California environmental CBO, after training from the Silent Spring Institute, collected air and dust samples both inside and outside 40 homes in Richmond, CA and 10 homes in Bolinas, CA. Levels of PBDEs in the house dust were substantially higher than previously reported in the United Kingdom; Germany; Ottawa, Canada; Cape Cod or Boston, MA; or Washington D.C. ([Zota; unpublished abstract presented October 15, 2007 at the 17th Annual Meeting of the International Society of Exposure Analysis](#))

How that dust gets into human tissues has been unclear, but researchers recently hypothesized that eating oily finger foods such as chips with unwashed hands could result in inadvertently consuming PBDEs. The toxins may also be absorbed directly into the body via the skin. ([Stapleton, 2008](#)) Young children, and in particular, toddlers, are among those most likely to receive high exposure because they're in contact with house dust through floor activities and hand-to-mouth behaviors. ([Fischer, 2006](#))

Biophysical Chemist Arlene Blum has immersed herself in evaluating the costs and benefits of exposure to fire retardant chemicals. Her conclusion? Fire may not be the bigger hazard. Well-meaning but inappropriate fire safety regulations have placed Californians in a bind, and it's time to reassess the value of adding these chemicals to consumer products.

Article References

Blum, Arlene. 2008 "Where Have All the Flame Retardants Gone?".

Environmental Protection Agency. Fact Sheet. April 2008. "Emerging Contaminants: Polybrominated Diphenyl Ethers (PBDE) and Polybrominated Biphenyls (PBB)".

Environmental Working Group. 2003. "Tainted Catch: Brominated fire retardants (PBDEs) found in San Francisco Bay fish: PBDEs in 2002 fish".

European Union Directive, 2003/11/EC. "Relating to restrictions on the marketing and use of certain dangerous substances and preparations (pentabromodiphenyl ether, octabromodiphenyl ether)".

Fischer, Douglas. "Children Show Highest Levels of Polybrominated Diphenyl Ethers in a California Family of Four: A Case Study". *Environmental Health Perspectives* Volume 114, Number 10, October 2006.

Hooper, Kim. "Depuration of Polybrominated Diphenyl Ethers (PBDEs) and Polychlorinated Biphenyls (PCBs) in Breast Milk from California First-Time Mothers (Primiparae)". *Environ Health Perspect.* 2007 September; 115(9): 1271-1275.

Hwang, HM. "Occurrence of endocrine-disrupting chemicals in indoor dust." *Sci. Total Environ.* 2008 Oct 1;404(1):26-35. Epub 2008 Jul 15.

Petreas, Myrto. "High body burdens of 2,2',4,4'-tetrabromodiphenyl ether (BDE-47) in California women." *Environ Health Perspect.* 2003. 111:1175-1179.

She, Jianwen. "PBDEs in the San Francisco Bay Area: measurements in harbor seal blubber and human breast adipose tissue." *Chemosphere.* 2002 Feb;46(5):697-707.

Stapleton, Heather. "Measurement of Polybrominated Diphenyl Ethers on Hand Wipes: Estimating Exposure from Hand-to-Mouth Contact". *Environ. Sci. Technol.*, 2008, 42 (9), pp 3329-3333