

Researcher Spotlight: Dr. Viola Vaccarino

Inside This Issue

Researcher Spotlight ... 1

Your Opinion Matters. 2

VETR Member Roles ... 3

Registry Statistics 3

Health Tips 4-5

Study Updates 6-7

Study Findings..... 8-9

Published Research 9

Staff Introductions 10

Address Update 11

We would like to introduce Dr. Viola Vaccarino, principal investigator of the Emory Twin Heart Studies located at Emory University in Atlanta, GA. Dr. Vaccarino has studied twins in collaboration with the VET Registry for over ten years. She is interested in studying twins with different lifestyles and behaviors so she can gain insight into the preventable causes of disease. She is also interested in the influence of psychological and mental health conditions on the risk of cardiovascular disease.

The Emory Twin Heart Studies include over 550 VET Registry twins. This project has resulted in over 36 published articles, including a widely-quoted recent publication in the Journal of American College of Cardiology that investigated the relationship between post-traumatic stress disorder (PTSD) and the development of coronary heart disease.

The study examined 281 twin pairs and found that PTSD is associated with an increased risk of coronary heart disease. This is the first study to link PTSD to coronary heart disease using objective measures of heart disease, such as cardiac imaging tech-

niques and clinical histories. "One surprising finding was that the increased risk that we saw in veterans with PTSD was not due to 'conventional' coronary heart disease risk factors, such as obesity or blood lipids," explained Vaccarino. "This increase also was not explained by adverse health behaviors such as smoking and physical inactivity. This information will aid in future research that addresses the underlying mechanism of increased cardiovascular risks in those with PTSD."



Dr. Vaccarino received her MD degree from the University of Milan in Italy, and her PhD degree in epidemiology at the Yale University School of Medicine. She is now Professor and Chair of the Department of Epidemiol-

ogy, and the Wilton Looney Chair of Cardiovascular Research, Rollins School of Public Health, at Emory University, with a joint appointment in the Department of Medicine at the Emory University School of Medicine.

The VET Registry greatly appreciates its collaboration with Dr. Vaccarino, who continues to conduct quality research that helps to improve the health and lives of Veterans.



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1660 South Columbian Way
(Mail Stop: S-152-E)
Seattle, WA 98108



Veterans Affairs
Cooperative
Studies
Program



Seattle Epidemiologic
Research and
Information Center

Your Opinion Matters!

Feedback From “Your Opinion Matters!” Survey

In the last few years, the VET Registry conducted a mail survey with select twin members to collect information about their experiences with the Registry and its past and current studies, VA research, and the VA. We also asked about twins’ opinions on what physical and mental health topics they would like to see in future VET Registry research.

We plan to send a similar but shorter mail survey to select children of VET Registry twin members, and hope that our offspring members will consider participating in this important survey. To ensure we send this survey to the appropriate address, please update your contact information or that of your child (if he/she is also a VET Registry offspring member) using the Address Update Form included in this newsletter.

We received feedback that a *majority* of surveyed twin members:

⇒ **Participate in VET Registry studies to:**

1. Support research on twins
2. Help other Veterans
3. Support VET Registry research

⇒ **Prefer to participate in studies that involve a mailed paper and pencil survey.**

⇒ **Are willing to provide blood, saliva, and urine samples for studies involving genetics, and prefer these samples be collected at a VA Medical Center.**

⇒ **Want to receive more news about study results.**

Pages 6-9 are dedicated to a portion of our study updates and findings, including key terms to help guide you through these descriptions. If you would like to read more about particular on-going research, results of completed studies, or a list of publications, please visit the VET Registry website at www.seattle.eric.research.va.gov/VETR/Home.asp

⇒ **Want to know more about *how* their health information is used.**

The section, on page 3, *Your Role as a VET Registry Member*, further explains how and why the information we receive from our members is a vital resource for Veteran health studies.

Top 10 health conditions desired to be researched by the VET Registry (according to members)

Rank	Health Condition	Priority Score (0-100)
1	Cancer	76.8
2	Heart Disease	75.1
3	Arthritis/ Chronic Joint Pain	73.9
4	Hearing/Vision Loss	73.2
5	Alcohol Abuse	72.8
6	Memory Loss	72.6
7	Hypertension	71.5
7	Mental Health	71.5
9	Chronic Pain	70.1
10	PTSD	69.7

Surveys such as Your Opinion Matters! help the VET Registry determine the direction of our continuous research, ultimately improving the health and well-being of Veterans. We would like to thank our members who participated in this survey. Without the support of each and every one of our members, the VET Registry would not exist. We look forward to many more years of collaboration!

Your Opinion Matters

Your Role as a VET Registry Member

The VET Registry maintains a database that includes information from all Registry studies in which you may have participated, including data from mail, telephone and in-person surveys, laboratory tests and examinations, and other study records. The Registry database also includes information from your military records and hospital records if you use services from the Veterans Health Administration. It also contains your contact information and contact information of individuals that you may have given us to help locate you. For members who have provided a blood or saliva sample, this sample is also part of the Registry Biospecimen Repository. The Registry also keeps track of deaths among members.

Why is the VET Registry used?

Twins are a unique and valuable resource in understanding the involvement of genes and the environment in health and disease. The Registry is used by researchers who want to conduct studies on health and the causes of diseases by looking at twins to tease out environmental (nurture) and hereditary (nature) effects. Several researchers have invited family members of twins to join their studies as to better understand how health behaviors and family influences interact.

How is the VET Registry used?

Mostly, researchers use the Registry to invite you to participate in a new study. However, sometimes researchers do not want to collect any new information but want to use information that is already in the Registry's data repository. In this instance, the researchers do not contact you but use previously collected information to conduct their studies. These new studies must be approved by the Registry and several scientific and human-subjects review boards.

VET Registry Statistics

11,264: The number of VET Registry *active twin members*

2,212: The number of VET Registry members that are *off spring* of active Registry twin members

831: The number of VET Registry members that are *mothers* of active Registry twins members

Name1 &

Name2: Most common twin pair names

Top 10 states VET Registry twins currently reside in:

1. California
2. Texas
3. Florida
4. Ohio
5. Pennsylvania
6. Illinois
7. Michigan
8. North Carolina
9. New York
10. Washington

Tips for Healthy Living

Falls Among Older Adults

Each year, one in every three adults aged 65 and older falls. According to a recent John Hopkins study, the number of serious spinal cord injuries is on the rise in the US, with the leading cause of these injuries being falls. Falling can cause hip fractures, head traumas, and even paralysis or death. Fortunately, falls are largely preventable.

How can you prevent falls?

- ⇒ **Exercise regularly.** Focus on leg strength and improving balance. Try out a yoga or tai chi program.
- ⇒ **Get your eyes checked.** Visit your eye doctor at least once a year to maximize your vision.
- ⇒ **Review your medications.** Ask your doctor to review your medications. Some may cause dizziness or drowsiness.
- ⇒ **Safeguard your home.** Reduce tripping hazards, add grab bars in showers, and improve lighting in your home.

Lower your hip fracture risk:

- ⇒ **Receive adequate vitamin D and calcium.**
- ⇒ **Get screened and treated for osteoporosis.**
- ⇒ **Increase weight bearing and balance exercise.**

For more tips on how to reduce your risk of falling or to learn more about John Hopkins studies, you may visit the Center for Disease Control (CDC) online at www.cdc.gov, and John Hopkins Medicine at www.hopkinsmedicine.org.

Eating Well As You Get Older

Whatever your age, it is important to eat well in order to maintain your health and independence in the years to come. A daily balance of mixed foods has numerous health benefits. Healthy eating may reduce the risk of type 2 diabetes, heart disease, stroke, and some cancers. Additionally, eating well may help reduce high blood pressure, maintain diabetes, and lower high cholesterol. If you already live with one or more of these chronic diseases, then eating healthy and leading an active lifestyle can help you manage them. A diet rich in healthy foods provides your body with the nutrients you need to keep your body strong throughout your life.

Try it out!

Increase Energy

Food is the fuel that keeps your energy level elevated. The amount of "fuel" you need depends on your sex, height, weight, and activity level. Choose "*nutrient-dense foods*"— those that contain a lot of nutrients for the amount of calories in them, such as leafy green vegetables and beans. Limit "*empty calories*"— foods that are high in calories but low in nutrients, such as refined grains and soda.

Improve Digestion

Changing your diet may help with digestive issues. To help fight constipation, incorporate foods rich in fiber (whole-grains, fruits, vegetables) and try drinking more water. When experiencing indigestion, eat small, low-fat meals spaced throughout the day, which can lessen the pressure on your stomach. Try limiting fatty foods such as butter, red meat, and cheese to help regulate your digestive tract.

Start Today!

It is never too late to start making positive lifestyle changes. Eating well isn't just a "diet"— it is an important part of your health and lifestyle. Try beginning with small steps, making one change at a time. For instance, take the salt shaker off of your dinner table to help decrease salt intake, or try incorporating a new vegetable or fruit into each meal. These changes are easier than you think!

Source: National Institutes of Health, <http://nihseniorhealth.gov/>

Tips for Healthy Living

Maintaining an Active Lifestyle

As an older adult, physical activity is an essential component to health that not only prevents many of the health problems associated with aging, but also helps maintain independence. Regardless of your activity level and how “in shape” you feel, it is critical to your health that you incorporate some form of physical activity into your life. Any exercise is better than none!

How much exercise do you need?*

1. Older adults need *at least* one of the following activities each week:
 - Moderate-intensity aerobic activity (150 minutes per week)
 - Vigorous-intensity aerobic activity (75 minutes per week)
 - An equivalent mix of moderate- and vigorous- intensity aerobic activity
2. Additionally, try incorporating muscle-strengthening activities, two or more days a week

What counts as aerobic activity?

Aerobic activity is anything that gets you breathing harder and your heart beating faster than normal. Aim for moderate (i.e. brisk walking) or vigorous intensity (i.e. jogging or running) for at least 10 minutes at a time.

Some suggestions:

- Pushing a lawn mower
- Brisk walking, jogging, or running
- Taking a cardio, dance, or Zumba class
- Swimming
- Riding your bike to work

What counts as muscle-strengthening activity?

These activities will help you maintain your muscles as you age. Whether you strengthen your muscles at a gym or at home, choose activities that target all major muscle groups (legs, back, chest, hips, abdomen, shoulders, and arms).

Some suggestions:

- Yoga
- Gardening
- Weight lifting
- Resistance exercise (resistance bands, sit ups, push ups)

Exercise is not only a vital component to physical health, it can also act as a stress reliever. According to the Mayo Clinic, almost any form of physical activity can help you manage stress in the following ways:

- Help to boost your body’s natural “feel-good” hormones, called endorphins.
- Help to distract you from daily stress and irritations.
- Can improve your mood by increasing self-confidence and lowering symptoms of anxiety and mild depression.



*These guidelines can be followed if you are generally fit, have no limiting health conditions, and are 65 years or older. Everyone’s fitness level is different. Something that feels moderately intense to you, such as walking, may feel vigorous to others. It is important that you engage in physical activity that is right for you, and that you consult a physician before engaging in a new activity.

Sources: CDC: <http://www.cdc.gov/physicalactivity/everyone/guidelines/olderadults.html>

Mayo Clinic: <http://www.mayoclinic.org/healthy-living/stress-management/in-depth/exercise-and-stress/art-20044469>

VET Registry Study Updates

Key Terms

Magnetic resonance imaging (MRI): Produces detailed 3D images of the inside of the body to show the size, appearance, and form of tissues and organs. Functional MRI (fMRI) is a special type of MRI used to see how brain cells work.

Post-traumatic Stress Disorder (PTSD): Psychiatric condition caused by a traumatic event. PTSD can develop after experiencing or witnessing an event that causes intense fear, helplessness, or horror.

Dorsal anterior cingulate cortex: A brain region that may play a role in autonomic functions such as blood regulation and heart rate, as well as rational cognitive functions such as reward anticipation, decision making, and impulse control.

DNA Methylation: A type of chemical modification of DNA that can alter how genes work during the course of your life. DNA methylation also happens naturally over time and helps determine which genes get switched “on and off” as we age.

Epigenetics: The genome contains our genes (DNA), which are inherited. Genes contain instructions for how our body should develop and function. Epigenetics is the study of the factors that influence which instructions are turned “on or off”. One of these factors is environmental exposures.

Heritability: The capability of a trait being passed on through your genes.

Twin Study of Biological Markers for Post-traumatic Stress Disorder (PTSD)

Principal Investigator: Dr. Lisa Shin, Massachusetts General Hospital, Boston, MA

This study is using functional magnetic resonance imaging (fMRI) to examine the brain function in identical twin pairs, in which only one twin was exposed to combat during the Vietnam War. The goal of this study is to determine the origin of functional brain abnormalities in PTSD. Although analyses are still ongoing, initial results show that a hyper-responsive dorsal anterior cingulate cortex may be a genetic vulnerability factor that increases the risk of developing PTSD following a traumatic event.

Family Studies of Health and Behavior

Principal Investigators: Dr. Theodore Jacob, Palo Alto VA, CA, and Dr. Kathleen Bucholz, Washington University, MO

Studies at the VA in Palo Alto, CA focus on the mental and physical health of Veterans and their families with an interest in determining how genes and experiences affect smoking, drinking, drug use, and depression. In one study, twins are being followed throughout their adult years to determine how their drinking habits change as they age. Another study focuses on adult children of twins to determine similarities and differences in health patterns across the generations. It is hoped these studies will help clinicians design prevention and treatment programs. These studies are currently analyzing data.

At Washington University, the Transition to Adulthood Project (TAP) began collecting data from Registry twin fathers and their families in 2002 and is currently conducting follow-up interviews with the adult children of twins. The TAP team is measuring young adult milestones, such as marriage and parenthood, completion of education, occupation, and job satisfaction. The team will examine how these milestones relate to health, especially in the areas of mood and the use of alcohol, tobacco, and drugs.

Vietnam Era Twin Study of Aging (VETSA) 2: A Longitudinal Study of Cognitive Aging

Principal Investigators: Dr. William Kremen, San Diego VA, CA, and Dr. Michael Lyons, Boston University, MA

The goal of VETSA is to follow twins throughout their lives, contacting them every 5 years to learn about genetic (nature) and environmental (nurture) factors that influence the aging process. The VETSA MRI studies are linked to the main VETSA project, and focus on the brain and how it changes as people age. Over 1,000 VET Registry twins have already participated in the ongoing VETSA 2 follow-up study, and plans are being made for the VETSA 3 follow-up proposal.

Epigenetics, a Potential Mechanism Linking Depression to Cardiovascular Disease

Principal Investigator: Dr. Shaoyong Su, Georgia Health Sciences University, GA

The main objective of this project is

VET Registry Study Updates

to explore the potential mechanisms linking depression to cardiovascular disease. This study plans to identify the DNA methylation changes between depressed twins and their non-depressed twin. This study uses DNA methylation testing and identifies the sites on the gene where methylation levels differ between depressed twins and their non-depressed co-twin. This will help clarify the possible role of methylation level changes in the development of atherosclerosis (hardening of the arteries). This study is currently collecting data.

Biopsychosocial Approaches to Healthy Aging

Principal Investigator: Dr. Terrie Vasilopoulos, University of Chicago

The goal of this study is to understand aging by examining the relationships among cognitive, physical, and psychosocial function. In a paper currently under review, Dr. Vasilopoulos demonstrated that cognition (mental process of acquiring knowledge) measured at induction into the Armed Forces significantly predicted pulmonary (respiratory) function 35 years later, with better cognition in early adulthood related to better pulmonary function at midlife. Dr. Vasilopoulos argues that this finding has implications for public health, in that it demonstrates the need for important health information to be more accessible and understandable so that individuals are better equipped to make informed health decisions.

Common Genetic Pathways Linking Depression to Cardiovascular Disease: A Twin Study

Principal Investigator: Dr. Jinying Zhao, Tulane University, LA

The goal of this study is to identify genetic and epigenetic factors that are associated with depression, cardiovascular disease, or related risk factors. Genetic differences in about 500 genes have been studied from participants in the Twins Heart Study and the SAVEIT study. Researchers have also measured DNA methylation of 33 genes for depression and cardiovascular disease. This study is currently analyzing data to examine the potential associations between these factors.

The Genetics of Post-traumatic Psychopathology

Principal Investigator: Dr. Erika J. Wolf, Boston University, MA

This study used data analytic techniques to model common mental disorders spanning the internalizing (anxiety and mood disorders) and externalizing (antisocial personality disorder and substance use disorders) dimensions and PTSD. Evaluation of the data suggested that the heritability of PTSD was greater among Veterans who had experienced the greatest amount of combat exposure. The study also suggested that aspects of the non-shared environment (i.e. aspects of the environment that are specific to one of the twins) also became more important in predicting PTSD for Veterans with greater combat exposure. The results of this study were recently published in *Psychological Medicine*.

Gene-Environment Interplay in the Comorbidity of PTSD and Disordered Eating

Principal Investigator: Dr. Karen Mitchell, Boston University, MA

The goal of this study is to better understand the nature of the comorbid relationship between PTSD and disordered eating (DE). Dr. Mitchell is using previously collected data from the VET Registry twins who participated in the Vietnam Era Twin Study of Aging (VETSA) to test if genetic vulnerability to PTSD and DE is triggered by trauma exposure. This study is currently collecting data.

Memory and Hippocampus in Vietnam-era Twins with Post Traumatic Stress Disorder

Principal Investigator: Dr. J. Douglas Bremner, Emory University, GA

The purpose of this study is to look at an area of the brain involved in learning and memory (the hippocampus) over time and see how it relates to twins who were exposed to combat and are diagnosed with PTSD. The study includes an in-depth clinical evaluation involving interviews, questionnaires, memory tests, laboratory testing, and brain imaging. This study was completed in late 2011 and is undergoing data analysis.

Genetic and Epigenetic Factors of Age-Related Cognitive Decline: A Twin Study

Principal Investigator: Brinda Rana, PhD, University of California, San Diego

The goal of this study is to better understand genetic and environmental predictors of age-related neurocognitive changes through epigenetic studies. Although DNA (VET Registry Study Updates continued on page 7)

VET Registry Study Findings

Your Diet's Effects on Your Health

This past year, Dr. Silvia Eufinger completed a VET Registry study based in Emory University. She used previously collected data from VET Registry twin members who had participated in the *Emory Twin Studies*. We would like to thank those members again for their past participation in those studies. This study examined the cardioprotective (heart protecting) mechanisms of the Mediterranean diet and the DASH-style diet, and their roles in slowing down biological aging associated with cardiovascular disease (CVD).



What are these diets?

The Mediterranean diet is an eating plan originating from countries bordering the Mediterranean Sea. This diet emphasizes fruits and vegetables, beans and nuts, whole grains, fish, olive oil, and small amounts of meat, dairy, and red wine. The Mediterranean diet has previously been shown to reduce inflammation and oxidative stress, suggesting its potential to decelerate the aging process that is thought to underlie the development of atherosclerosis (hardening of the arteries)..

The Dietary Approaches to Stop Hypertension (DASH) diet is an eating plan that contains all of the healthy foods from the Mediterranean diet, and that also follows US guidelines for sodium intake. This diet has been shown to reduce blood pressure and decrease the risk of heart disease. The DASH diet has been ranked by US News & World Report as the #1 diet in 2011, 2012, and 2013.

What were the findings?

Dr. Eufinger found that greater adherence to these diets was *inversely* associated with markers of accelerated biological aging. In other words, those that more often followed the Mediterranean or DASH diet were less likely to have genetic signs of faster biological aging. She also found that greater habitual sodium intake and greater habitual consumption of sugar-sweetened beverages were both associated with indicators of CVD and accelerated biological aging. In other words, those that more regularly ate and drank products with high sodium levels and more regularly drank sugar-sweetened beverages were more likely to have genetic signs of faster biological aging.

These findings highlight the importance of a healthy diet in decreasing the speed of biological aging and preventing the onset of CVD.

To learn more about these diets visit:

The Mediterranean Diet: <http://www.nlm.nih.gov/medlineplus/ency/patientinstructions/000110.htm>.

The DASH Diet: http://www.nhlbi.nih.gov/hbp/prevent/h_eating/h_eating.htm.

VET Registry Study Findings

The Veteran Health Study

The purpose of the Veteran Health Study (CSP #569) is to better understand the mental and physical health of VET Registry members, as they get older. The investigators assessed PTSD and other mental and physical health conditions in 2012, and explored the relationship between PTSD and these conditions. Importantly, this study was the first comprehensive review of the health of the full VET Registry in nearly 20 years.

A recent paper from this study examined the relationship between PTSD and physical and mental functioning and disability. The investigators found that those with PTSD had poorer physical and mental health and more disability in 2012. Even those who had PTSD symptoms but did not meet criteria for a formal diagnosis of PTSD had poorer health functioning. Further, the investigators noted that combat exposure during service in Southeast Asia had a harmful effect on health functioning and disability in 2012.

In a separate paper from the study, investigators examined whether PTSD increased the risk of adult-onset diabetes. This analysis followed twins who were free of diabetes back in 1992 to see if the new cases of diabetes were associated with PTSD. There was a statistically significant 40% increase in diabetes associated with PTSD. However, after accounting for other risk factors, the increased risk was greatly diminished and no longer statistically significant. Further analysis confirmed the absence of a direct association of PTSD with diabetes, suggesting that there may be a shared biological or familial vulnerability to both PTSD and diabetes.

Upcoming papers from the Veteran Health Study will examine the current prevalence of PTSD and the 20-year trajectory of PTSD in the VET Registry. The analysis of this rich data will provide a picture of the health of Vietnam-era Veterans and the influence of PTSD on the lives of Veterans.

(VET Registry Study Updates continued from page 7)

methylation patterns are inherited, they can also be highly influenced by the environment. The study will examine what factors may cause changes in DNA methylation throughout the life course, and how these changes may influence the process of aging, as well as age-related cognitive decline. DNA samples are currently being collected by Drs. Kremen and Lyons.

Heritability of Chronic Prostatitis/Pelvic Pain Syndrome and its Association with PTSD

Principal Investigator: Niloo Afari, PhD, University of California, San Diego

Chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS) is a disabling condition characterized by pelvic and perineal pain of unknown causes. The goal of this study is to determine the heritability, characteristics, and risk factors of CP/CPPS. Additionally, the study will examine the relationship between CP/CPPS, PTSD, and PTSD symptoms. The study is currently collecting data.

Select VET Registry Publications

Panizzon M. S., Hauger, R., Xian H., Vuoksimaa E., Spoon K. M., Mendoza S. P., Jacobson K. C., Vasilopoulos T., Rana B. K., McKenzie R., McCaffery J. M., Lyons M. J., Kremen W. S., Franz C. E. **Interaction of APOE genotype and testosterone on episodic memory in middle-aged men.** *Neurobiology of Aging*, 2014, 1-8.

Chen C., Fiecas M., Gutierrez E. D., Panizzon M. S., Eyer L. T., Vuoksimaa E., Thompson W. K., Fennema-Notestine C., Hagler D. J., Jernigan T. L., Neale M. C., Franz C. E., Lyons M. J., Fischl B., Tsuang M. T., Dale A. M., Kremen W. S. **Genetic topography of brain morphology.** *PNAS*, 2013, 1-6.

Lyons M. J., Genderson M., Grant M. D., Logue M., Zink T., McKenzie R., Franz C. E., Panizzon M., Lohr J. B., Jerskey B., Kremen W. S. **Gene-environment interaction of APOE genotype and combat exposure on PTSD.** *American Journal of Medical Genetics*, 2013, 762-769.

Kulshreshtha A., Goyal A., Veledar E., McClellan W., Judd S., Eufinger S. J., Bremner J. D., Goldberg J., Vaccarino V. **Association between ideal cardiovascular health and carotid intima-media thickness: A twin study.** *Journal of American Heart Association*, 2014, 1-10.

VET Registry Staff Introductions

VET Registry Staff:

Nicholas L. Smith, PhD, is the Director for the Seattle Epidemiologic Research and Information Center (ERIC) and the VET Registry. Dr. Smith provides overall leadership for the administrative and scientific goals of the Registry. He has been involved with VA-based epidemiologic and health services research for over 15 years.

Jack Goldberg, PhD, is an epidemiologist with more than 30 years of experience in the management and analysis of epidemiological studies. Dr. Goldberg has unique knowledge of the VET Registry, having worked at the Registry since 1983.

Alaina Mori, BA, is the previous VET Registry Program Manager. Alaina has worked with the Registry since 2007. In October 2014 Alaina transitioned to another Cooperative Studies Program within the Seattle ERIC. Alaina has played a vital role within the Registry and we wish her the best of luck in her new endeavors.

Cindy Liu, BA, is the VET Registry Program Manager. Her responsibilities include the day to day management of the Registry, oversight of studies, and management of the Registry research staff. Cindy keeps the Registry running smoothly, ensuring its continued success.

Melyssa Tsai, MPH, is a Research Coordinator. She helps with Registry administration and coordinates data security matters. Melyssa recently graduated from the University of Michigan's School of Public Health.

Hilary Cohen, BS, is a Research Assistant. She assists with the functioning of the Registry and coordination of studies. Hilary recently graduated from the University of Washington, with a degree in psychology and public health.

We would like to acknowledge additional Seattle ERIC staff members who contribute to the overall functioning of the VET Registry:

Seattle ERIC Staff:

Jen Sporleder, BS

Associate Director of Quality Assurance

Mary Jo May, BA

Administrative Specialist

Vickie Blakey, BA

Program Assistant

Kathryn Moore, PhD

Research Data Manager

Alexandra Fox, MSIS

Research Data Specialist

Chris Forsberg, MS

Biostatistician



Top to bottom:
Drs. Nicholas L. Smith and
Jack Goldberg

From left to right: Alaina Mori, Cindy Liu, Hilary Cohen, and Melyssa Tsai

Has your address changed? We would like to hear from you!

To update your contact information, call toll free 1-866-774-9647 or follow the directions below:

1. Cut out the change of address form
2. Fill out the form in blue or black ink
3. Place form in an envelope, affix postage, and mail to:
VA Puget Sound Health Care System
Vietnam Era Twin Registry
1660 South Columbian Way (S-152-E)
Seattle, WA 98108

Name: _____
Address: _____
City: _____ State: _____ Zip: _____
Home Phone: _____
Mobile Phone: _____
Work Phone: _____
Email Address: _____

Which type of VET Registry Member are you?

- Vietnam Era Twin
 Offspring of Twin
 Mother of Offspring



Share your twin photo with the VET Registry!



The VET Registry is currently looking for twin photographs for our future newsletters and/or our VET Registry website. If you and your twin are interested in sharing a photograph with us, please call us toll free at 1-866-774-9647 to speak with our Program Manager, Cindy Liu. We look forward to hearing from you!

You may decide not to participate ("opt-out") in the Registry now or at any time in the future. If you opt-out, this means you will not be invited to participate in any studies and we will destroy your contact information. To opt-out, contact us toll free at (866)-774-9647.

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ADDRESS SERVICE REQUESTED

