



A PUBLICATION OF THE WOMEN'S HEALTH INITIATIVE • 2013-2014

WHI-What's New?

T HIS YEAR MARKS the 20 year anniversary of the Women's Health Initiative! We currently have a dedicated group of over 93,500 women participating in the WHI Extension Studies. Many of these women have been contributing to WHI for nearly 20 years, which is an amazing accomplishment! Each year we collect annual health updates from all current WHI participants. Many of these women have also been invited to join one or more ancillary studies over the years. These ancillary studies are additional WHI studies that supplement what we are learning in WHI. They usually involve extra research on a specific aspect of women's health, such as eye health or memory. One large ancillary study that was recently completed is the Long Life Study, which is highlighted below.

New ancillary studies are starting all the time. An exciting example is the LILAC study (described in detail on page 3), which is enrolling cancer survivors to learn about cancer treatments and how they affect women's health and well being.

Regardless of whether you were in one of the clinical trials, the observational study, or one or more ancillary studies, you have made a long-lasting and unique contribution to women's health. That's a legacy to be proud of!

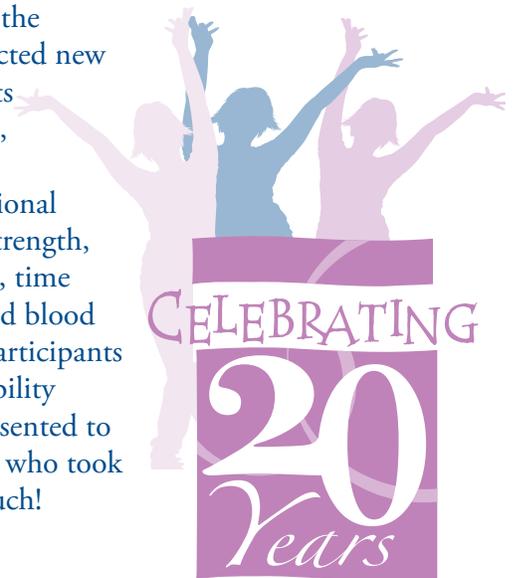
WHI Long Life Study is Complete!

The WHI Long Life Study (LLS), a project in which over 7,800 women took part, is now complete. Between March 2012 and May 2013, the Long Life Study collected new physical measurements (blood pressure, pulse, height, weight, waist circumference), functional measurements (grip strength, balance, walking pace, time for 5 chair stands), and blood samples from WHI participants who met certain eligibility requirements and consented to join. For those of you who took part, thank you so much!

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WHI—WHAT'S NEW?

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The LLS was different from other WHI projects in that almost all of the data and blood collection took place in participant homes. Because WHI participants live all over the country, we partnered with a nationwide organization (EMSI) to collect the study data and blood. WHI required the EMSI research assistants to have extensive experience drawing blood and to be trained and certified on the project.

The Long Life Study included two 'add on' projects: The **Physical Activity Study** and the **WHI Food-Intake Study**. Women who consented to the Physical Activity Study were asked to wear a physical activity

monitor for a week, complete a Sleep Log and Physical Activity Questionnaire, and fill out a Falls Calendar Form each month for a year. These activities are still ongoing for many **Physical Activity Study** participants. All data collection for that study will be complete by the fall of 2014.

For the **WHI Food Intake Study**, everyone who completed a LLS visit was asked to complete a Food Frequency Questionnaire. If you had a LLS visit and have not yet completed and mailed your Food Frequency Questionnaire, we would greatly appreciate it if you would please do so soon.

Taken together, the WHI data and blood collected throughout WHI, the data and blood from the LLS visits, the physical activity data, and the food frequency data form an incredible resource for research that will greatly benefit the health of women in the future.

State of residence of women in the LLS



Interesting facts about the LLS

- 38,371 Number of LLS mailings
- 3,589 Number of calls to the LLS toll-free message line (WHI returned all calls!)
- 323 Number of trained EMSI research assistants
- 7,875 Number of completed LLS visits
- 7,481 Number of successful LLS blood draws
- 225,339 Number of blood vials added to the WHI repository



Exciting New WHI Study! The Life and Longevity after Cancer (LILAC) Study



WHI RESEARCHERS are working on a new effort to learn about how a cancer diagnosis affects a woman's life. This exciting new project, the **Life and Longevity after Cancer (LILAC)** study, explores how different types of cancer and cancer treatments may affect women's health and well-being. The study is also looking at whether certain lifestyle behaviors may help prevent the cancer from coming back.

More than 16,000 women have been diagnosed with cancer since they joined WHI. These women are living with the unique challenges that follow cancer and its treatment. The LILAC study will include about 7500 women diagnosed with certain types of cancer, including endometrial cancer,

ovarian cancer, lung cancer, melanoma, lymphoma, leukemia, and some types of breast and colorectal cancer.

In July 2013, we began mailing to WHI participants who have had a diagnosis of cancer to invite them to join the LILAC study. These mailings include a letter about the study, a consent form, a tissue and medical records release form, and a LILAC questionnaire asking about experiences during and after cancer treatment. Mailings will continue through the beginning of 2014.

Women who join the LILAC study are asked to fill out the LILAC form and give us permission to collect the medical records and tumor tissue related to the cancer. We plan to use information from questionnaires and medical records to learn more about cancer treatments and how they affect a woman's long-term health after cancer. We will store tumor samples so that researchers can explore how sub-groups of cancer within a specific type may be related to health after cancer.

If you choose to take part in the LILAC study, we will store your LILAC form, tumor sample, and records at the WHI Clinical Coordinating Center along with the rest of the information that you have already provided to WHI. We will also send a similar, but shorter, LILAC form once a year for the next 4 years to ask about how your experiences change over time.

We are very excited about this new study! The valuable information provided by participants will help us learn more about cancer treatment and may help improve the lives of women in the future. If you have any questions about the LILAC study, please call the toll free message line (1-855-332-1930) and study staff will be happy to return your call.

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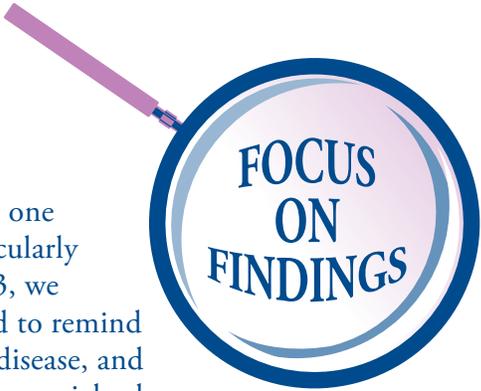
Cancers reported by women since they enrolled in WHI

CANCER SITE	# OF CANCERS REPORTED AS OF 2013
Breast	7787
Colorectal	2211
Endometrial (Uterus)	1321
Ovary	685
Melanoma (skin)	769
Lung	2246
Lymphoma	1133
Leukemia	575
TOTAL	16727



WHI Celebrates 20 Years!

THE WOMEN'S HEALTH INITIATIVE has been heralded as one of the most important and influential studies of all time, particularly when it comes to its impact on women's health. In spring 2013, we paused to celebrate the 161,808 women who made it all possible and to remind you that your contributions have helped reduce breast cancer, heart disease, and stroke for women around the world. Today, WHI continues to play a crucial role in our understanding of women's health issues, and will continue to do so for years to come. Findings from the WHI Hormone Trials changed the face of women's health and medical practice around the world; since the release of the first findings in 2002, an estimated 20,000 U.S. women per year, with an estimated thousands more world-wide, have been spared developing breast cancer. In addition, findings from the Dietary Trial and Calcium/Vitamin D trials have helped spur research on the link between diet, supplements, physical activity, and chronic disease. But the contributions from WHI don't stop there! Findings from WHI participants cover a wide range of health topics, as shown in this sample of just a few of the many articles published in the past year.



FOCUS
ON
FINDINGS

WHI: 20 Years On

1993

Year the first WHI participants are enrolled

161,808

Participants enrolled between 1993 and 1998

230+

WHI ancillary studies being done around the U.S. covering a variety of topics from links between air pollution and heart disease to using biomarkers in the blood to predict cancer risk

5.3 million

Stored blood and urine samples for use in ongoing and future studies

750+

Scientific articles about WHI

93,500+

WHI participants who continue to provide data each year

2013

Year WHI turns 20, and a WHI participant turns 100!

Risk of Lung Cancer Death Has Risen Among Women Smokers

(New England Journal of Medicine, January 2012)

A study conducted by Michael Thun, MD and several colleagues looked at smoking patterns and smoking-related deaths over a 50 year period using data from five large studies, including the WHI. In total, the study included more than 2.2 million adults 55 years and older; of those, 156,701 were WHI participants who provided updated information on smoking in 2000. The study found that female smokers have a much greater risk of dying from lung cancer and chronic obstructive lung disease (COLD) in recent years than did female smokers 20 or 40 years ago. This increased risk of dying from smoking-related diseases reflects the change in women's smoking habits. Compared with women in previous generations, women smokers today smoke more like men, that is, they start earlier in adolescence and until recently, smoke more cigarettes per day (smoking peaked in the 1980s). These findings strongly confirm the prediction that "if women smoke like men, they will die like men."



For women who smoked in the 1960s, the risk of dying from lung cancer was 2.7 times higher than it was for women who had never smoked. In the cohort of women smokers studied from 2000-2010, the risk of dying from lung cancer was 25.7 times higher than that of never-smokers. The risk of dying from COLD for women smokers was 4.0 times higher than for never-smokers in the 1960s; the risk in the current cohort of smokers was 22.5 times higher than never-smokers. About half of the increase in risk occurred during the last 20 years. “The steep increase in risk among female smokers has continued for decades after the serious health risks from smoking were well established, and despite the fact that women predominantly smoked cigarette brands marketed as lower in “tar” and nicotine,” said Dr. Thun.

These findings show that disease and death caused by cigarette smoking increases progressively over many decades, peaking fifty or more years after the widespread start of smoking in adolescence. This has a profound implication for developing countries with large populations, where rates of cigarette smoking are on the rise for both men and women.

In a related article in the same issue of the *NEJM*, Dr. Prabhat Jha and his colleagues note that based on current trends, smoking will kill 1 billion people in the 21st century, as opposed to ‘only’ 100 million in the 20th century.

A positive finding of these studies was the confirmation that quitting smoking at any age dramatically lowers death from all major diseases

Quitting smoking at any age dramatically lowers death from all major diseases caused by smoking.



caused by smoking, and that quitting smoking is far more effective than reducing the number of cigarettes smoked. Smokers who quit by age 40 were found to avoid nearly all of the excess smoking-related mortality from lung cancer and COLD. “The good news is the benefits of smoking cessation occur much more quickly and are substantial at any age,” notes Dr. Thun.

■ **Racial/Ethnic Differences in Dietary Quality and Diabetes**

(Health, May 2013)

A study conducted by Michael Thun, MD and Dr. Yongxia Qiao and other WHI researchers examined the link between dietary quality and risk of diabetes overall and by race/ethnicity among WHI women in the years following their enrollment in WHI. Diabetes was assessed yearly for an average of 7.6 years after enrollment. During that time, 10,307 women report that they had treated diabetes. At enrollment, all participants completed a Food Frequency Questionnaire (FFQ). This information was used to measure dietary quality, as assessed by the Alternate Healthy Eating Index (AHEI). Researchers found that most women did not meet the AHEI dietary goals at enrollment. That is, less than 1% of women met or exceeded the recommended number of daily vegetables, and few (17.3%) met or exceeded the recommended level for fiber. Researchers found that women with the highest AHEI score (that is, those with the best dietary quality) were 24% less likely to develop diabetes compared to women with the lowest scores. This finding was observed in White and Hispanic women, but not in Blacks or Asians. These findings suggest that healthful eating choices may be helpful in reducing the risk of developing diabetes in White and Hispanic postmenopausal women. Future studies are needed to look at the relationship between dietary quality and risk of diabetes among Blacks and Asians in relationship to other lifestyle factors.



■ Long-Term Effects of Hormones on Cognitive Function

(Journal of American Medical Association Internal Medicine, June 2013)

The WHI ancillary Study of Memory in Younger Women (WHIMSY) interviewed participants who were enrolled in the WHI Hormone Trials to assess the impact of hormone therapy (specifically, conjugated equine estrogens) on cognitive functioning when taken by postmenopausal women aged 50-55. During the WHI Hormone Trials, participants took study pills containing either an inactive placebo or conjugated equine estrogen (CEE), which was the most popular type of hormone therapy used in the U.S. at the time. Research by the WHI Memory Study (WHIMS) found that this type of hormone therapy may produce small losses in cognitive functioning (e.g., memory and attention) if it is started when a woman is aged 65 years or older. However, it was not known whether hormone therapy affects memory and other cognitive function in women younger than 65 years, which is when postmenopausal hormone therapy is commonly prescribed. Some studies have suggested that hormone therapy may actually benefit cognition if it is prescribed when women are just starting or going through menopause. The goal of WHIMSY was to assess the impact on cognitive function of CEE hormone therapy when it is taken by women aged 50-55.

Participants in WHIMSY were women who joined the WHI Hormone Trials when they were aged 50-55. About 7 years after the WHI trials ended, these women were asked to participate in annual telephone interviews to assess their cognitive function, when their average age was 67 years. A total of 1,326 women agreed to participate. Results of the first two annual telephone interviews were recently reported by Mark Espeland, PhD and his colleagues in *JAMA* in June 2013. These interviews measured global

(overall) cognitive function and some of its parts: verbal memory, attention, executive function, verbal fluency, and working memory. They found that there were no overall differences in cognitive function between women who had taken study pills containing active hormones compared to women who had taken placebo study pills during the 7 years of the WHI study. This was true for global cognitive function, as well as the individual components. They concluded that conjugated equine estrogen therapies, when taken by women aged 50-55 years, produce no long-term benefit or harm for memory or other cognitive functions.

WHIMSY will continue to follow women with annual telephone interviews to learn whether previous use of hormones has effects on how cognitive function changes over time. It may also identify other factors during women's mid-life that are linked to better cognitive function later in life.

■ Change in Physical Activity after a Diabetes Diagnosis: Opportunity for Intervention

(Medicine & Science in Sports & Exercise, July 2013)

Moderate intensity physical activity is recommended for individuals with diabetes to control blood sugar and prevent problems related to diabetes. However, it is unclear whether being diagnosed with diabetes motivates women to increase their physical activity. Kristin Schneider, PhD, and other WHI researchers used data collected from women in the WHI Observational Study to look at change in physical activity and sedentary (inactive) behavior in women who reported a diabetes diagnosis compared to women who did not report diabetes. Participants were 84,300 women who did not have diabetes when they joined the WHI. After controlling for a variety of factors (such as age, race, weight, education, and pain), results showed that women who were diagnosed with diabetes during the 7 years after enrolling in WHI were more likely to increase their



total physical activity and walking compared to participants who did not report a diabetes diagnosis. This research suggests that when women are diagnosed with diabetes, healthcare providers should consider how to make the most of this opportunity to encourage increased physical activity and maintenance.

Letters to the Editor

DEAR WHI MATTERS: Thanks for another interesting and informative issue in 2012-2013. In the article about “Your Brain Workout” I was surprised that you barely mentioned all the new electronic possibilities of this age. In my mid-70s, I am organizing and editing my scanned photographs from the pre-digital era and creating new photo albums with them. Today I figured out how to add some of my children’s art from long ago. I frequently search for information on the internet and read books on my electronic reader. I have a smart phone with an app that will tell me the names of the stars and constellations I am looking at in the night sky. In all of these activities, I can just feel my brain cell connections strengthening and multiplying.

P.S. And I have a male friend who just got his first computer at age 95 and is having a ball sharing the photos he takes with his phone.

Participant in Reston, Virginia

ANSWER: We agree that there are many opportunities to stimulate your brain in the digital age. While not everyone has a smart phone or an e-reader, nearly everyone can access a computer, either at home, at their local library, or at their grandchild’s home. We encourage women (and men) to use electronic devices to learn, have fun, organize their memories, and hopefully stimulate their brains in the process.

DEAR WHI MATTERS:

I enjoy getting the newsletter and read everything in it. However, in the 2012-2013 issue there was one piece of advice that troubled me. In the article on “Keeping Your Mind Fit as You Age,” it was suggested that you “change your habits” and take a shower with your eyes closed. I don’t think this is good advice for anyone, let alone an elderly woman. Using all your senses helps maintain balance and prevents falls. Hope you agree.

Participant from Worcester, MA

ANSWER: We absolutely agree with you. While research suggests that trying new things and changing your habits can help exercise your brain, we do not recommend closing your eyes while you perform activities in which you could lose your balance and fall. Thank you for alerting us about this.

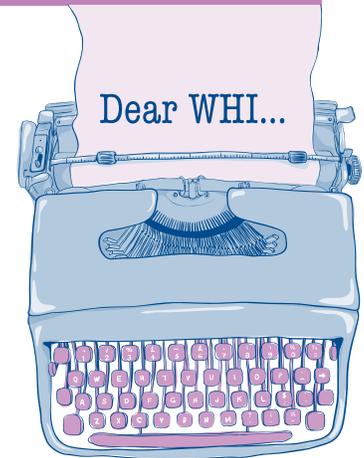
Letters: We love to hear feedback on the newsletter. We regret that we cannot answer questions about individual medical conditions.

Send letters to:

WHI Matters

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South Bay WHI Program, Torrance, CA		UMDMJ – Robert Wood Johnson Medical School, New Brunswick, NJ		
Stanford University/San Jose Clinical Center, Palo Alto, CA		Albert Einstein College of Medicine, Bronx, NY		
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