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What's New in WHI

T HERE ARE CURRENTLY over 93,500 participants in the WHI Extension Studies—an amazing group of women who have been contributing health information for over 15 years!



While WHI participants are no longer participating in the active study interventions or attending annual visits, there are still plenty of activities going on in the

Extension Studies.

As a WHI participant, we appreciate your willingness to continue completing the health updates each year, which are crucial in helping us understand more about how women age. In addition to the health update, there are usually one or two other forms women are asked to complete each year, which help us answer other questions aimed at improving the health and quality of life of women as they age. These forms vary from year to year, and cover topics ranging from your ability to perform the ongoing activities of daily living, to hormone use, to the

medications and supplements you take. If you ever have any problems completing any of your annual forms, for example, due to declining vision or health, please call your regional center at the phone number listed on the back of this newsletter. A WHI staff member will always be glad to assist you in any way they can.

In addition to these routine (but critically important) study activities, there are several other special studies being done with WHI participants. One exciting new project is the WHI Long Life Study. Scientists and leaders at the National Institutes of Health funded this addition to WHI in order to learn even more about women's health, aging, and the health effects of physical activity. About 12,000 eligible WHI Extension Study participants were asked to join this study between January and November 2012. Only a sample of

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WHAT'S NEW IN WHI

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WHI participants were needed for the Long Life Study, so not all eligible WHI women were invited to join. In the Long Life Study, a research assistant visited the participant in her home to collect a blood sample and measure height, weight, waist circumference, grip strength, balance, and walking speed. In addition, women in the Long Life Study were invited to join the Physical Activity Study, in which they completed an additional



questionnaire, wore a physical activity monitor (called an “accelerometer”) for 7 days, and tracked their falls during the 12 months following the study visit.

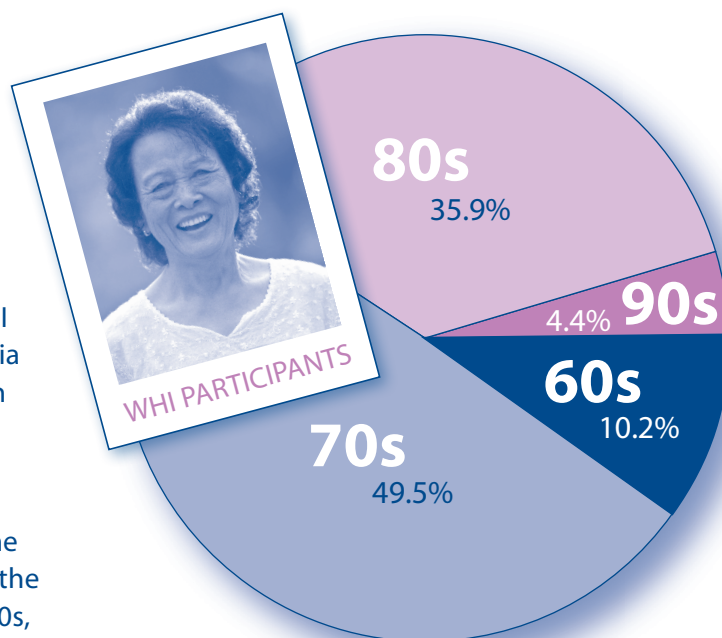
More information about the WHI Long Life Study, the Physical Activity Study, and some of the other WHI studies, activities, and results can be found on our website, www.whi.org.

LEFT: Dr. Andrea LaCroix holds several accelerometers, which are small monitors that Physical Activity Study participants wear on their hips to provide an objective measure of everyday activity. These devices measure vertical, horizontal, and perpendicular activity, as well as the times when no movement is happening. These data will help researchers come up with realistic activity guidelines for healthy aging.

Snapshot of WHI Participants in 2012

We continue to collect health information from WHI participants everywhere, even as they move around the country and the world! There are currently 111 WHI women living outside the U.S. in 34 different countries, including such far-flung places as Australia, Croatia, El Salvador, Estonia, Finland, India, South Africa, and Trinidad. Within the U.S., WHI women now live in every single state; California has the most participants at 15,576, and North Dakota the least at 9.

The current mean average age of WHI participants nationwide is 78 years old. The youngest WHI participant is a mere 63, with the oldest being 98! The chart on the right shows the percentage of WHI women currently in their 60s, 70s, 80s, and 90s.





Letters to the Editor

WE FREQUENTLY receive letters from WHI participants, as well as handwritten notes that are included in the returned data packets. We truly enjoy reading all of your letters and comments, even if we are not able to personally respond to each one. Here are excerpts from a few letters, as well as answers to some of the questions we have received from WHI participants over the past year.

DEAR WHI MATTERS: I have a question about an article in the *WHI Matters*, concerning the GWAS. If the study doesn't link my blood to my identity, how can scientists find out what genetic factors are associated with diseases "such as diabetes, hypertension, heart disease, osteoporosis, cancer, and dementia?" Wouldn't it be of help, if I answered a questionnaire indicating that I had any of the above diseases, if you could identify my blood sample?

Sincerely, Participant from Northridge, California

ANSWER: This is a very good question. When we say that the blood is not linked to your identity, we are specifically referring to your name and contact information. We do link the blood samples to the questionnaire data you provide each year, to help learn more about the diseases we are studying. All samples and questionnaire data are given an ID number in place of your name, which is used to link the data. This ID number ensures that your data and samples remain anonymous and confidential, and that no one working in the laboratory, for example, will ever know your actual name. Scientists can then link the information from your blood sample and your questionnaire data to conduct their research, without ever needing to access your name.

DEAR WHI MATTERS: I enjoy every issue and would be really interested in an article that explains in more detail how you are using the cohort that was not part of any of the individual studies. Or even more than one article. Since I'm in that group, which I'm guessing is pretty large, I'm always trying to figure out how I contributed to any particular study.

Thank you, Participant from Reston, Virginia

ANSWER: The original part of WHI consisted of three Clinical Trials (Dietary, Hormone, Calcium/Vitamin D Supplementation) and an Observational Study. The Observational Study (OS) was the largest part of WHI, and included all of the women who were not actively participating in one of the Clinical Trial interventions. From your question, it sounds like you were part of the OS. Hundreds of findings and publications have resulted from data provided by women in the OS over the years. In this and other newsletters you've received in the past, any reported study results that say they used data obtained from *Observational Study participants* are referring to your study cohort. The data obtained from OS participants are a major part of what we are learning about women as they age, so rest assured that you have made and will continue to make a major contribution to what we are learning about women's health.

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LETTERS TO THE EDITOR

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DEAR FRIENDS: I am glad of the opportunity to let you know that I'm pleased to be a part of such a worthy endeavor. Whatever good those few vials of blood can contribute to women's health, I am proud to have had the chance to give them. May you continue with your worthwhile studies.

Sincerely, Participant from Warwick, Rhode Island

DEAR EDITOR: I couldn't resist responding to your newsletter. I am still very proud to be a participant in the study. I eat a very healthful diet, which I think is the most important thing. I have many interests, and they keep me happy. Eating very well, a few good friends left in their 90s, and lots of interests seem to work for me. I know you do have access to the records, but I still wanted to say "thank you" for the wonderful efforts you make for women the world over.

Participant from Oakland, California

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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Staff Information: *WHI Matters* is produced by the WHI Coordinating Center at the Fred Hutchinson Cancer Research Center.
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Keeping Your Mind Fit as You

WHILE MANY PEOPLE will suffer from dementia as they age, these conditions are not inevitable for everyone who has a genetic predisposition. Many experts believe you can prevent or at least delay cognitive decline by keeping your mind active for years. Here are several ways that may help prevent or reduce some people experience in their senior years:

Get regular exercise

Physical exercise has been linked to brain health, and higher exercise levels, compared with lower levels, are believed to help reduce the risk of dementia. The type of exercise is up to you, but most experts recommend that you try to get 20-30 minutes of moderate activity on a daily basis. Even as little as 15 minutes of exercise three times per week has been found to be beneficial in helping maintain brain function. Other research has found that weight training (also known as resistance training or pumping iron) may help improve cognitive functioning. Of course, you should always consult with your health care provider before starting any new type of exercise program.

Follow a healthy diet

Results from several large studies suggest that a heart-healthy diet that includes vegetables, fruit, nuts, beans, and fish may help slow the rate of cognitive decline and reduce the risk Alzheimer's Dis-

Your Brain Workout

Exercising your brain can be as good for your body. Here are a few ideas for stimulating and entertaining, and improving your overall health.

Solve puzzles—Doing crossword puzzles, Sudoku, or any type of word, number, or logic puzzle can exercise your brain. Over time, try to solve more challenging puzzles to maximize the effect.

Play strategy games—Strategic board games like Monopoly will exercise your brain and encourage creativity. If you don't have a board game, many of these types of games are available on the internet or for your computer.

Incorporate music—Listening to music, playing a musical instrument, or even humming a tune can stimulate different areas of the brain. Try different types of music, memorizing the lyrics, or even playing a musical instrument.



Age

dementia or Alzheimer's is inevitable, even in those who are young. Experts believe you can keep your mind fit over the years and delay the mental decline that

comes with age. Researchers have found that omega-3 fatty acids in fish are important for maintaining heart health, and many believe that they may be just as important for maintaining brain health.

Avoid or reduce stress

Chronic stress floods your brain with cortisol, which can lead to impaired memory. Researchers suggest that meditation and mindfulness-based stress reduction, where you focus your attention on sensations, feelings, and state of mind, can help reduce these harmful stress hormones.

Take care of your health

Chronic health conditions like diabetes, obesity, and

hypertension have been linked to dementia; it's possible that controlling these diseases may help delay the onset. Be sure to follow your doctor's orders about diet, exercise, and taking prescribed medications.

Enjoy your friends

A few studies have indicated that having many social networks may help lower dementia risk. A full social life may provide emotional and mental stimulation, which may protect against memory declines.

Exercise your brain

Last, but certainly not least, studies have shown that challenging your brain can increase the number of brain cells and the connections between cells, which may protect against the symptoms of dementia. Challenge yourself by learning new things, like sudoku or bridge; the younger you are when you start, the better.

is as important as exercising your body. Mental exercises, which can be done in addition to being beneficial to

Word puzzles, sudoku puzzles, or crossword puzzles, will exercise your brain. More challenging types of puzzles, like geometric puzzles, will exercise your brain even harder.

Logic games, such as chess or checkers, challenge your brain and help you think. Find a partner to play with on a regular basis. Many logic games are available on the internet.

Listening to and playing music can stimulate your brain, so try listening to a new song or learning the lyrics of a song, or learning to

Change your habits—Try changing your routine, such as rearranging your desk or living space. You can also try doing your regular activities in a new way, such as using the opposite hand to brush your teeth, or taking a shower with your eyes closed.

Read—Reading flexes your brain muscles and can help build up a cognitive reserve that may help delay the onset of dementia. To boost that reserve even more, try memorizing a favorite poem or passage.

Find a new hobby—Hobbies can challenge your brain to learn new skills or try new things, such as learning to draw or paint. By finding something that interests you, you'll exercise your brain without feeling the effort.

Learn a new language—Learning a new language activates a part of your brain that hasn't been used since you originally learned to talk. Learning and using more than one language may stimulate your brain and keep connections healthy.



Challenging your brain can increase the number of brain cells and the connections between cells, which may protect against the symptoms of dementia.



Focus on Findings

WHI RESEARCHERS continue to use the information provided by WHI participants each year to publish scientific papers and presentations on women's health. Here are just a few of the dozens of findings that were published in the past year.



FOCUS
ON
FINDINGS

■ Social Influences and Smoking

(Psychology of Addictive Behavior, October 2011)

The purpose of this study, conducted by Charles J. Holahan, PhD, was to examine the role of two types of social influence (social support and living with a smoker) on smoking behavior among WHI Observational Study participants. Included in this study were 37,027 women who reported smoking at some time in their lives at the time of study enrollment. Results showed that social support was associated with a lower likelihood of being a current smoker. Living with a smoker was associated with a higher likelihood of being a current smoker and, among smokers, of being a heavier smoker. Moreover, social support predicted a higher likelihood and living with a smoker predicted a lower likelihood of having quit smoking at one year after study enrollment. When looking at former smokers who were not smoking at study enrollment, social support predicted a lower likelihood and living with a smoker predicted a higher likelihood of smoking relapse one year later. These results indicate that social influences are an important part of smoking status, smoking level, stopping smoking, and smoking relapse among middle-aged and older women.

■ Psychological and Social Characteristics Associated with Religiosity

(Journal of Religious Health, March 2012)

Previous studies have found a link between religiosity and health outcomes, possibly because of

the psychological and social factors associated with attending religious services. Eliezer Schnall, PhD, and his associates looked at this issue by studying 92,539 women in the WHI Observational Study who answered questions on religious service attendance, psychological characteristics, and social support. They found that women attending services weekly during the past month, compared with those not attending at all in the past month, were less likely to be depressed and were more likely to be optimistic. These women were also more likely to report overall positive social support (including emotional/informational support, affection support, tangible support, and positive social interaction), and were less likely to report social strain. Overall, results indicate that regular attendance at religious services may be associated with a more optimistic, less depressed, and less cynical outlook on life.

■ Developing a Positive Aging Phenotype for Older Women

(The Journals of Gerontology, April 2012)

To develop a positive aging phenotype (i.e., the observable characteristics of a person, as determined by both genetic makeup and environmental influences), Nancy Woods, PhD, and her colleagues studied data collected from WHI Clinical Trial and Observational Study participants aged 65 and older at enrollment. Their goal was to describe the multiple dimensions of positive aging and their relationships to one another in women over age 65, and to use these



indicators to help predict years of healthy living, years of independent living, and mortality. Dr. Woods identified a multi-dimensional phenotype of positive aging that included two factors: Physical-Social Functioning and Emotional Functioning. Both factors helped predict mortality, healthy living, and years of independent living, but Physical-Social Functioning was the strongest predictor. Higher Physical-Social Functioning was associated with a reduction in mortality risk, major health conditions or hospitalizations, and risk of dependent living.

■ Diabetes and Lung Cancer

(Diabetes Care, May 2012)

Juhua Luo, PhD, and her colleagues looked at data from over 145,000 Clinical Trial and Observational Study WHI participants to assess the link between diabetes and risk for lung cancer. Of the over 145,000 women studied, 8,154 had diabetes at the time they joined the study. After an average of 11 years of study follow-up, 2,257 of the 145,000 women had been diagnosed with lung cancer. Information on the therapies women used to treat their diabetes was collected using questionnaires that asked women to report on their treatment history, as well as a review of current medications brought into the enrollment visit. Researchers found that women who reported having treated diabetes had a significantly higher risk of lung cancer than those without diabetes, with risks increasing for women who required insulin treatment. However, there was not a significant association between lung cancer risk and diabetes not treated with medication or with duration of diabetes. The findings suggest that additional research is needed to investigate the relationship between diabetes, treatments for diabetes, and lung cancer risk.

WHI's Hormone Therapy Findings — 10 Years Later



Ten years ago in July 2002, WHI participants were the first to learn the startling results from one of the WHI Hormone Trials, which indicated that women taking estrogen plus progesterone had significantly higher risk of heart disease, stroke, and breast cancer. Two years later, the findings from the WHI estrogen-alone hormone trial were also released. Although estrogen-alone did not carry the same health risks as estrogen plus progesterone, it did increase the risk of stroke.

When the WHI's hormone therapy trials started in 1993, previous studies had indicated that these therapies, in addition to relieving hot flashes and other menopausal symptoms, could help prevent heart disease, hip fractures, and other diseases. It therefore came as quite a shock to the medical community and the public in general to learn that these hormones actually increased the risk for some of these diseases.

At the time the first results were published, about 15 million women in the U.S., and millions of women around the world, were taking these hormone therapies to help ease symptoms of menopause and to prevent broken bones and heart attacks. Now, ten years later, the number of women around the world using hormone therapy has dropped dramatically; this drop has been followed by large decreases in the rates for several diseases. For example, researchers estimate that because of the decrease in hormone use, there have been 15,000-20,000 fewer cases of breast cancer each year in the U.S. alone.

As a WHI participant, you can be proud of playing a role in this ground-breaking research. By joining in WHI, you have been part of a project that has had a huge and potentially life-saving impact on women around the world!



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To locate your Regional Center, find the name of your WHI clinic center on the list below.
 The Regional Center and phone number for each center is shown in the right-hand column.

WESTERN REGIONAL CENTERS		NORTHEASTERN REGIONAL CENTERS		
Kaiser Permanente/Bay Area Clinic, Oakland, CA	Stanford University (650) 725-5307 (888) 729-8442	New Jersey Medical School, Newark, NJ	University of Buffalo (855) 944-2255 (716) 829-3128	
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		
UCLA Center for Health Sciences, Los Angeles, CA		School of Medicine, SUNY, Stony Brook, NY		
University of California, Davis, CA		University of Buffalo, Buffalo, NY		
WHI-UC Irvine Clinical Center, Orange, CA		Brigham and Women's Hospital, Chestnut Hill, MA		Brigham and Women's Hospital (617) 732-9860 (800) 510-4858
Center for Health Research, Portland, OR	Charlton Memorial Hospital, Fall River, MA			
University of Arizona, Phoenix, AZ	Memorial Hospital of Rhode Island, Pawtucket, RI			
University of Arizona, Tucson, AZ	University of Arizona (520) 321-7440 (800) 341-7672	UMASS/FALLON Women's Health, Worcester, MA	WHI of the Nation's Capital – Medstar (301) 560-2924	
University of Hawaii School of Medicine, Honolulu, HI		George Washington University, Washington, DC		
University of Nevada, Reno, NV	Fred Hutchinson Cancer Research (800) 514-0325	WHI of the Nation's Capital – Medstar, Hyattsville, MD		
UC San Diego Clinical Center, Seattle, WA		SOUTHEASTERN REGIONAL CENTERS		
Seattle Clinical Center, Seattle, WA	Ohio State University (614) 688-3563 (800) 251-1175	UNC Women's Health Initiative, Chapel Hill and Durham, NC	Wake Forest University School of Medicine (336) 713-4221 (877) 736-4962	
MIDWESTERN REGIONAL CENTERS		Women's Health Initiative of the Triad, Greensboro, NC		
Evanston Hospital (Northwestern University), Evanston, IL		University of Iowa (515) 241-8989 (800) 347-8164		Women's Health Initiative, Winston-Salem, NC
Northwestern University, Chicago, IL				University of Tennessee, Germantown, TN
Medical College of Wisconsin, Milwaukee, WI				University of Tennessee – Medical Center, Memphis, TN
Rush-Presbyterian-St. Luke's Medical Center, Chicago, IL				Baylor College of Medicine, Houston, TX
Ohio State University, Columbus, OH	University of Texas Health Science Center, San Antonio, TX			
University of Cincinnati College of Medicine, Cincinnati, OH	Univ. of Pittsburgh (412) 624-3579 (800) 552-8140		University of Alabama, Birmingham, AL	University of Florida, Gainesville (352) 294-5211 (800) 944-4594
Berman Center for Outcomes and Clinical Research, Minneapolis, MN		Emory University, Decatur, GA		
University of Iowa, Davenport, IA		University of Florida Clinical Center, Gainesville, FL		
University of Iowa, Des Moines, IA		University of Florida Clinical Center, Jacksonville, FL		
University of Iowa, Iowa City, IA		University of Miami School of Medicine, Miami, FL		
University of Iowa, Iowa City, IA		WHI CLINICAL COORDINATING CENTER		
University of Wisconsin, Madison, WI	Fred Hutchinson Cancer Research Center, Seattle message line (800) 218-8415			
Detroit Clinical Center, Detroit, MI				
University of Pittsburgh, Pittsburgh, PA				